

The essential guide of Automation & Control

helping you easily
select the right product

2008



Schneider
Electric

The go to guide for the most efficient selection

Make the most of your energy

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- Inductive proximity sensors
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Innovative and simple products for all **Automation**

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See **AS-Interface**
in each function

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Operator dialog



Interfaces & I/O



Detection



Interfaces & I/O

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Detection

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Limit switches
Proximity sensors
Photo-electric and ultrasonic
sensors
Pressure switches
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Machine safety

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mats

Software

Safety mats configuration
software

Operator dialog

Control & signalling units

Control and signalling units,
cam switches
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Human machine interfaces

Operator interface terminals,
industrial PCs, Web servers,
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software

Control stations, mounting solutions

Control and pendant
stations, front panels
mounting kits

AS-Interface

Control stations, keypads,
beacons

Machine safety

Emergency stops, control
stations, enabling switches,
foot switches

Software

Operator terminal software

Mounting systems

Mounting systems

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Mounting accessories

Systems & Architectures

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Automation and Control functions



Automation

Relays

Plug-in relays, electronic timers, control relays, counts
Smart relays

PLCs, PC based control, distributed I/O

Programmable controllers
PLC platforms
PC based control
Distributed I/O, I/O controllers

AS-Interface

Master modules for Modicon PLCs

Machine safety

Safety PLCs, controllers and modules

Software

PLCs and safety controllers programming software

Software tools

Global software
Generation of application systems
Application control
Collaborative development

Dedicated software
See **Software** in other functions

Power supplies

Power supplies

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Filtered rectified power supplies, transformers

AS-Interface

Power supplies

Motor control

Motor starters

Contactors
Circuit breakers, fuse carriers
Thermal relays
Combinations, motor controllers

Mounting solutions

Motor starter mounting kit

AS-Interface

Motor controllers, enclosures, variable speed drives

Machine safety

Switch disconnectors, thermal-magnetic motor circuit breakers, enclosed starters

Software

Motor control programming software

Motion and Drives

Starters, drives and servo drives

Soft starters
Variable speed drives
Motion modules
Servo drives
Servo motors

Software

Software for drives and motors

Detection

1

*A selection of
1430 products,
with the top 560
selling products
referenced in
bold characters.*

A worldwide detection first for improving productivity.
A complete offer for resolving your most commonly
encountered detection problems:

- product selection simplified
 - product availability simplified
 - installation and setting-up simplified
 - maintenance simplified
 - detection simplified using a single supplier.
- Improved simplicity for improved productivity.*



Select the sensor according to your specific requirements

“Universal” series:

Multi-purpose
products providing
multiple functions.

“Optimum” series:

Designed for
essential and
repetitive functions.

“Application” series:

Offers functions
specifically for
specialist needs, thus
providing the ideal
solution for your more
complex applications.

Contents

> A single product that automatically adapts to all conditions



● Osiris Photo-electric sensors1/2 to 1/15

Detection without contact of objects whatever their shape or material

- > Detection from a few millimetres to several tens of metres
- > 3D adjustable fixing accessories
- > Specific products for particular applications

> A single product that automatically adapts to all installation environments



● Osiprox Inductive proximity sensors1/16 to 1/26

Detection without contact of metal objects

- > Sensor / object distance ≤ 60 mm
- > Generic cylindrical and flat form products
- > Specific products for particular applications

> A single product that automatically learns both its detection mode and detection zone



● Osisonic Ultrasonic sensors1/28 and 1/29

Detection without contact of any object of any material

- > Detection from a few millimetres up to 8 metres
- > Extra large range to ensure finding the right product
- > Specific products for particular applications

> Simple parametering of many different resolutions on the same product



● Osicoder Rotary encoders1/30 and 1/31

Opto-electronic detection

- > Incremental
- > Absolute - single turn and multiturn
- > PROFIBUS and CANopen fieldbus communicating

> Availability of more than 5,000 interchangeable configurations within 24 hours



● Osiswitch Limit switches1/32 to 1/41

Detection by contact of rigid objects

- > Positive opening operation of electrical contacts
- > Object speed ≤ 1.5 m/s
- > Specific products for particular applications

> A user-friendly product at last; easy to parameter prior to installation and to modify during operation



● Nautilus Sensors for pressure control1/42 to 1/47

Detection by contact with fluid

- > Electronic pressure and vacuum switches
- > Analogue pressure sensors
- > Electromechanical pressure and vacuum switches

> 13.56 MHz RFID that is open to the majority of ISO electronic tags



● Ositrack Radio frequency identification1/48 to 1/49

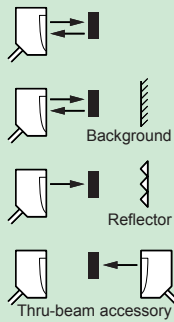
13.56 MHz RFID detection

Complete range of RFID tags and compact stations

Other detection technologies

● Osiprox Capacitive proximity sensors1/27

● Sensors for explosive atmospheres (see chapter 10 "Explosive Atmospheres")



A single product that automatically adapts to all conditions.

Programmable NO / NC
NO: object present = output ON
NC: no object present = output ON



New
IP 69K

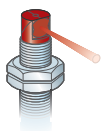
		Design 18 plastic	Design 18 metal Brass	Stainless steel
Max. / usable sensing distance	without accessory	0.4 / 0.3 m	0.4 / 0.3 m	
	w/o accessory, with background supp.	0.12 / 0.12 m	0.12 / 0.12 m	
	with reflector (polarised)	3 / 2 m	3 / 2 m	
	with thru-beam accessory	20 / 15 m	20 / 15 m	
Fixing (mm)		M18 x 1	M18 x 1	
Case M (metal) P (plastic) / Dimensions (mm) Ø x L or W x H x D		P / M18 x 64	M / M18 x 64	
Product certification		CE - UL - CSA - C-TICK		
Common characteristics		Adjustment of sensing distance: using teach mode / Setting-up assistance LEDs (⊗): yes / Temperature		

Sensors for DC applications (solid-state output: transistor)

Connection		Pre-cabled, PvR (2 m)		
T / R 3-wire	PNP programmable NO / NC	XUB0APSNL2	XUB0BPSNL2	XUB0SPSNL2
	NPN programmable NO / NC	XUB0ANSNL2	XUB0BNSNL2	XUB0SNSNL2
	PNP / NPN programmable NO / NC	—	—	—
Connection		M12 connector		
T / R 3-wire	PNP programmable NO / NC	XUB0APSNM12	XUB0BPSNM12	XUB0SPSNM12
	NPN programmable NO / NC	XUB0ANSNM12	XUB0BNSNM12	XUB0SNSNM12
	PNP / NPN programmable NO / NC	—	—	—
Connection		Screw terminals		
T / R 3-wire	PNP / NPN programmable NO / NC	—	—	—
Switching capacity (mA) main output / alarm output		100 / —	100 / —	
Common characteristics		Supply voltage limits, min./max. (V) including ripple: 10...36 (except XUM 10...30) / Switching		
Thru-beam transmitter accessory	pre-cabled (2 m)	XUB0AKSNL2T	XUB0BKSNL2T	XUB0SKSNL2T
	connector	XUB0AKSNM12T	XUB0BKSNM12T	XUB0SKSNM12T
	screw terminals, ISO 16 cable gland	—	—	—

Multi-current/multi-voltage sensors for AC/DC applications 10...36 V DC / 20...264 V AC including ripple on DC (relay output, 1 NC/NO, 3 A)

Connection		Pre-cabled, PvR (2 m)	
T / R	programmable, NO/NC with time delay	—	—
Connection		Screw terminals	
T / R	programmable, NO/NC with time delay	—	—
LED output state indicator (⊗) / power on LED (⊗)		—	—
Switching frequency (Hz)		—	—
Time delay(s)		—	—
Thru-beam accessory	pre-cabled, PUR (2 m)	—	—
	screw terminals, ISO 16 cable gland	—	—



90° head

All the above Osiris Design 18 sensors are available with an integral 90° head.
To order, replace the letter "N" in the reference by "W".
Example: For pre-cabled versions: XUB0APSNL2 becomes XUB0APSWL2.
For connector versions: XUB0APSNM12 becomes XUB0APSWM12.
Sensing distances: refer to www.schneider-electric.com

Accessories

Reflectors		3D fixings with ball joint	
XUZC24 XUZC80 XUZC50	Reflectors (mm)		Bracket with ball joint for sensors and reflector XUZC50
	Ø 21 XUZC21		for XUB... XUZB2003
	24 x 21 XUZC24		XUM... XUZM2003
	Ø 31 XUZC31		XUK... XUZK2003
	Ø 39 XUZC39		XUX... XUZX2003
	Ø 80 XUZC80		for XUB... XUZB2004
	50 x 50 XUZC50		for XUM... XUZM2004
	100 x 100 XUZC100		XUK... XUZK2004
			XUX... XUZX2004
			M12 rod for ball joint XUZ2001

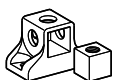
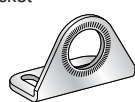
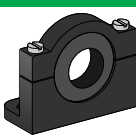
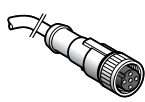


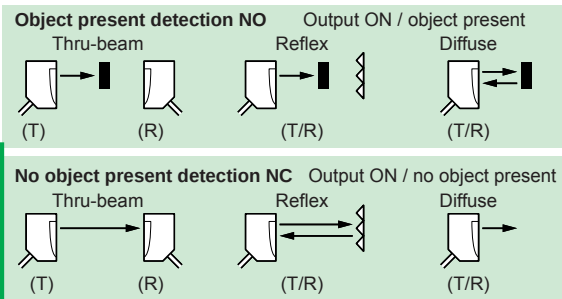
Miniature design	Compact design 50 x 50	Compact design
0.55 / 0.4 m	1.2 / 0.8 m	3 / 2 m
0.10 / 0.10 m	0.3 / 0.3 m	1.3 / 1.3 m
4 / 3 m	5.7 / 4 m	15 / 11 m
14 / 10 m	35 / 30 m	60 / 40 m
direct: fixing centres 25.5, M3 screws	direct: fixing centres 40 x 40, M4 screws	direct: fixing centres 30 / 38 to 40 / 50 / 74, M5 screws
P / 12 x 34 x 20	P / 18 x 50 x 50	P / 30 x 92 x 71
CE - UL - CSA - C-TICK	CE - UL - CSA - CCC - C-TICK	
range (°C): - 25...+ 55 / Degree of protection (conforming to IEC 60529): IP 65, IP 67 (XUK: IP 65), (IP 69K: XUB0S...)		

XUM0APSAL2	—	—
XUM0ANSAL2	—	—
—	XUK0AKSAL2	—
M8 connector	M12 connector	
XUM0APSAM8 (1)	—	—
XUM0ANSAM8 (1)	—	—
—	XUK0AKSAM12	XUX0AKSAM12
—	—	XUX0AKSAT16
100 / 50	100 / 50	100 / 100
frequency (Hz): 250 / Overload and short-circuit protection (★) / LED output state indicator (⊗): yes / power on LED (⊗): yes		
XUM0AKSAL2T	XUK0AKSAL2T	—
XUM0AKSAM8T (1)	XUK0AKSAM12T	XUX0AKSAM12T
—	—	XUX0AKSAT16T

(1) M8 not Snap-C® compatible.

—	XUK0ARCTL2	—
—	—	XUX0ARCTT16
—	⊗ / ⊗	⊗ / ⊗
—	20	20
—	Adjustment from 0 to 15 s, on energisation, on de-energisation or monostable	
—	XUK0ARCTL2T	—
—	—	XUX0ARCTT16T

Simple fixings			Suitable female plug-in connectors, including pre-wired versions			
Fixing support for M12 rod  XUZ2003	Single bracket					
						
	for		length 5 m without LED			
	standard	with ball joint		pre-wired, elbow	pre-wired, straight	screw terminal
	XUB... XUZA118 (stnls. steel)	XUZA218 (plastic)	M8	XZCP1041L5	XZCP0941L5	XZCC8FCM40S
	XUM... XUZA50	—	M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
	XUK... XUZA51	—				
	XUX... XUZX2000	—				



		Design 18 plastic	Design 18 metal
Max. / usable sensing distance	Diffuse	0.8 / 0.6 m	0.8 / 0.6 m
	Polarised reflex	3 / 2 m	3 / 2 m
	Reflex	5.5 / 4 m	5.5 / 4 m
	Thru-beam	20 / 15 m	20 / 15 m
Fixing (mm)		M18 x 1	M18 x 1
Case M (metal) P (plastic) / Dimensions (mm) Ø x L or W x H x D		P / M18 x 46	M / M18 x 46
Setting-up assistance LEDs ☒		—	—
Product certification		CE - UL - CSA - C-TICK	
Common characteristics		Temperature range (°C): - 25...+ 55 (- 30...+ 60: XUM) / Degree of protection (conforming to	

Sensors for DC applications (solid-state output: transistor)

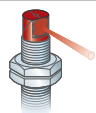
Connection			Pre-cabled, PvR, L = 2 m	M12 connector (1)	Pre-cabled, PvR, L = 2 m	M12 connector (1)
Transmitter for thru-beam			XUB2AKSNL2T	XUB2AKSNM12T	XUB2BKSNL2T	XUB2BKSNM12T
Receiver or T/R, 3-wire PNP (1)	Diffuse, adjustable	NO	XUB5APANL2	XUB5APANM12	XUB5BPANL2	XUB5BPANM12
		NC	XUB5APBNL2	XUB5APBNM12	XUB5BPBNL2	XUB5BPBNM12
Programmable NO/NC		—	—	—	—	
Polarised reflex	NO	XUB9APANL2	XUB9APANM12	XUB9BPANL2	XUB9BPANM12	
	NC	XUB9APBNL2	XUB9APBNM12	XUB9BPBNL2	XUB9BPBNM12	
Programmable NO/NC		—	—	—	—	
Reflex	NO	XUB1APANL2	XUB1APANM12	XUB1BPANL2	XUB1BPANM12	
	NC	XUB1APBNL2	XUB1APBNM12	XUB1BPBNL2	XUB1BPBNM12	
Thru-beam	NO	XUB2APANL2R	XUB2APANM12R	XUB2BPANL2R	XUB2BPANM12R	
	NC	XUB2APBNL2R	XUB2APB NM12R	XUB2BPBNL2R	XUB2BPBNM12R	
Programmable NO/NC		—	—	—	—	
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...36	10...36
Switching frequency (Hz)			500	500	500	500
Common characteristics for DC versions			Switching capacity, max. (mA): 100 / Overload and short-circuit protection (★) / LED output state			

(1) For versions with NPN output, replace "P" by "N". Example: XUB1APANL2 becomes XUB1ANANL2.

Multi-current/multi-voltage sensors for AC/DC applications 10...36 V DC / 20...264 V AC including ripple on DC (relay output, 1 NC/NO, 3 A)

Connection	—	—	—	—
Transmitter for thru-beam		—	—	—
Receiver or T/R	Diffuse	NO + NC	—	—
	Polarised reflex	NO + NC	—	—
	Reflex	NO + NC	—	—
	Thru-beam	NO + NC	—	—
Switching frequency (Hz)		—	—	—
LED output state indicator (☒) / power on LED (☒)		—	—	—

Also available in Design 18 metal, 2-wire type multi-current/multi-voltage a.c./d.c. version. Please refer to www.schneider-electric.com/automation-and-control



90° head Sensing distances: refer to www.schneider-electric.com/automation-and-control
All the above Osiris Design 18 sensors are available with an integral 90° head.
To order, replace the letter "N" in the reference by "W".
Example: For pre-cabled versions: XUB0APSNL2 becomes XUB0APSWL2.
For connector versions: XUB0APSNM12 becomes XUB0APSWM12.

Accessories

Reflectors		Reflectors (mm)
	XUZC24	Ø 21 XUZC21
		24 x 21 XUZC24
	XUZC80	Ø 31 XUZC31
		Ø 39 XUZC39
	XUZC50	Ø 80 XUZC80
		50 x 50 XUZC50
		100 x 100 XUZC100

3D fixings with ball joint		Bracket with ball joint for sensors and reflector XUZC50	Protective housing with ball joint	M12 rod for ball joint	Fixing support for M12 rod
for XUB... XUK... XUX...	XUZB2003 XUZK2003 XUZX2003				



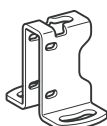
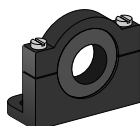
Miniature design	Compact design 50 x 50	Compact design
1 m with sensitivity adjustment	1.5 / 1 m DC or AC	3 / 2.1 m
5 m with sensitivity adjustment	7.5 / 5 m DC or 6 / 4 m AC	15 / 11 m
–	15 / 9 m DC or 10 / 7 m AC	20 / 14 m
15 m with sensitivity adjustment	45 / 30 m DC or 30 / 20 m AC	60 / 40 m
direct: fixing centres 25.4, M3 screws	direct: fixing centres 40 x 40, M4 screws	direct: fixing centres 30 / 38 to 40 / 50 / 74, M5 screws
P / 10.8 x 33.4 x 20	P / 18 x 50 x 50	P / 30 x 92 x 71
⊗	⊗	⊗
CE - cULus - C-TICK	CE - UL - CSA - CCC - C-TICK	
IEC 60529: IP 65, IP 67 (XUK: IP 65) / LED output state indicator and power on LED (⊗): yes		

Pre-cabled, PvR, L = 2 m	M8 connector	Pre-cabled, PvR, L = 2 m	M12 connector (1)	Screw trmls., ISO 16 cbl.gland	M12 connector (1)
XUM2AKCNL2T	XUM2AKCNM8T	XUK2AKSNL2T	XUK2AKSNM12T	XUX0AKSAT16T	XUX0AKSAM12T
–	–	XUK5APANL2	XUK5APANM12	XUX5APANT16	XUX5APANM12
–	–	XUK5APBNL2	XUK5APBNM12	XUX5APBNT16	XUX5APBNM12
XUM5APCNL2	XUM5APCNM8				
–	–	XUK9APANL2	XUK9APANM12	XUX9APANT16	XUX9APANM12
–	–	XUK9APBNL2	XUK9APBNM12	XUX9APBNT16	XUX9APBNM12
XUM9APCNL2	XUM9APCNM8				
–	–	XUK1APANL2	XUK1APANM12	XUX1APANT16	XUX1APANM12
–	–	XUK1APBNL2	XUK1APBNM12	XUX1APBNT16	XUX1APBNM12
–	–	XUK2APANL2R	XUK2APANM12R	XUX2APANT16R	XUX2APANM12R
–	–	XUK2APBNL2R	XUK2APBNM12R	XUX2APBNT16R	XUX2APBNM12R
XUM2APCNL2R	XUM2APCNM8R				
10...30	10...30	10...30	10...30	10...36	10...36
1000	1000	500	500	500	500
indicator (⊗): yes / power on LED (⊗): yes					

–	–	Pre-cabled, L = 2 m	–	Screw trmls., ISO 16 cbl.gland	–
–	–	XUK2ARCNL2T	–	XUX0ARCTT16T	–
–	–	XUK5ARCNL2	–	XUX5ARCNT16	–
–	–	XUK9ARCNL2	–	XUX9ARCNT16	–
–	–	XUK1ARCNL2	–	XUX1ARCNT16	–
–	–	XUK2ARCNL2R	–	XUX2ARCNT16R	–
–	–	20	–	20	–
–	–	⊗ / ⊗	–	⊗ / ⊗	–

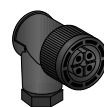
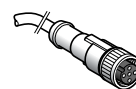
Other fixings

Single bracket



for	standard	with ball joint	with protective cover
XUB...	XUZA118 (stnls. steel)	XUZA218 (plastic)	–
XUM...	–	–	XUZAM02
XUK...	XUZA51	–	–
XUX...	XUXZ2000	–	–

Suitable female plug-in connectors, including pre-wired versions



length 5 m without LED	pre-wired, elbow	pre-wired, straight	screw terminal
M8	XZCP1041L5	XZCP0941L5	XZCC8FCM40S
M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B



System, with teach mode	Thru-beam	Thru-beam laser
Sensing distance	2...120 mm	2...120 mm
Fixing (mm)	(see column E below)	
Sensitivity adjustment	Teach button	
Case M (metal) / Setting-up assistance LEDs ☒	M / ☒	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 65	
Product certification	CE - cULus	

Sensors for DC applications (solid-state output: transistor)

Connection	M8 connector											
Type of output	3-wire PNP/NPN programmable NO/NC											
Dimensions (mm)												
Transmitter / Receiver	XUYFANEP40002	2	42	32	57	14	XUYFALNEP40002	2	42	41	57	14
	XUYFANEP60002	2	59				XUYFALNEP60002	2	59			
	XUYFANEP100002	2	95				XUYFALNEP100002	2	95			
	XUYFANEP40005	5	42	35	57	14	XUYFALNEP40005	5	42	44	57	14
	XUYFANEP60005	5	59				XUYFALNEP60005	5	59			
	XUYFANEP100005	5	95				XUYFALNEP100005	5	95			
	XUYFANEP40015	15	42	45	57	27	XUYFALNEP40015	15	42	54	57	27
	XUYFANEP60015	15	59				XUYFALNEP60015	15	59			
	XUYFANEP100015	15	95				XUYFALNEP100015	15	95			
	XUYFANEP40030	30	42	60	57	42	XUYFALNEP40030	30	42	69	57	42
	XUYFANEP60030	30	59				XUYFALNEP60030	30	59			
	XUYFANEP100030	30	95				XUYFALNEP100030	30	95			
	XUYFANEP40050	50	42	80	57	40	XUYFALNEP40050	50	42	89	57	40
	XUYFANEP60050	50	59				XUYFALNEP60050	50	59			
	XUYFANEP100050	50	95				XUYFALNEP100050	50	95			
	XUYFANEP40080	80	42	110	57	70	XUYFALNEP40080	80	42	119	57	70
	XUYFANEP60080	80	59				XUYFALNEP60080	80	59			
	XUYFANEP100080	80	95				XUYFALNEP100080	80	95			
	XUYFANEP40120	120	42	150	57	110	XUYFALNEP40120	120	42	159	57	110
	XUYFANEP60120	120	59				XUYFALNEP60120	120	59			
	XUYFANEP100120	120	95				XUYFALNEP100120	120	95			
Supply voltage limits, min./max. (V) including ripple	10...30						10...30					
Switching capacity, max. (mA) / Switching frequency (Hz)	100/10 kHz						100/10 kHz					
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒						★ / ☒					



New



System	Ultrasonic thru-beam	Thru-beam
Main application	Special transparent labels	For all other opaque labels
Sensing distance	3 mm version 5 mm version	XUYFA983003COS XUYFA983005COS
Fixing (mm)	6/14	
Sensitivity adjustment	Numerical +/- button	Teach button
Case M (metal) / Setting-up assistance LEDs ☒	M / ☒	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 5...+ 55 / IP 65	- 20...+ 60 / IP 65
Product certification	CE	CE - cULus

Photo-electric sensors - Application

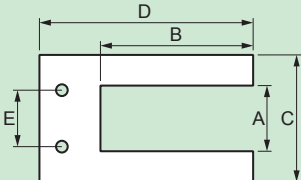
Forks without teach mode



1

System, without teach mode	Thru-beam	Thru-beam laser
Sensing distance	2...120 mm	2...120 mm
Fixing (mm)	(see column E below)	
Sensitivity adjustment	Teach button	
Case M (metal) / Setting-up assistance LEDs ☒	M / ☒	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 65	
Product certification	CE - cULus	

Sensors for DC applications (solid-state output: transistor)

Connection	M8 connector														
Type of output	3-wire PNP/NPN programmable NO/NC														
Dimensions (mm)															
Transmitter / Receiver															
	XUYFNEP40002	2	42	32	57	14	XUYFLNEP40002	2	42	41	57	14			
	XUYFNEP60002	2	59				XUYFLNEP60002	2	59						
	XUYFNEP100002	2	95				XUYFLNEP100002	2	95						
	XUYFNEP40005	5	42	35	57	14	XUYFLNEP40005	5	42	44	57	14			
	XUYFNEP60005	5	59				XUYFLNEP60005	5	59						
	XUYFNEP100005	5	95				XUYFLNEP100005	5	95						
	XUYFNEP40015	15	42	45	57	27	XUYFLNEP40015	15	42	54	57	27			
	XUYFNEP60015	15	59				XUYFLNEP60015	15	59						
	XUYFNEP100015	15	95				XUYFLNEP100015	15	95						
	XUYFNEP40030	30	42	60	57	42	XUYFLNEP40030	30	42	69	57	42			
	XUYFNEP60030	30	59				XUYFLNEP60030	30	59						
	XUYFNEP100030	30	95				XUYFLNEP100030	30	95						
	XUYFNEP40050	50	42	80	57	40	XUYFLNEP40050	50	42	89	57	40			
	XUYFNEP60050	50	59				XUYFLNEP60050	50	59						
	XUYFNEP100050	50	95				XUYFLNEP100050	50	95						
	XUYFNEP40080	80	42	110	57	70	XUYFLNEP40080	80	42	119	57	70			
	XUYFNEP60080	80	59				XUYFLNEP60080	80	59						
	XUYFNEP100080	80	95				XUYFLNEP100080	80	95						
	XUYFNEP40120	120	42	150	57	110	XUYFLNEP40120	120	42	159	57	110			
	XUYFNEP60120	120	59				XUYFLNEP60120	120	59						
XUYFNEP100120	120	95				XUYFLNEP100120	120	95							
Supply voltage limits, min./max. (V) including ripple	10...30						10...30								
Switching capacity, max. (mA) / Switching frequency (Hz)	100/10 kHz						100/10 kHz								
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗						★ / ⊗								

Accessories for forks

Suitable female pre-wired plug-in connectors

without LED	M8 straight
2 m	XZCP0941L2
5 m	XZCP0941L5



M8 elbowed
XZCP1041L2
XZCP1041L5



Robustness and compactness

System	Diffuse	Diffuse (1)	Reflex	Diffuse contrast
Max. / usable sensing distance	0.07 / 0.05 m	0.07 m	10...1000 mm (2)	40...150 mm
Fixing (mm)	M8 x 1	Direct, 2 M3 holes, f.xg. ctrs. 20 mm	Direct, 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment	–	Potentiometer	Teach mode	
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	M / –	M / ☒	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 67	- 25...+ 60 / IP 67, IP 69K	- 20...+ 60°C / IP 67	
Product certification	CE - cULus	CE - cULus - C-TICK	CE - cULus	
Dimensions (mm) Ø x L or H x W x D	Ø 8 x 40	40.8 x 16.2 x 29.5	35.8 x 12 x 20	

Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled, PVC (2 m)			
Transmitter / Receiver 3-wire PNP NO function	XUAH0515	XUM5BPANL2	–	–
Connection	M8 connector			
Transmitter / Receiver 3-wire PNP NO function	XUAH0515S	–	–	–
3-wire PNP programmable NO / NC	–	–	XUYBCO929LSP	XUYPCCO929LSP
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 700	100 / 1000	100 / 1000	100 / 1000
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒	★ / ☒	★ / ☒	★ / ☒

(1) Reflex and thru-beam systems also available.

(2) With specific micro prism precision reflector XUZC50HP, format 50 x 50 mm. To be ordered separately.

Laser class I
Accurate detection or
Very long sensing distanceOptical
frames for
detection of passage of objects

System	Thru-beam	Thru-beam 200 x 120 mm passageway (3)	Multi-channel
Max. / usable sensing distance	100 m or min. size of object: 0.2 mm	0.12 x 0.20 m	Dpg. on fibres (80 mm for diffuse, 200 mm for thru-beam, up to 4 m using end fitting accessories)
Fixing (mm)	M18 x 1	direct: 222.5, M5 screws	DIN rail
Sensitivity adjustment	Teach mode	Potentiometer	LCD display
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	M / ☒	P / ☒ using setting/selector knob
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 45°C / IP 67	0...+ 60 / IP 65	0...+ 60 / IP 40
Product certification	CE - UL - CSA	CE - cULus	CE
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 64	205 x 25 x 230	100 x 45 x 32.5

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M12 connector	2 x M8 connectors
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	–	XUVF120M12	–
PNP programmable NO / NC	XUBLAPCNM12	–	–
NPN programmable NO / NC	XUBLANCNM12	–	–
PNP (4) or analogue	No: PNP Analogue 4-20mA		
4 1	–	–	XUYAFCLARY4ANSP
3 1	–	–	XUYAFCLARY3ANSP
2 1	–	–	XUYAFCLARY2ANSP
4 0	–	–	XUYAFCLARY4STSP
3 0	–	–	XUYAFCLARY3STSP
2 0	–	–	XUYAFCLARY2STSP
Supply voltage limits, min./max. (V) including ripple	10...30	18...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1500	400 / 500	100 / 1.1 kHz
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒	★ / ☒	★ / ☒

(3) Different passageway sizes; 200 x 180: XUVF180M12, 200 x 250: XUVF250M12 and "U" form models available.

(4) For NPN version, replace the last letter in the reference (P) by N. Example: XUYAFCLARY4ANSP becomes XUYAFCLARY4ANSN.

Photo-electric sensors - Application

Materials handling series



Analogue output
Position control



High access gain for resistance
to accumulation of dirt

1

System	Diffuse	Diffuse	Thru-beam
Max. / usable sensing distance	0.20...0.80 m	0.05...0.40 m	70 / 50 m
Fixing (mm)	fixing ctrs: 30 - 11P cable gland	M18 x 1	M18 x 1
Sensitivity adjustment	—	Potentiometer	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	M / ☒	M / ☒
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 67	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	86 x 27 x 83	M18 x 95	M18 x 95

Sensors for DC applications

Connection	Screw terminals	M12 connector	M12 connector
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUJK803538 (5)	—	—
3-wire PNP programmable NO / NC	—	—	XU2M18AP20D (5)
3-wire PNP Analogue	—	XU5M18AB20D (5)	—
Supply voltage limits, min./max. (V) including ripple	20...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	max: 20, min: 4 / 10000	max: 20, min: 4 / 20	100 / 30
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒	★ / ☒	★ / ☒

(5) With 4...20 mA analogue output.



System	Diffuse, 0-10 V analogue output	Diffuse, 4-20 mA analogue output
	Sensing distance 1	Sensing distance 2
Sensing distance	40...60 mm	45...85 mm
Minimum size of object	1 mm	0.8 mm
Fixing (mm)	direct: 3 M4 holes, fixing centres 40 mm	1.5 x 3.5 mm
Sensitivity adjustment	Potentiometer	
Case P (plastic) / Setting-up assistance LEDs ☒	P / ☒	
Temperature range (°C)	0...+ 45°	
Product certification	CE - cULus	
Dimensions (mm) H x W x D	50 x 17 x 50	

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M12 connector	M12 connector
Transmitter / Receiver 0...10 V	XUYPCO925L1ANSP	XUYPCO925L2ANSP	XUYPCO925L3ANSP
Supply voltage limits, min./max (V) including ripple	18...28		18...28
Switching capacity, max.	3 mA / 0...10 V analogue output		3 mA / 4...20 mA analogue output
Switching frequency (Hz)	40		40
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒		★ / ☒

Accessories

Suitable female pre-wired plug-in connectors	Fixing, for XUYPCO925
M8 straight M12 straight M8 elbowed M12 elbowed	With protective cover Simple
2 m XZCP0941L2 XZCP1141L2 5 m XZCP0941L5 XZCP1141L5	XUY 9251-DF525567 XUY 925-DF525568



Contrast sensors

	Diffuse	Sensor with plastic fibre optics (1)	Diffuse (with teach mode)
Max. / usable sensing distance	19 mm	18 mm	9 mm (2)
Fixing (mm)	direct: fixing centres 40 x 40	DIN rail	direct: 21 x 28, M5 screws
Sensitivity adjustment	Teach button	Teach button	Teach button
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	M / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 55 / IP 65	0 ... + 40 / IP 65	- 10...+ 55 / IP 67
Product certification	CE - cULus	CE - cULus	CE
Dimensions (mm) Ø x L or H x W x D	50 x 15 x 50	30 x 13 x 60	96 x 31 x 64

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M8 connector	M12 connector
Transmitter / Receiver			
3-wire PNP NO function	XUKR1PSMM12	—	—
3-wire NPN NO function	XUKR1NSMM12	—	—
3-wire PNP / NPN programmable NO / NC	—	—	XURK1KSMM12
NPN NO function	—	XUYDCFCO966S	—
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 5000	100 / 20 k	200 / 10000

(1) Suitable fibre optics, to be ordered separately:
Sensing distance: 18 mm (L = 0.6 m: XUYFPDC61),
60 mm (L = 1 m: XUYFPDC101)
18 mm (L = 0.6 m / M8: XUYFPDCM861),
60 mm (L = 1 m / M8: XUYFPDCM8101).

(2) 7 mm with XURZ02; 18 mm with XURZ01.



Luminescence sensors

Detection of transparent materials

	Diffuse (manual)	Lum. detection via fibre optics	Reflex (with teach mode) (50 x 50 reflector included)
Max. / usable sensing distance	0.02...0.08 m	dpg. on fibre & fitting (3)	0...1.4 m (4) 1.5 m
Fixing (mm)	M18 x 1	DIN rail	M18 x 1 (5) direct: fixing ctrs. 40 x 40
Sensitivity adjustment	Potentiometer	+/- numeric potentiometer	Teach button
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	M / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 67	0 ... + 60 / IP 65	0...+ 55 / IP 67 - 25...+ 55 / IP 65
Product certification	CE - CSA - UL	CE - cULus	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 95	30 x 13 x 60	Ø 18 x 64 50 x 18 x 50

Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled, PVC (2 m)
Transmitter / Receiver	
3-wire PNP programmable NO / NC	—
3-wire NPN programmable NO / NC	—
3-wire PNP / NPN programmable NO / NC	—
Connection	
Transmitter / Receiver	
3-wire PNP fonction NO	XU5M18U1D
3-wire PNP programmable NO / NC	—
3-wire NPN programmable NO / NC	—
3-wire PNP / NPN programmable NO / NC	—
Supply voltage limits, min./max. (V) including ripple	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1000

(3) Suitable fibre optics, to be ordered separately (usable Ø 1 mm): (L = 10 m: XUFZ910) (L = 20 m: XUFZ920) (L = 50 m: XUFZ920).

(4) 0...0.8 m for versions with 90° head.

(5) Also available in stainless steel for food and beverage processing applications. To order, replace the letter **A** by **B** in the ref. Example: XUBTAPSNL2 becomes XUBTBPSNL2.

Accessories

Suitable female plug-in connectors, including pre-wired versions	Lenses for colour mark or luminescence detection
L = 5 m, without LED	Lens for doubling sensing distance
M8 (or S)	Ring for fixed focusing
M12 (or D) 4-pin	
M12 8-pin	
U20 (or K)	

Packaging series



Colour sensors

Detection of aqueous liquids

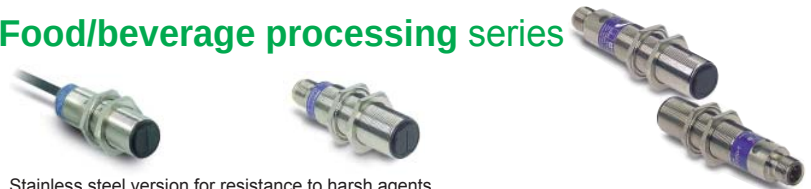
	Diffuse	Diffuse (with integral amplifier)	High performance colour reader	Thru-beam infrared
Max. / usable sensing distance	0.02 m	0.040...0.060 m	3...70 mm dpg. on fibres*	0.2 m (1)
Fixing (mm)	direct: fixing ctrs. 40x40	drct: fxg ctrs. 68x42, M5 screws	DIN rail	direct: fixing ctrs. 20
Sensitivity adjustment	Teach button	Teach button	LCD display	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	M / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 55 / IP 65	- 10...+ 55 / IP 67	0...+ 60 / IP 40	0...+ 40 / IP 65
Product certification	CE - cULus	CE	CE	CE
Dimensions (mm) Ø x L or H x W x D	50 x 25 x 50	80 x 30 x 57	100 x 45 x 33	47 x 13 x 33

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector (8-pin)	Pre-cabled (2 m)	2 x M8 connectors	Pre-cabled (2 m)
Transmitter / Receiver				
3-wire PNP NO function	XUKC1PSMM12	XURC3PPML2	—	—
3-wire NPN NO function	XUKC1NSMM12	XURC3NPML2	—	—
3-wire PNP / NPN programmable NO / NC	—	—	—	XUMW1KSNL2
PNP (5 colours) programmable NO / NC	—	—	XUYLCLAR5DSP	—
NPN (26 colours) programmable NO / NC	—	—	XUYLCLAR26CSP	—
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	—	10.8...26.4
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1500	100 / 1200	—	100 / 1000

(1) Nominal sensing distance 50 m. Use between 10 and 20 cm, depending on application.

Food/beverage processing series



Stainless steel version for resistance to harsh agents

	Polarised relax (2)	Diffuse (2)	Thru-beam (2)
Max. / usable sensing distance	3 / 2 m	0.15 / 0.10 m	20 / 15 m
Fixing (mm)	M18 x 1	M18 x 1	M18 x 1
Case M (metal)	M (stainless steel)	M (stainless steel)	M (stainless steel)
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA - C-TICK		
Dimensions (mm) Ø x L	Ø 18 x 62	Ø 18 x 62	Ø 18 x 64

Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled, PvR (2 m)	Pre-cabled, PvR (2 m)	Pre-cabled, PvR (2 m)
Transmitter / Receiver			
3-wire PNP programmable NO / NC	XU9N18PP341	XU5N18PP341	XU2N18PP341
3-wire NPN programmable NO / NC	XU9N18NP341	XU5N18NP341	XU2N18NP341
Connection	M12 connector	M12 connector	M12 connector
Transmitter / Receiver			
3-wire PNP programmable NO / NC	XU9N18PP341D	XU5N18PP341D	XU2N18PP341D
3-wire NPN programmable NO / NC	XU9N18NP341D	XU5N18NP341D	XU2N18NP341D
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 500	100 / 500	

(2) Also available with 90° head. To order, add the letter **W** after the numbers 341 in the reference. Example: XU9N18PP341 becomes XU9N18PP341W or XU9N18PP341DW.

Accessories

*Suitable fibre optics



Special high performance colour fibres

Sensing distance	Spot	Length	Reference
25 mm	Ø 2	600	XUYFLCLHR2561
70 mm	Ø 6	600	XUYFLCLHR7061

New



System	Background suppression	Diffuse with background suppression		Adjustable
		Sensing distance 1	Sensing distance 2	
Sensing distance	1.5...80 mm	10...60 mm	30...110 mm	70...120 mm
Minium size of object	–	0.3 mm	0.7 mm	–
Fixing (mm)	2 x Ø 3 holes / fvg. ctrs. 14.5	direct: 2 M3 holes, fixing centres 24 mm		M18 x 1
Sensitivity adjustment	Potentiometer	Teach mode		Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	P		M / ☒
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65 & IP 67	- 20...+ 60°C / IP 67		- 25...+ 55°C / IP 67
Product certification	CE - cULus	CE - cULus		CE - UL - CSA
Dimensions (mm) Ø x L or H x W x D	32 x 13 x 20	35.8 x 12 x 20		M18 x 82

Sensors for DC applications (solid-state output: transistor)

AC/DC

Connection	M8 connector (1)		M8 connector	M8 connector	Pre-cabled, L = 2 m
Transmitter / Receiver	PNP	NO function	XUYPSO989SP	–	–
	NPN	NO function	XUYPSO989SN	–	–
	PNP	programmable NO / NC	–	XUYPSO929L1SP	XUYPSO929L2SP
	AC/DC	NO function	–	–	XU8M18MA230
Supply voltage limits, min./max. (V) including ripple	10...30		10...30	10...30	20...264
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 500		100 / 1000	100 / 1000	200 / 25
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒		★ / ☒	★ / ☒	(2) / ☒

(1) For 2 m pre-cabled connection delete CO from the reference. Example: XUYPSO989SP becomes XUYPS989SP.

(2) Sensor not short-circuit protected. Therefore, it is essential to connect a 0.4 A quick-blow fuse in series with the load.



Objects on conveyor

System	Diffuse with adjustable background suppression	Background suppression	Background suppression, 2 chnls.
Max. / usable sensing distance	0...1 m	1.2 m	50...300 mm
Minimum size of object	–	–	0.5 mm
Fixing (mm)	direct: fixing ctrs. 40 x 40	M30 x 1.5 or M5, fvg. ctrs. 30	direct: 2 M4 holes, ctrs. 54 mm
Sensitivity adjustment	–	Potentiometer	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	P / ☒	P / ☒
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 65	- 25...+ 55 / IP 67, Nema 4X	0...+ 50 / IP 65
Product certification	CE - UL - CSA	CE - UL - CSA	CE - cULus
Dimensions (mm) Ø x L or H x W x D	50 x 18 x 50	95 x 45 x 44	60 x 18 x 60

Sensors for DC applications (solid-state output: transistor). Sensors with overload and short-circuit protection

Connection	Pre-cabled, PVC (2 m)			
Transmitter / Receiver	3-wire PNP / NPN	programmable NO / NC	XUK8AKSNL2	XUC8AKSNL2 (3)
Connection	M12 connector		M8 connector	
Transmitter / Receiver	3-wire PNP	programmable NO / NC	–	–
	3-wire PNP / NPN	programmable NO / NC	XUK8AKSNM12	XUC8AKSNM12 (3)
Supply voltage limits, min./max. (V) including ripple	10...30		10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 250		100 / 5000	100 / 5000

(3) AC/DC version also available.



System	Thru-beam	Reflex	Polarised reflex	Diffuse	Diffuse with back-ground suppression
Max. / usable sensing distance	11 / 8 m	9 / 6 m	6 / 4 m	0.9 / 0.7 m	0.25 m fixed range
Fixing (mm)	direct: fixing centres 28 mm, M3 screws				
Sensitivity adjustment	–	–	–	Potentiometer	Potentiometer
Case P (plastic)	P				
Product certification	CE - special H7 version UL - CSA - UR - CCC				
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 67				

Sensors for DC applications (solid-state output: transistor)

Connection				Pre-cabled, PVC (2 m)				
Dimensions (mm) H x W x D				70 x 18 x 35				
References	3-wire PNP	programmable	NO / NC	XULH083534	XULH06353	XULH043539	XULH703535	–
	3-wire NPN	programmable	NO / NC	XULJ083534	XULJ06353	XULJ043539	XULJ703535	–
	Transmitter			XULK0830	–	–	–	–
Connection				M12 connector				
References	3-wire PNP	programmable	NO / NC	XULH083534D	XULH06353D	XULH043539D	XULH703535D	–
	3-wire NPN	programmable	NO / NC	XULJ083534D	XULJ06353D	XULJ043539D	XULJ703535D	–
	Transmitter			XULK0830D	–	–	–	–
Supply voltage limits, min./max. (V) including ripple				10...30				
Switching capacity, max. / Switching frequency (Hz)				≤ 200 mA with short-circuit protection / 250				
LED output state indicator (⊗) / power on LED (⊗)				⊗ / –	⊗ / –	⊗ / –	⊗ / –	–

Multi-current/multi-voltage sensors for AC/DC applications 10...36 V DC / 20...264 V AC including ripple on DC, NC/NO relay output

Connection				Pre-cabled, PVC (2 m)				
Dimensions (mm) H x W x D				70 x 18 x 45				
References	3-wire PNP	programmable	NO / NC	XULM080314	XULM06031	XULM040319	–	XULM300318
	Transmitter			XULM0600	–	–	–	–
Switching capacity, max. / Switching frequency (Hz)				2000 mA (cos φ = 1), 500 mA (cos φ = 0.4) / 20				
LED output state indicator (⊗) / power on LED (⊗)				⊗ / –	⊗ / –	⊗ / –	– / –	⊗ / –



Miniature series sensors

System	Polarised reflex	Thru-beam
	50 x 50 reflector included	
Sensing distance	1...1.5 m	4 m
Fixing (mm)	2 x Ø 3 holes / fixing centres 9.5	3 x Ø 3 holes / fixing centres 9.5
Sensitivity adjustment	Potentiometer	Potentiometer
Case P (plastic) / Setting-up assistance LEDs ⊗	P / ⊗	P / ⊗
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65 & IP 67	0...+ 50 / IP 65 & IP 67
Product certification	CE - cULus	CE - cULus
Dimensions (mm) H x W x D	40 x 10 x 13.5	40 x 10 x 13.5

Sensors for DC applications (solid-state output: transistor)

Connection			M8 connector (1)	
	PNP	NO function	XUYBCO989SP	XUYRCO989SP (receiver)
	NPN	NO function	XUYBCO989SN	XUYRCO989SN (receiver)
	PNP/NPN	programmable NO / NC	–	XUYECO989 (transmitter)
Supply voltage limits, min./max. (V) including ripple			10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)			100 / 500	100 / 500
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗

(1) For 2 m pre-cabled version delete CO from the reference. Example: XUYPSCO989SP becomes XUYPS989SP.

Osiris

Photo-electric sensors, fibre optic
Amplifier

1



	Optimum +/- potentiometer	Teach	Universal Teach + Timer	Teach+Timer+Speed dsply.
Max. / usable sensing distance	Depending on fibre used, plastic only			
Fixing (mm)	DIN rail or direct: fixing centres 25, M3 screws			
Sensitivity adjustment	+/- numeric potentiometer	using teach mode	+/- numeric potentiometer	using teach mode
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	P / ☉	P / ☉ and 4-digit display
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 60 / IP 65	- 10...+ 55 / IP 65 (1)	0...+ 60 / IP 65	- 10...+ 55 / IP 65 (1)
Product certification	CE - cULus	CE - cULus - cURus	CE - cULus	CE - cULus - cURus
Dimensions (mm) L x H x W	60 x 30 x 13	65 x 40 x 10	60 x 30 x 13	65 x 40 x 10

Sensors for DC applications (solid-state output: transistor)

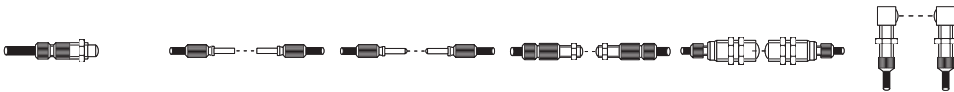
Connection				Pre-cabled, PVC (2 m)			
References	3-wire PNP	programmable	NO / NC	–	XUDA1PSML2	–	XUDA2PSML2
Amplifier	3-wire NPN	programmable	NO / NC	–	XUDA1NSML2	–	XUDA2NSML2
Connection				M8 connector			
References	3-wire PNP	programmable	NO / NC	–	XUDA1PSMM8	–	XUDA2PSMM8
Amplifier	3-wire NPN	programmable	NO / NC	–	XUDA1NSMM8	–	XUDA2NSMM8
	3-wire PNP/NPN	programmable	NO / NC	XUYAFVCO966S (Glass)	–	XUYAFVCO946S (Glass)	–
				XUYAFPCO966S (Plastic)	–	XUYAFPCO946S (Plastic)	–
Supply voltage limits, min./max. (V) including ripple				10...30	10.8...26.4	10...30	10.8...26.4
Switching capacity, max. (mA) / Switching frequency (Hz)				100 / 1000	100 / 1000	100 / 1000 time delayable	100 / 1000 time delayable
Overload and short-circuit protection (★) / LED output state indicator (☉)				★ / ☉	★ / ☉	★ / ☉	★ / ☉

(1) IP 65 with Ø 1 fibre/ IP 64 with Ø 0.5 fibre.

Ecofibre system, assemble your own fibres



Fibre	
Ø 1 mm Length = 20 m	XUFZ920



End fittings						
Sensing distance (mm)	70	200	800	1200	4000	1200
Type	with threaded end fitting	with plain end fitting, Ø 3, L = 9 mm	with plain end fitting, Ø 3, L = 9 mm	with threaded end fitting	with threaded end fitting	90° mirror, with threaded end fitting
Thread	M8 x 1, L = 10 mm	–	–	M6 x 1, L = 10 mm	M6 x 1, L = 10 mm	M6 x 1, L = 3 to 10 mm
Lens	yes	no	yes	yes	yes	yes
References	XUYA110	XUYA210	XUYA211	XUYA212	XUYA212	XUYA220

Accessories

For thru-beam system plastic fibre optics	
Lenses	For increasing sensing distance (pair) XUFZ01
	With 90° mirror (pair) XUFZ02
Fixing clamp with lens (set of 2)	
	Front screw fixing for fibre optics XUFZ920 XUFZ04

For all system plastic fibre optics	
Fibre trimmer	For trimming fibres to length (included with all fibre optics) XUFZ11
Protective metal tubing	
	Length 1 m, for fibres with threaded end fittings
	For M4 thread XUFZ210
	For M6 thread XUFZ310

Plug-in pre-wired female connectors	
Cable length 5 m, without LED	
pre-wired, elbowed	pre-wired, straight
XZCP1041L5	XZCP0941L5

Plastic fibre optic light guides (length 2 m)



Long range fibres
with integrated lens
M8 / L = 20 mm

Long range fibres
M4 / M2.6 (1)

Flexible fibres
M4 / M2.6 (1)

System	Thru-beam					
Sensing distance (mm)	200 or 1500 (1)	180	50 or 1000 (1)	2500	300 or 2000 (1)	100 or 750 (1)
Fibre cross-section						
Fibre Ø (mm)	Ø 1	Ø 1	Ø 0.5	Ø 1	Ø 1.5	Ø 1
Sheath Ø (mm)	Ø 2.2	Ø 2.2	Ø 1	Ø 2.2	Ø 2.2	Ø 2.2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN12301	XUFN12311	XUFN35301	XUFN2L01L2	XUFN2P01L2	XUFN2S01L2
Fixing	M4 x 0.7	M4 x 0.7	M3 x 0.5	M8 x 1.25	M2.6 x 0.45 / M4 x 0.7	M2.6 x 0.45 / M4 x 0.7

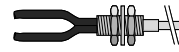
(1) All models except XUFZ01 and XUFZ02.



M6



M4 / M6



M6/L = 90 mm



M4 / M2.6

System	Diffuse			
Sensing distance (mm)	70	60	60	15
Fibre cross-section				
Fibre Ø (mm)	Ø 1	Ø 1+16 Ø 0.265	Ø 1	Ø 0.5 + 4 Ø 0.23
Sheath Ø (mm)	Ø 2.2 x 2	Ø 2.2 x 2	Ø 2.2 x 2	Ø 1 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN05321	XUFN05323	XUFN05331	XUFN02323
Fixing	M6 x 0.75	M6 x 0.75 / M4 x 0.7	M6 x 0.75	M4 x 0.7



M4 / L = 90 mm



M4 / M2.6



Long range fibres
M6 / L = 15 mm

System	Diffuse		
Sensing distance (mm)	18	18	95
Fibre cross-section			
Fibre Ø (mm)	Ø 0.5	Ø 0.5	Ø 1.5
Sheath Ø (mm)	Ø 1 x 2	Ø 1 x 2	Ø 2.2 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN01331	XUFN01321	XUFN5P01L2
Fixing	M4 x 0.7	M4 x 0.7	M6 x 0.75

Glass fibre optic light guides (length 0.6 m)



M4



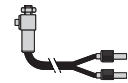
M4 / Ø 2.5 x 89



M4

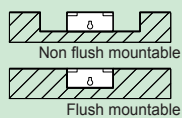


M4 / Ø 2.5 x 89



M4

System		Thru-beam		Diffuse		
Sensing distance (mm)		200		80		
Fibre cross- section						
End fitting		Straight	Adaptable	Straight	Adaptable	90°
Fibre Ø (mm)		1		1		
Sheath Ø (mm)		2.2		2.2		
Temperature range (°C)		PVC sheath: - 25...+ 60 / Metal wound: - 25...+ 120 / Flexible stainless steel: - 25...+ 200				
References	PVC sheath	XUYFVERSD61	XUYFVERSC61	XUYFVPSD61	XUYFVPSC61	XUYFVPSL61
	Metal wound	XUYFVERMD61	XUYFVERSC61	XUYFVPMD61	XUYFVPMC61	XUYFVPML61
	Flexible stnl. steel	XUYFVERTD61	XUYFVERTC61	XUYFVPTD61	XUYFVPTC61	XUYFVPTL61



A single product that automatically adapts to all installation environments.

Accurate position detection using teach mode

New
IP 69K



	M8	M12	M18	M30
Nominal sensing distance S_n	2.5 mm	4 mm	8 mm	15 mm
Usable sensing distance S (mm) flush mountable / non flush mountable	0...2	0...3.2	0...6.4	0...12
Fine adjustment zone (mm) flush mountable / non flush mountable	—	—	—	—
Suitability for flush mounting (metal environment)	flush mountable	flush mountable	flush mountable	flush mountable
Case M (metal) P (plastic)	M	M	M	M
Temperature range (°C)	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
Product certification	CE - UL - CSA - CCC - C-TICK			
Degree of protection (conforming to IEC 60529)	IP 67 pre-cabled: IP 68, IP 69K conforming to DIN 40050 (with connector: IP 67)			

Sensors for DC applications

Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x H x D			M8 x 50	M12 x 50	M18 x 60	M30 x 60
3-wire	PNP	NO function	XS608B1PAL2	XS612B1PAL2	XS618B1PAL2	XS630B1PAL2
		NC function	XS608B1PBL2	XS612B1PBL2	XS618B1PBL2	XS630B1PBL2
	NPN	NO function	XS608B1NAL2	XS612B1NAL2	XS618B1NAL2	XS630B1NAL2
		NC function	XS608B1NBL2	XS612B1NBL2	XS618B1NBL2	XS630B1NBL2
Connection			M8 connector	M12 connector		
Dimensions (mm) Ø x L or W x H x D			M8 x 61	M12 x 61	M18 x 72	M30 x 72
3-wire	PNP	NO function	XS608B1PAM12	XS612B1PAM12	XS618B1PAM12	XS630B1PAM12
		NC function	XS608B1PBM12	XS612B1PBM12	XS618B1PBM12	XS630B1PBM12
	NPN	NO function	XS608B1NAM12	XS612B1NAM12	XS618B1NAM12	XS630B1NAM12
		NC function	XS608B1NBM12	XS612B1NBM12	XS618B1NBM12	XS630B1NBM12
Supply voltage limits, min./max. (V) including ripple			10...58	10...58	10...58	10...58
Switching capacity, max. (mA)			200	200	200	200
Overload and short-circuit protection (★)			★	★	★	★
LED output state indicator (⊗) and power on LED (⊗)			⊗ / –	⊗ / –	⊗ / –	⊗ / –
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz)			2500	2500	1000	500

Multi-current/multi-voltage sensors for AC/DC applications

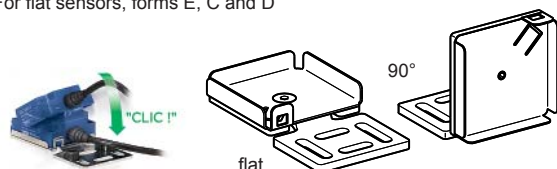
Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm)			–	M12 x 50	M18 x 60	M30 x 60
2-wire	AC/DC	NO function	–	XS612B1MAL2	XS618B1MAL2	XS630B1MAL2
		not short-circuit protected (1)	NC function	–	XS612B1MBL2	XS618B1MBL2
Connection			1/2"-20 UNF connector			
Dimensions (mm) Ø x L or W x H x D			–	M12 x 61	M18 x 72	M30 x 72
2-wire	AC/DC	NO function	–	XS612B1MAU20	XS618B1MAU20	XS630B1MAU20
		not short-circuit protected (1)	NC function	–	XS612B1MBU20	XS618B1MBU20
Supply voltage limits, min./max. (V) including ripple			–	20...264	20...264	20...264
Switching capacity, max. (mA)			–	200	300 AC / 200 DC	300 AC / 200 DC
LED output state indicator (⊗) / power on LED (⊗)			–	–	⊗ / –	⊗ / – ⊗ / –
Residual current, open state (mA)			–	≤ 1.5	≤ 1.5	≤ 1.5
Voltage drop, closed state (V) at I nominal			–	≤ 5.5	≤ 5.5	≤ 5.5
Switching frequency (Hz)			–	25 AC / 1000 DC	25 AC / 1000 DC	25 AC / 500 DC

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Fixing

For flat sensors, forms E, C and D



	flat	90°	substitution of block type sensors XSE / XSC / XSD
Form E	XSZBE00	XSZBE90	XSZBE10
Form C	XSZBC00	XSZBC90	XSZBC10
Form D	—	—	XSZBD10

Fixing clamp with indexing pin for cylindrical sensors



M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130



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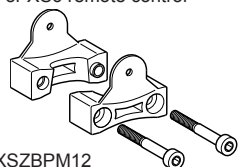
Increased range			Form E	Form C	Form D
M12	M18	M30	26 x 26	40 x 40	80 x 80
7 mm	12 mm	22 mm	15 mm	25 mm	60 mm
0 ... 5.6	0 ... 9.6	0 ... 17.6	0...8 / 0...12	0...12 / 0...20	0...32 / 0...48
			5...10 / 5...15	8...15 / 8...25	20...40 / 20...60
non flush mountable			flush mountable or non flush mountable via teach mode		
M			P	P	P
- 25... + 70			- 25... + 70	- 25... + 70	- 25... + 70
CE - UL - CSA - CCC - C-TICK			CE - UL - CSA - CCC - C-TICK		
pre-cabled: IP 68 (with connector: IP 67)			pre-cabled: IP 68 (with connector: IP 67)		

Pre-cabled (2 m)					
M12 x 1 x 55	M18 x 1 x 60	M30 x 1.5 x 62	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
XS612B4PAL2	XS618B4PAL2	XS630B4PAL2	XS8E1A1PAL2	XS8C1A1PAL2	XS8D1A1PAL2
XS612B4PBL2	XS618B4PBL2	XS630B4PBL2	XS8E1A1PBL2	XS8C1A1PBL2	XS8D1A1PBL2
XS612B4NAL2	XS618B4NAL2	XS630B4NAL2	XS8E1A1NAL2	XS8C1A1NAL2	XS8D1A1NAL2
XS612B4NBL2	XS618B4NBL2	XS630B4NBL2	XS8E1A1NBL2	XS8C1A1NBL2	XS8D1A1NBL2
M12 connector					
M12 x 1 x 65	M18 x 1 x 71	M30 x 1.5 x 74	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
XS612B4PAM12	XS618B4PAM12	XS630B4PAM12	XS8E1A1PAM8	XS8C1A1PAM8	XS8D1A1PAM12
XS612B4PBM12	XS618B4PBM12	XS630B4PBM12	XS8E1A1PBM8	XS8C1A1PBM8	XS8D1A1PBM12
XS612B4NAM12	XS618B4NAM12	XS630B4NAM12	XS8E1A1NAM8	XS8C1A1NAM8	XS8D1A1NAM12
XS612B4NBM12	XS618B4NBM12	XS630B4NBM12	XS8E1A1NBM8	XS8C1A1NBM8	XS8D1A1NBM12
10...58	10...58	10...58	10...36	10...36	10...36
200	200	200	100	200	200
★	★	★	★	★	★
⊗ / -	⊗ / -	⊗ / -	⊗ / ⊗	⊗ / ⊗	⊗ / ⊗
≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
2500	1000	500	2000	1000	150

Pre-cabled (2 m)					
-	M18 x 1 x 60	M30 x 1.5 x 62	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
-	XS618B4MAL2	XS630B4MAL2	XS8E1A1MAL2	XS8C1A1MAL2	XS8D1A1MAL2
-	XS618B4MBL2	XS630B4MBL2	XS8E1A1MBL2	XS8C1A1MBL2	XS8D1A1MBL2
1/2"-20 UNF connector					
-	M18 x 1 x 71	M30 x 1.5 x 74	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
-	XS618B4MAU20	XS630B4MAU20	XS8E1A1MAL01U20	XS8C1A1MAL01U20	XS8D1A1MAU20
-	XS618B4MBU20	XS630B4MBU20	XS8E1A1MBL01U20	XS8C1A1MBL01U20	XS8D1A1MBU20
-	20...264	20...264	20...264	20...264	20...264
-	300 AC / 200 DC	300 AC / 200 DC	200 AC or DC	300 AC / 200 DC	300 AC / 200 DC
-	⊗ / -	⊗ / -	⊗ / ⊗	⊗ / ⊗	⊗ / ⊗
-	≤ 0.8	≤ 0.8	≤ 1.5	≤ 1.5	≤ 1.5
-	≤ 5.5	≤ 5.5	≤ 5.5	≤ 5.5	≤ 5.5
-	25 AC / 1000 DC	25 AC / 300 DC	2000	1000	150

Suitable female plug-in connectors, including pre-wired versions

For XS6 remote control



XSZBPM12

length 5 m
without LED

M8

M12

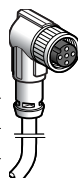
U20

pre-wired,
elbowed

XZCP0666L5

XZCP1241L5

XZCP1965L5

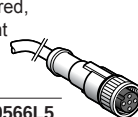


pre-wired,
straight

XZCP0566L5

XZCP1141L5

XZCP1865L5



screw terminal

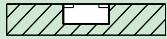


XZCC8FCM30S

XZCC12FCM40B

XZCC20FCM30B

1



Flush mountable



	Form J 8 x 22	Form F 15 x 32	Form E 26 x 26	Form C 40 x 40	Form D 80 x 80
Nominal sensing distance Sn	2.5 mm	5 mm	10 mm	15 mm	40 mm
Operating zone (mm)	0...2	0...4	0...8	0...12	0...32
Suitability for flush mounting (metal environment)	flush mountable	flush mountable	flush mountable	flush mountable	flush mountable
Case M (metal) P (plastic)	P	P	P	P	P
Temperature range (°C)	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
Product certification	CE	CE - UL - CSA - C-TICK			
Degree of protection (conforming to IEC 60529)	pre-cabled: IP 68 (with connector: IP 67)				

Sensors for DC applications

Connection			Pre-cabled, PvR (2 m)				
Dimensions (mm) Ø x L or W x H x D			8 x 22 x 8	15 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
3-wire	PNP	NO function	XS7J1A1PAL2	XS7F1A1PAL2	XS7E1A1PAL2	XS7C1A1PAL2	XS7D1A1PAL2
		NC function	XS7J1A1PBL2	XS7F1A1PBL2	XS7E1A1PBL2	XS7C1A1PBL2	XS7D1A1PBL2
	NPN	NO function	XS7J1A1NAL2	XS7F1A1NAL2	XS7E1A1NAL2	XS7C1A1NAL2	XS7D1A1NAL2
		NC function	XS7J1A1NBL2	XS7F1A1NBL2	XS7E1A1NBL2	XS7C1A1NBL2	XS7D1A1NBL2
Connection			M8 connector				M12 connector
3-wire	PNP	NO function	XS7J1A1PAL01M8 (1)	XS7F1A1PAL01M8 (1)	XS7E1A1PAM8	XS7C1A1PAM8	XS7D1A1PAM12
		NC function	XS7J1A1PBL01M8 (1)	XS7F1A1PBL01M8 (1)	XS7E1A1PBM8	XS7C1A1PBM8	XS7D1A1PBM12
	NPN	NO function	XS7J1A1NAL01M8 (1)	XS7F1A1NAL01M8 (1)	XS7E1A1NAM8	XS7C1A1NAM8	XS7D1A1NAM12
		NC function	XS7J1A1NBL01M8 (1)	XS7F1A1NBL01M8 (1)	XS7E1A1NBM8	XS7C1A1NBM8	XS7D1A1NBM12
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...36	10...36	10...36
Switching capacity, max. (mA)			100	100	100	100	100
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz)			2000	2000	1000	1000	100

Sensors for DC applications

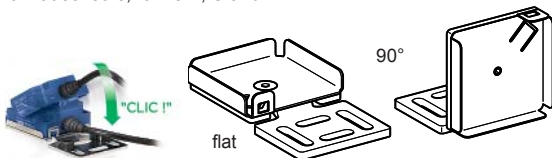
Connection			Pre-cabled, PvR (2 m)				
Dimensions (mm) Ø x L or W x H x D			8 x 22 x 8	15 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
2-wire	non polarised	NO function	XS7J1A1DAL2	XS7F1A1DAL2	XS7E1A1DAL2	XS7C1A1DAL2	XS7D1A1DAL2
		NC function	XS7J1A1DBL2	XS7F1A1DBL2	XS7E1A1DBL2	XS7C1A1DBL2	XS7D1A1DBL2
Connection			M8 connector				M12 connector
2-wire	non polarised	NO function	XS7J1A1DAL01M8 (1)	XS7F1A1DAL01M8 (1)	XS7E1A1DAM8	XS7C1A1DAM8	XS7D1A1DAM12
		NC function	XS7J1A1DBL01M8 (1)	XS7F1A1DBL01M8 (1)	XS7E1A1DBM8	XS7C1A1DBM8	XS7D1A1DBM12
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...36	10...36	10...36
Switching capacity, max. (mA)			100	100	100	100	100
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Residual current, open state (mA)			≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Voltage drop, closed state (V) at I nominal			≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
Switching frequency (Hz)			4000	5000	1000	1000	100

(1) M8 connector on flying lead (L = 0.15 m).

Accessories

Fixing

For flat sensors, forms E, C and D



	flat	90°	substitution of block type sensors XSE / XSC / XSD
Form E	XSZBE00	XSZBE90	XSZBE10
Form C	XSZBC00	XSZBC90	XSZBC10
Form D	–	–	XSZBD10

Fixing clamp with indexing pin
for cylindrical sensors



M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130



1

Increased range				Standard range			
M8	M12	M18	M30	M8	M12	M18	M30
2.5 mm	4 mm	10 mm	20 mm	1.5 mm	2 mm	5 mm	10 mm
0...2	0...3.2	0...8	0...16	0...1.2	0...1.6	0...4	0...8
almost flush mountable	almost flush mountable	almost flush mountable	almost flush mountable	flush mountable	flush mountable	flush mountable	flush mountable
M	M	M	M	M	M	M	M
- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK			
IP 67		IP 68, IP 69K conforming to DIN 40050 (with connector: IP 67)		IP 67		pre-cabled: IP 68, IP 69K conforming to DIN 40050 (with connector: IP 67)	

Short case

Pre-cabled, PvR (2 m)			
M8 x 33	M12 x 33	M18 x 36.5	M30 x 40.6
XS1N08PA349	XS1N12PA349	XS1N18PA349	XS1N30PA349
XS1N08PB349	XS1N12PB349	XS1N18PB349	XS1N30PB349
XS1N08NA349	XS1N12NA349	XS1N18NA349	XS1N30NA349
XS1N08NB349	XS1N12NB349	XS1N18NB349	XS1N30NB349
M8 connector	M12 connector		
XS1N08PA349S	XS1N12PA349D	XS1N18PA349D	XS1N30PA349D
XS1N08PB349S	XS1N12PB349D	XS1N18PB349D	XS1N30PB349D
XS1N08NA349S	XS1N12NA349D	XS1N18NA349D	XS1N30NA349D
XS1N08NB349S	XS1N12NB349D	XS1N18NB349D	XS1N30NB349D
10...36	10...36	10...36	10...36
200	200	200	200
★ / –	★ / –	★ / –	★ / –
≤ 2	≤ 2	≤ 2	≤ 2
2500	2500	1000	500

Short case

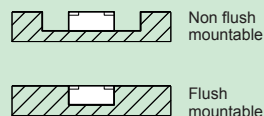
Pre-cabled, PvR (2 m)			
M8 x 33	M12 x 33	M18 x 36.5	M30 x 40.6
XS508B1PAL2	XS512B1PAL2	XS518B1PAL2	XS530B1PAL2
XS508B1PBL2	XS512B1PBL2	XS518B1PBL2	XS530B1PBL2
XS508B1NAL2	XS512B1NAL2	XS518B1NAL2	XS530B1NAL2
XS508B1NBL2	XS512B1NBL2	XS518B1NBL2	XS530B1NBL2
M8 connector	M12 connector		
XS508B1PAM8	XS512B1PAM12	XS518B1PAM12	XS530B1PAM12
XS508B1PBM8	XS512B1PBM12	XS518B1PBM12	XS530B1PBM12
XS508B1NAM8	XS512B1NAM12	XS518B1NAM12	XS530B1NAM12
XS508B1NBM8	XS512B1NBM12	XS518B1NBM12	XS530B1NBM12
10...36	10...36	10...36	10...36
200	200	200	200
★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
≤ 2	≤ 2	≤ 2	≤ 2
5000	5000	2000	1000

Long case

Pre-cabled, PvR (2 m)			
M8 x 50	M12 x 50	M18 x 52.5	M30 x 50
XS508B1DAL2	XS512B1DAL2	XS518B1DAL2	XS530B1DAL2
XS508B1DBL2	XS512B1DBL2	XS518B1DBL2	XS530B1DBL2
M12 connector			
XS508B1DAM12	XS512B1DAM12	XS518B1DAM12	XS530B1DAM12
XS508B1DBM12	XS512B1DBM12	XS518B1DBM12	XS530B1DBM12
10...58	10...58	10...58	10...58
100	100	100	100
★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
≤ 4	≤ 4	≤ 4	≤ 4
4000	4000	3000	2000

Suitable female plug-in connectors, including pre-wired versions

length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M8 (or S)	XZCP0666L5	XZCP0566L5	XZCC8FCM30S
M12 (or D)	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
U20 (or K)	XZCP1965L5	XZCP1865L5	XZCC20FCM30B



	M8	M12	M18	M30
Nominal sensing distance Sn	2.5 mm	4 mm	8 mm	15 mm
Operating zone (mm)	0...2	0...3.2	0...6.4	0...12
Suitability for flush mounting (metal environment)	non flush mountable			
Case M (metal) P (plastic)	P			
Temperature range (°C)	- 25...+ 70			
Product certification	CE - UL - CSA - CCC - C-TICK			
Degree of protection (conforming to IEC 60529)	IP 67 pre-cabled: IP 68 (with connector: IP 67)			

Sensors for DC applications

Connection				Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x H x D				M8 x 33	M12 x 33	M18 x 33.5	M30 x 40.5
2-wire (non polarised)		NO or NC	programmable	—	—	—	—
4-wire	PNP	NO + NC	complementary outputs	—	—	—	—
	NPN	NO + NC	complementary outputs	—	—	—	—
3-wire	PNP	NO function		XS4P08PA340	XS4P12PA340	XS4P18PA340	XS4P30PA340
		NC function		XS4P08PB340	XS4P12PB340	XS4P18PB340	XS4P30PB340
	NPN	NO function		XS4P08NA340	XS4P12NA340	XS4P18NA340	XS4P30NA340
		NC function		XS4P08NB340	XS4P12NB340	XS4P18NB340	XS4P30NB340
Connection				M8 connector	M12 connector		
3-wire	PNP	NO function		XS4P08PA340S	XS4P12PA340D	XS4P18PA340D	XS4P30PA340D
		NC function		XS4P08PB340S	XS4P12PB340D	XS4P18PB340D	XS4P30PB340D
	NPN	NO function		XS4P08NA340S	XS4P12NA340D	XS4P18NA340D	XS4P30NA340D
		NC function		XS4P08NB340S	XS4P12NB340D	XS4P18NB340D	XS4P30NB340D
Supply voltage limits, min./max. (V) including ripple				10...38	10...38	10...38	10...38
Switching capacity, max. (mA)				200	200	200	200
Short-circuit protect. (★) / LED output state indicator (⊗) / Power on LED (⊗)				★ / ⊗ / —	★ / ⊗ / —	★ / ⊗ / —	★ / ⊗ / —
Voltage drop, closed state (V) at I nominal				≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz)				5000	5000	2000	1000

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x D x H			M8 x 50	M12 x 50	M18 x 60	M30 x 60
2-wire not short-circuit protected (1)	AC/DC	NO function	XS4P08MA230	XS4P12MA230	XS4P18MA230	XS4P30MA230
		NC function	XS4P08MB230	XS4P12MB230	XS4P18MB230	XS4P30MB230
	AC	NO or NC programmable	–	–	–	–
	AC/DC	NO or NC programmable	–	–	–	–
Connection			U20 connector			
2-wire not short-circuit protected (1)	AC/DC	NO function	XS4P08MA230K	XS4P12MA230K	XS4P18MA230K	XS4P30MA230K
		NC function	XS4P08MB230K	XS4P12MB230K	XS4P18MB230K	XS4P30MB230K
Supply voltage limits, min./max. (V) including ripple			20...264	20...264	20...264	20...264
Switching capacity, max. (mA)			100	200	300 AC / 200 DC	300 AC / 200 DC
LED output state indicator (⊗)			⊗	⊗	⊗	⊗
Residual current, open state (mA)			≤ 0.6	≤ 0.6	≤ 0.6	≤ 0.6
Voltage drop, closed state (V) at I nominal			≤ 5.5	≤ 5.5	≤ 5.5	≤ 5.5
Switching frequency (Hz)			25 AC / 3000 DC	25 AC / 3000 DC	25 AC / 2000 DC	25 AC / 1000 DC

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Fixing clamps

Fixing clamp with indexing pin
for cylindrical sensors



M4	XSZB104	M12	XSZB112
M5	XSZB105	M18	XSZB118
M6.5	XSZB165	M30	XSZB130
M8	XSZB108		

Miniature cylindrical (assembly)

Rectangular Form C



1

Ø 4	M5	Ø 6.5	Form C			
1 mm	1 mm	1.5 mm	15 mm	20 mm increased range	20 mm	40 mm increased range
0...0.8	0...0.8	0...1.2	0...12	0...16	0...16	0...32
flush mountable			flush mountable		non flush mountable	
M			P			
- 25...+ 70			- 25...+ 70			
CE - UL - CSA - CCC - C-TICK			CE - UL - CSA - CCC - C-TICK			
IP 67			IP 67			

Pre-cabled, PvR (2 m)			Screw terminals (3)			
Ø 4 x 29	M5 x 29	M6.5 x 33	40 x 40 x 117			
-	-	-	XS7C40DP210	-	XS8C40DP210	-
-	-	-	XS7C40PC440	XS7C40PC449	XS8C40PC440	XS8C40PC449
-	-	-	XS7C40NC440	XS7C40NC449	XS8C40NC440	XS8C40NC449
XS1L04PA310	XS1N05PA310	XS1L06PA340	-	-	-	-
-	-	-	-	-	-	-
XS1L04NA310	XS1N05NA310	XS1L06NA340	-	-	-	-
-	-	-	-	-	-	-
M8 connector						
XS1L04PA310S	XS1N05PA311S (2)	XS1L06PA340S	-	-	-	-
-	-	-	-	-	-	-
XS1L04NA310S	XS1N05NA311S (2)	XS1L06NA340S	-	-	-	-
-	-	-	-	-	-	-
5...30	5...30	10...38	12...48			
100	100	200	4-wire version = 200 - 2-wire version = 1.5...100			
★ / ⊗ / -	★ / ⊗ / -	★ / ⊗ / -	4-wire version = ★ / ⊗ / ⊗ - 2-wire version = ★ / ⊗ / -			
≤ 2	≤ 2	≤ 2	4-wire version = ≤ 2 - 2-wire version = ≤ 4			
5000	5000	2500	2-wire = 1500 / 4-wire = 1000	2-wire = 800 / 4-wire = 1000 (20mm) 500 (40mm)		

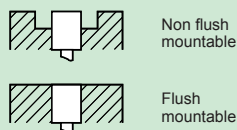
			Screw terminals (3)			
-	-	-	40 x 40 x 117			
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	XS7C40FP260	-	XS8C40FP260	-
-	-	-	XS7C40MP230	-	XS8C40MP230	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	20...264			
-	-	-	AC version = 500 - AC/DC version = 300 / 200			
-	-	-	⊗			
-	-	-	AC version = ≤ 1.5 - AC/DC version = ≤ 0.8 / 1.5			
-	-	-	≤ 5.5			
-	-	-	25 AC / 50 DC			

(2) Stainless steel sensors, Sn = 0.8 mm.

(3) Sensors supplied without cable gland. Suitable cable gland: 13P.

Suitable female plug-in connectors, including pre-wired versions

length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M8 (or S)	XZCP0666L5	XZCP0566L5	XZCC8FCM30S
M12 (or D)	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
U20 (or K)	XZCP1965L5	XZCP1865L5	XZCC20FCM30B



		M12	M18	M30
Sensing distance S_n	flush mountable	2 mm	5 mm	10 mm
	non flush mountable	4 mm	8 mm	15 mm
Operating zone (mm)	flush mountable	0...1.6	0...4	0...8
	non flush mountable	0...3.2	0...6.4	0...12
Suitability for flush mounting (metal environment)		flush mountable or non flush mountable depending on model		
Case M (metal) P (plastic)		M		
Temperature range (°C)		- 25...+ 70		
Degree of protection (conforming to IEC 60529)		IP 68 (with connector: IP 67)		
Product certification		CE - UL - CSA - CCC - C-TICK		
Dimensions (mm) Ø x L		M12 x 55	M18 x 60	M30 x 60

Sensors for DC applications

Connection						
4-wire	PNP	NO + NC	flush mountable	—	—	—
			non flush mountable	—	—	—
	NPN	NO + NC	flush mountable	—	—	—
			non flush mountable	—	—	—
	PNP+NPN programmable	NO/NC	flush mountable (metal)	—	—	—
			non flush mntbl. (metal)	—	—	—
			non flush mntbl. (plastic)	—	—	—
Connection						
4-wire	PNP	NO + NC	flush mountable	—	—	—
			non flush mountable	—	—	—
	NPN	NO + NC	flush mountable	—	—	—
			non flush mountable	—	—	—
	PNP+NPN programmable	NO/NC	flush mountable (metal)	—	—	—
			non flush mntbl. (metal)	—	—	—
			non flush mntbl. (plastic)	—	—	—
Supply voltage limits, min./max. (V) including ripple				—	—	—
Switching capacity, max. (mA)				—	—	—
Short-circuit protection (★) / LED output state indicator (⊗)				—	—	—
Voltage drop, closed state (V) at I nominal				—	—	—
Switching frequency (Hz)				—	—	—

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled, PvR (2 m)		
2-wire AC/DC	NO function	flush mountable	XS1M12MA250	XS1M18MA250	XS1M30MA250
		non flush mountable	XS2M12MA250	XS2M18MA250	XS2M30MA250
	NC function	flush mountable	XS1M12MB250	XS1M18MB250	XS1M30MB250
		non flush mountable	XS2M12MB250	XS2M18MB250	XS2M30MB250
Connection			1/2"-20 UNF connector		
2-wire AC/DC	NO function	flush mountable	XS1M12MA250K	XS1M18MA250K	XS1M30MA250K
		non flush mountable	XS2M12MA250K	XS2M18MA250K	XS2M30MA250K
	NC function	flush mountable	XS1M12MB250K	XS1M18MB250K	XS1M30MB250K
		non flush mountable	XS2M12MB250K	XS2M18MB250K	XS2M30MB250K
Supply voltage limits, min./max. (V) 50-60 Hz			20...264		
Switching capacity, max. (mA)			5...200	5...200 AC, 5...300 DC	
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗		
Residual current, open state (mA)			≤ 1.5		
Voltage drop, closed state (V) at I nominal			≤ 5.5		
Switching frequency (Hz)			25 AC, 4000 DC	25 AC, 2000 DC	25 AC, 2000 DC (1)

(1) 25 AC, 1000 DC for non flush mountable Ø 30 mm.

Complementary outputs
NO + NC

PNP + NPN outputs,
NO/NC programmable



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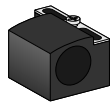
	M8	M12	M18	M30	M12	M18	M30
	1.5 mm	2 mm	5 mm	10 mm	2 mm	5 mm	10 mm
	2.5 mm	4 mm	8 mm	15 mm	4 mm	8 mm	15 mm
	0...1.2	0...1.6	0...4	0...8	0...1.6	0...4	0...8
	0...2	0...3.2	0...6.4	0...12	0...3.2	0...6.4	0...12
	flush mountable or non flush mountable depending on model				flush mountable or non flush mountable depending on model		
	M				M or P depending on model		
	- 25...+ 70				- 25...+ 70		
	IP 67	IP 68 (with connector: IP 67)			IP 68 (with connector: IP 67)		
	CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK		
	M8 x 50	M12 x 33	M18 x 36.5	M30 x 40.5	M12 x 50	M18 x 60	M30 x 60

Pre-cabled, PvR (2 m)				Pre-cabled, PvR (2 m)		
XS1M08PC410	XS1N12PC410	XS1N18PC410	XS1N30PC410	—	—	—
XS2M08PC410	XS2N12PC410	XS2N18PC410	XS2N30PC410	—	—	—
XS1M08NC410	XS1N12NC410	XS1N18NC410	XS1N30NC410	—	—	—
XS2M08NC410	XS2N12NC410	XS2N18NC410	XS2N30NC410	—	—	—
—	—	—	—	XS1M12KP340	XS1M18KP340	XS1M30KP340
—	—	—	—	XS2M12KP340	XS2M18KP340	XS2M30KP340
—	—	—	—	XS4P12KP340	XS4P18KP340	XS4P30KP340
M12 connector				M12 connector		
XS1M08PC410D	XS1N12PC410D	XS1N18PC410D	XS1N30PC410D	—	—	—
XS2M08PC410D	XS2N12PC410D	XS2N18PC410D	XS2N30PC410D	—	—	—
XS1M08NC410D	XS1N12NC410D	XS1N18NC410D	XS1N30NC410D	—	—	—
XS2M08NC410D	XS2N12NC410D	XS2N18NC410D	XS2N30NC410D	—	—	—
—	—	—	—	XS1M12KP340D	XS1M18KP340D	XS1M30KP340D
—	—	—	—	XS2M12KP340D	XS2M18KP340D	XS2M30KP340D
—	—	—	—	XS4P12KP340D	XS4P18KP340D	XS4P30KP340D
10...36				10...36		
200				200		
★ / ☒				★ / —		
≤ 2				≤ 2.6		
5000	5000	2000	1000	5000	2000	1000

Accessories

Fixing clamps

With indexing pin for cylindrical sensors



M12	XSZB112
M18	XSZB118
M30	XSZB130

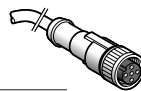
Suitable female plug-in connectors, including pre-wired versions

length 5 m
without LED

pre-wired,
elbowed



pre-wired,
straight



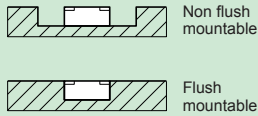
screw terminal



M8 (or S)	XZCP0666L5
M12 (or D)	XZCP1241L5
U20 (or K)	XZCP1965L5

XZCP0566L5
XZCP1141L5
XZCP1865L5

XZCC8FCM30S
XZCC12FCM40B
XZCC20FCM30B



	Form E 26 x 26	Form C 40 x 40	M30	M18	M30
Nominal sensing distance S_n	10 mm	15 mm	10 mm	5 mm	10 mm
Operating zone (mm)	0...8	0...12	0...8	0...4	0...8
Suitability for flush mounting (metal environment)	flush mountable			flush mountable	
Case M (metal) P (plastic)	P	P	M	M	M
Temperature range (°C)	- 25...+ 70			0...+ 50	
Degree of protection (conforming to IEC 60529)	IP 67			pre-cabled: IP 68 (with connector: IP 67)	
Product certification	CE - UL - CSA - CCC - C-TICK			CE - UL - CSA - CCC - C-TICK	
Dimensions (mm) Ø x L or W x H x D	26 x 26 x 13	40 x 40 x 15	M30 x 81	M18 x 70	M30 x 60
Maximum speed of passing object (impulses/min)	48000	48000	6000...48000 (1)	—	—
Adjustable frequency range (impulses/min)	6...6000	6...6000	6...150 / 120...3000 (1)	—	—

Sensors for DC applications

Connection				Pre-cabled, PvR (2 m)				
4-wire	PNP/NPN NO/NC		programmable	—	—	—	XS1M18KPM40	XS1M30KPM40
3-wire	PNP	NC function	slow version	—	—	XSAV11373	—	—
			fast version	—	—	XSAV12373	—	—
	0...10 V output		plastic	—	—	—	—	—
	4...20 mA output		metal, flush mountable	—	—	—	—	—
			plastic, flush mountable	—	—	—	—	—
			plastic, non flush mountable	—	—	—	—	—
Connection				M8 or M12 connector				M12 on 0.8 m flying lead
4-wire	PNP/NPN NO/NC		programmable	—	—	—	XS1M18KPM40D	XS1M30KPM40LD
3-wire	PNP	NC function		XS9E11RPBL01M12 (3)	XS9C11RPBL01M12 (3)	—	—	—
			0...10 V output	—	—	—	—	—
			4...20 mA output	—	—	—	—	—
Supply voltage limits, min./max. (V) including ripple				10...36	10...36	10...58	10...38	
Switching capacity, max. (mA)				100	200	200	200	
Short-circuit protect. (★) / LED output state indicator (⊗) / Power on LED (⊗)				(⊗)	★ / ⊗ / ⊗	★ / ⊗ / ⊗	★ / ⊗ / —	★ / ⊗ / —
Linearity error				—	—	—	—	
Voltage drop, closed state (V) at I nominal				≤ 2	≤ 2	≤ 2	≤ 2.6	
Switching frequency (Hz)				—	—	—	1000	
Operating frequency (Hz)				—	—	—	—	

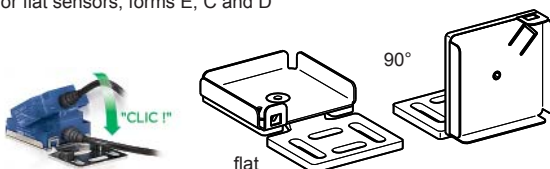
Multi-current/multi-voltage sensors for AC/DC applications

Connection				Pre-cabled, PvR (2 m)				
2-wire	AC/DC	NC function		XS9E11RMBL01U20 (5)	XS9C11RMBL01U20 (5)	—	—	—
not short-circuit protected (2)	NC function	slow version	—	—	XSAV11801	—	—	
			fast version	—	—	XSAV12801	—	—
Supply voltage limits, min./max. (V) 50-60 Hz			20...264	20...264	20...264	—	—	
Switching capacity, max. (mA)			100	300 AC / 200 DC	300 AC / 200 DC	—	—	
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗	⊗ / ⊗	⊗ / —	—	—	
Residual current, open state (mA)			≤ 1.5	≤ 1.5	≤ 1.5	—	—	
Voltage drop, closed state (V) at I nominal			≤ 5.5	≤ 5.5	≤ 5.7	—	—	
Switching frequency (Hz)			—	—	—	—	—	

Accessories

Fixing

For flat sensors, forms E, C and D



	flat	90°	substitution of block type sensors XSE / XSC / XSD
Form E	XSZBE00	XSZBE90	XSZBE10
Form C	XSZBC00	XSZBC90	XSZBC10
Form D	—	—	XSZBD10

Fixing clamp with indexing pin
for cylindrical sensors



M12	XSZB112
M18	XSZB118
M30	XSZB130

Analogue (Position control)



1

	Form F 8 x 32	Form E 26 x 26	Form C 40 x 40	Form D 80 x 80	M12	M18	M30
	5 mm	10 mm	15 mm	40 mm	M: 2 mm / P: 4 mm	M: 5 mm / P: 8 mm	M: 10 mm / P: 15 mm
	1...4	1...10	2...15	5...40	M: 0.2...2 / P: 0.4...4	M: 0.5...5 / P: 0.8...8	M: 1...10 / P: 1.5...15
	flush mountable	flush mountable	flush mountable	flush mountable	flush / non flush mountable	flush / non flush mountable	flush / non flush mountable
	P	P	P	P	M or P	M or P	M or P
	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
	pre-cabled: IP 68 (with connector: IP 67)				IP 67		
	CE - UL - CSA - CCC - C-TICK						
	15 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26	Ø 12 x 50	Ø 18 x 50	Ø 30 x 52.5
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—

-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
XS9F111A1L2	XS9E111A1L2	XS9C111A1L2	XS9D111A1L2	XS4P12AB110	XS4P18AB110	XS4P30AB110
-	-	-	-	XS1M12AB120	XS1M18AB120	XS1M30AB120
XS9F111A2L2	XS9E111A2L2	XS9C111A2L2	XS9D111A2L2	-	-	-
-	-	-	-	XS4P12AB120	XS4P18AB120	XS4P30AB120
M8 or M12 connector						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
XS9F111A1L01M8 (4)	XS9E111A1L01M12 (4)	XS9C111A1L01M12 (4)	XS9D111A1M12	-	-	-
XS9F111A2L01M8 (4)	XS9E111A2L01M12 (4)	XS9C111A2L01M12 (4)	XS9D111A2M12	-	-	-
10...36	10...36	10...36	10...36	10...38	10...38	10...38
-	-	-	-	-	-	-
-	-	-	-	-	-	-
± 1 V for 0...10 V version / ± 2 mA for 4...20 mA version						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
2000	1000	1000	100	1500	500	300

- 6...150 and 6000 impulses/min for XSAV11373 and XSAV11801 (slow version); 120...3000 and 48000 impulses/min for XSAV12373 and XSAV12801 (fast version).
- For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.
- Flying lead (L = 0.15 m) with end mounted remote control incorporating M12 connector.
- Flying lead (L = 0.15 m) with end connector.
- Flying lead (L = 0.15 m) with end mounted remote control incorporating 1/2"-20 UNF connector.

Suitable female plug-in connectors, including pre-wired versions			
length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M8	XZCP0666L5	XZCP0566L5	XZCC8FCM30S
M12 (or D)	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
U20	XZCP1965L5	XZCP1865L5	XZCC20FCM30B

Osiprox

Inductive proximity sensors - Application
Food and beverage processing

1



Type	M12	M18	Ø 18 plain	M30
Nominal sensing distance Sn	7 mm	12 mm	12 mm	22 mm
Operating zone (mm)	0 ... 5.6	0 ... 9.6	0 ... 9.6	0 ... 17.6
Suitability for flush mounting (metal environment)	non flush mountable			
Case M (metal) (1)	M stainless steel 316 L			
Product certification	CE - UL - CSA - CCC - C-TICK			
Temperature range (°C)	- 25...+ 85			
Degree of protection (conforming to IEC 60529)	pre-cabled: IP 68 (with connector: IP 67) and IP 69K conforming to DIN 40050			

Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled, non poisonous PVC (2 m)			
Dimensions (mm)			M12 x 1 x 55	M18 x 1 x 60	Ø 18 x 60	M30 x 1.5 x 62
3-wire	PNP	NO function	XS212SAPAL2	XS218SAPAL2	XS2L2SAPAL2	XS230SAPAL2
	NPN	NO function	XS212SANAL2	XS218SANAL2	XS2L2SANAL2	XS230SANAL2
Connection			M12 connector			
Dimensions (mm)			M12 x 1 x 61	M18 x 1 x 70	Ø 18 x 70	M30 x 1.5 x 70
3-wire	PNP	NO function	XS212SAPAM12	XS218SAPAM12	XS2L2SAPAM12	XS230SAPAM12
	NPN	NO function	XS212SANAM12	XS218SANAM12	XS2L2SANAM12	XS230SANAM12
Supply voltage limits, min./max. (V) including ripple			10...36			
Switching capacity, max. (mA)			≤ 200			
Switching frequency (Hz)			2500	1000	1000	500
Short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Voltage drop, closed state (V) at I nominal			≤ 2			

Multi-current/multi-voltage sensors for AC/DC applications

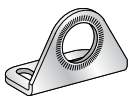
Connection			Pre-cabled, non poisonous PVC (2 m)			
Dimensions (mm)			—	M18 x 1 x 60	—	M30 x 1.5 x 62
2-wire (2)	AC/DC	NO function	—	XS218SAMAL2	—	XS230SAMAL2
Connection			1/2"-20 UNF connector			
Dimensions (mm)			—	M18 x 1 x 72	—	M30 x 1.5 x 74
2-wire (2)	AC/DC	NO function	—	XS218SAMAU20	—	XS230SAMAU20
Supply voltage limits, min./max. (V) 50-60 HZ			—	20 ... 264	—	20 ... 264
Switching capacity, max. (mA)			—	300 AC / 200 DC	—	300 AC / 200 DC
Switching frequency (Hz)			—	25 AC / 1000 DC	—	25 AC / 300 DC
LED output state indicator (⊗)			—	⊗	—	⊗
Voltage drop, closed state (V) at I nominal			—	≤ 5.5	—	≤ 5.5
Residual current, open state (mA)			—	≤ 0.8	—	≤ 0.8

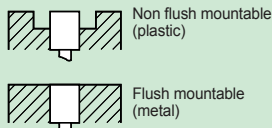


(1) Plastic range available. M12, M18, M30:
To order, replace the second letter **S** in the reference by **A**
(example: XS212SAPAL2 becomes XS212AAPAL2).

(2) For these sensors without short-circuit protection, it is essential to connect a
0.4 A quick-blow fuse in series with the load.

Accessories

Fixing clamps		M12 pre-wired connector		M12 jumper cable	
	Plastic	fixing centres 24.1 mm, with locking screw		female, 4-pin, stainless steel clamping ring	
		for sensor		Straight connector	
	Stainless steel	for sensor		5 m cable	
		Ø 18 plain		XZCPA1141L5	
				Elbowed connector	
				5 m cable	
				XZCPA1241L5	
				male, 3-pin, stainless steel clamping ring	
				Straight connector	
				5 m	
				XZCRA151140A5	



	Suitability for flush mtg. (metal environment)	M12	M18	M30	Ø 32	40 x 40
Nominal sensing distance S_n	flush mountable	2 mm	4 mm	10 mm	15 mm	15 mm
	non flush mountable	—	8 mm	15 mm	20 mm	—
Operating zone S_a (mm)	flush mountable	0...1.44	0...3.6	0...7.2	0...10	0...11
	non flush mountable	—	0...5.8	0...11	0...15	—
Case M (metal) P (plastic)	flush mountable	M	M	M	M	P
	non flush mountable	—	P	P	P	—
Product certification		CE				CE - UL - CSA
Temperature range (°C)		- 25...+ 70				
Degree of protection (conforming to IEC 60529)		IP 67				
Dimensions (mm) Ø x L or H x W x D		M12 x 70	M18 x 80	M30 x 80	M32 x 80	117 x 40 x 40

Sensors for DC applications

Connection				Pre-cabled, PVC (2 m)				
3-wire	PNP	NO function	flush mountable	XT112S1PAL2	XT118B1PAL2	XT130B1PAL2	–	–
			non flush mountable	–	XT218A1PAL2	XT230A1PAL2	–	–
		NO + NC functions	flush mountable	XT112S1PCL2	XT118B1PCL2	XT130B1PCL2	–	–
			non flush mountable	–	–	–	–	–
	NPN	NO function	flush mountable	XT112S1NAL2	XT118B1NAL2	XT130B1NAL2	–	–
			non flush mountable	–	XT218A1NAL2	XT230A1NAL2	–	–
Connection				M12 connector				Screw terminals
3-wire	PNP	NO + NC functions	flush mountable	XT112S1PCM12	XT118B1PCM12	XT130B1PCM12	–	XT7C40PC440
			non flush mountable	–	XT218A1PCM12	XT230A1PCM12	–	–
	NPN	NO + NC functions	flush mountable	–	–	–	–	XT7C40NC440
Supply voltage limits, min./max. (V) including ripple				10...38				10...58
Switching capacity, max. (mA)				200				200
Short circuit-protection (★) / LED output state indicator (⊗)				★ / ⊗				★ / ⊗
Voltage drop, closed state (V) at I nominal				≤ 2				≤ 2
Switching frequency (Hz)				300	100 (XT2) / 200 (XT1)	100 (XT2) / 150 (XT1)	–	100

Multi-current/multi-voltage sensors for AC applications

Connection			Pre-cabled, PVC (2 m)				
2-wire AC (1)	NO function	flush mountable	—	XT118B1FAL2	XT130B1FAL2	XT132B1FAL2	—
		non flush mountable	—	XT218A1FAL2	XT230A1FAL2	XT232A1FAL2	—
	NO function	flush mountable	—	XT118B1FBL2	XT130B1FBL2	XT132B1FBL2	—
		non flush mountable	—	—	XT230A1FBL2	XT232A1FBL2	—
Connection			Screw terminals				
2-wire AC (1)	NO or NC programmable flush mountable		—	—	—	—	XT7C40FP262
Supply voltage limits, min./max. (V) 50-60 Hz			—	20...264	20...264	20...264	20...264
Switching capacity, max. (mA)			—	300			350
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / —				
Voltage drop, closed state (V) at I nominal			—	≤ 5.5	≤ 5.5	≤ 9	≤ 5.5
Switching frequency (Hz)			—	25	25	25	25

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Suitable female plug-in connectors, including pre-wired versions

length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B



	Mini flat	Flat	Combined multi-fixing	Flat 80 x 80
Nominal sensing distance S_n	10 cm	25 cm	50 cm	1 m
Operating zone (cm)	0.62...10.2	5.1...25.4	5.1...50.8	10...100
Sensitivity adjustment	Fixed	Fixed	Adjustable using remote control	Adjustable using remote control
Case P (plastic)	P	P	P	P
Product certification	CE	CE	CE	CE
Temperature range (°C)	- 20...+ 65	0...+ 50	- 20...+ 65	0...+ 70
Degree of protection (conforming to IEC 60529)	IP 67			
Dimensions (mm) Ø x L or H x W x D	33 x 19 x 7.6	74 x 30 x 16	60 x 33 x 18 / M 18 x 60	80 x 80 x 34

Sensors with “Digital” output for DC applications (24 V)

Connection			M12 on 0.15 m flying lead	M12 connector		
3-wire	PNP	NO function	XX7F1A2PAL01M12	XX7K1A2PAM12	XX7V1A1PAM12	XX8D1A1PAM12
	NPN	NO function	XX7F1A2NAL01M12	XX7K1A2NAM12	XX7V1A1NAM12	XX8D1A1NAM12
4-wire	PNP/NPN	NO function	—	—	—	—
	PNP	NO + NC function	—	—	—	—
	NPN	NO + NC function	—	—	—	—

Application - monitoring levels

2 emptying levels	PNP NO function	—	—	—	—
2 filling levels	PNP NO function	—	—	—	—
Supply voltage limits, min./max. (V) including ripple		10...28			
Switching capacity, max. (mA)		<100			
Short-circuit protection (★)		★			
LED output state indicator (⊗) / Power on LED (⊗)		⊗ / ⊗			
Voltage drop, closed state (V) at I nominal		<1			
Switching frequency (Hz)		100	80	40	70
Transmission frequency (Hz)		500	500	300	180

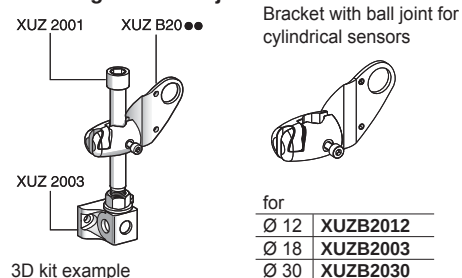
Sensors with “Analogue” output for DC applications (24 V)

Connection			—	M12 connector	
4-wire	Analogue	0...10 V output	—	XX9V1A1F1M12	XX9D1A1F1M12
		4...20 mA output	—	XX9V1A1C2M12	XX9D1A1C2M12
Supply voltage limits, min./max. (V) including ripple			—	10...28	10...28
Short-circuit protection (★)			—	★	★
LED output state indicator (⊗) / Power on LED (⊗)			—	⊗ / ⊗	⊗ / ⊗
Transmission frequency (Hz)			—	300	180

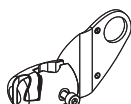
Accessories

Fixings

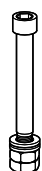
3D fixings with ball joint



Bracket with ball joint for cylindrical sensors

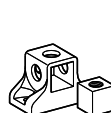


M12 rod for ball joint



XUZ2001

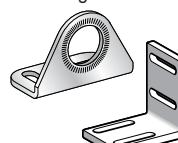
Fixing support for M12 rod



XUZ2003

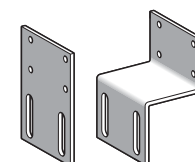
Simple fixings

90° fixing brackets



for	
Ø 12	XXZ12
Ø 18	XXZA118
Ø 30	XXZ30
XX7F	XXZ1933

Mounting plates for XX7K



flat	XXZ3074F
cranked	XXZ3074S

New

1

M12	M18	M30			M30 Long range
5 or 10 cm depending on model	15 or 50 cm depending on model	1 m	1 m	2 m	8 m
0.64...5.1 (XX512A1...)	1.9...15.2 (XX518A1...)	10...100	5.1...99.1	12...200	20.3...800
0.64...10.2 (XX512A2...)	5.1...50.8 (XX518A3...)	–	–		–
Fixed	Adjustable using remote control	Adjustable using teach mode			Adjustable using teach mode
P	P	P			P
CE	CE	CE			CE
- 20...+ 65	0...+ 50 (XX518A1...) / - 20...+ 65 (XX518A3...)	0...+ 70	0...+ 70		- 20...+ 60
IP 67		IP 67	IP 65		
M12 x 50	M18 x 65	M30 x 78	M30 x 85		M30 x 106

M8 connector	M12 connector	Pre-cabled, PVC (2 m)	M12 connector			M12 connector
XX512A2PAM8 (10 cm)	XX518A3PAM12 (50 cm)	XX518A3PAL2	XX6V3A1PAM12	–	–	–
XX512A2NAM8 (10 cm)	XX518A3NAM12 (50 cm)	XX518A3NAL2	XX6V3A1NAM12	–	–	–
XX512A1KAM8 (5 cm)	XX518A1KAM12 (15 cm)	–	–	XX630A1KAM12	–	–
–	–	–	–	XX630A1PCM12 (1)	–	XX630A3PCM12
–	–	–	–	XX630A1NCM12 (1)	–	XX630A3NCM12

–	XX218A3PHM12	–	–	XX230A10PA00M12	XX230A20PA00M12	–
–	XX218A3PFM12	–	–	XX230A11PA00M12	XX230A21PA00M12	–
10...28						
<100						
★						
⊗ / ⊗	⊗ / ⊗ except XX518A1.. (- / -)		⊗ / ⊗	⊗ / ⊗		⊗ / ⊗
<1						
125	40 / 80 (XX518A1..)		70	10		2
500	300		180	200		75

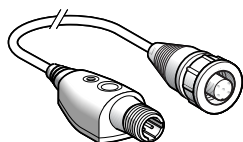
M12 connector						
–	XX918A3F1M12	–	XX9V3A1F1M12	XX930A1A1M12	–	XX930A3A1M12
–	XX918A3C2M12	–	XX9V3A1C2M12	XX930A1A2M12	–	XX930A3A2M12
–	10...28	–	10...28	10...28	–	10...28
–	★	–	★	★	–	★
–	⊗ / ⊗	–	⊗ / ⊗	⊗ / ⊗	–	⊗ / ⊗
–	300	–	180	200	–	75

(1) Stainless steel 303 version also available. To order, replace the first letter **A** in the reference by **S**. Example: XX630A1PCM12 becomes XX630S1PCM12.

Programming

Remote control

teach button for use with
sensors XX518A3●●●,
XX7V1●●● and XX8D1A1●●●



XXZPB100

Suitable female plug-in connectors

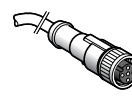
Pre-wired connectors

elbowed

straight

Other connectors

screw terminal



L = 5 m (without LED)

M8	for XX512A1...	XZCP1041L5	XZCP0941L5	XZCC8FCM40V
	for XX512A2...	XZCP0666L5	XZCP0566L5	XZCC8FCM30V
M12	for all sensors except XX512...	XZCP1241L5	XZCP1141L5	XZCC12FCM40B

Osicoder

Opto-electronic rotary encoders

Incremental

1



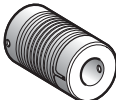
Diameter of housing (mm)	Ø 40	Ø 40	Ø 58	Ø 58	Ø 58 Parametrable	Ø 90
Shaft Ø (mm)	Ø 6	Ø 6	Ø 6	Ø 10	Ø 14 (1)	Ø 12
Type of shaft (2)	solid shaft	through shaft	solid shaft	solid shaft	through shaft	solid shaft
Maximum rotational speed (rpm)	9000	9000	9000	9000	6000	6000
Maximum frequency (kHz)	100	100	300	300	300	100
Maximum load (daN)	2	2	10	10	5	20
Torque (N.cm)	0.2	0.25	0.4	0.4	0.6	1
Product certification	CE	CE	CE	CE	CE	CE
Temperature range (°C)	- 20...+ 80	- 20...+ 80	- 30...+ 100	- 30...+ 100	- 30...+ 70	- 20...+ 80
Degree of protection (conforming to IEC 60529)	IP 54	IP 52	IP 65 / IP 67 (3)	IP 65 / IP 67 (3)	IP 65	IP 66
Supply voltage	5 V, RS 422	4.5...5.5 V	4.75...30 V	4.75...30 V	4.75...30 V	4.5...5.5 V
Push-pull	11...30 V	11...30 V	5...30 V	5...30 V	5...30 V	11...30 V
Connection	Pre-cabled (2 m), radial		M23 male connector, radial			

Resolution (Points) Output stage

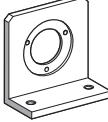
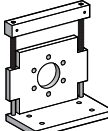
100	5 V, RS 422	XCC1406PR01R	XCC1406TR01R	XCC1506PS01X	XCC1510PS01X	–	XCC1912PS01RN
	Push-pull	XCC1406PR01K	XCC1406TR01K	XCC1506PS01Y	XCC1510PS01Y	–	XCC1912PS01KN
360	5 V, RS 422	XCC1406PR03R	XCC1406TR03R	XCC1506PS03X	XCC1510PS03X	–	XCC1912PS03RN
	Push-pull	XCC1406PR03K	XCC1406TR03K	XCC1506PS03Y	XCC1510PS03Y	–	XCC1912PS03KN
500	5 V, RS 422	XCC1406PR05R	XCC1406TR05R	XCC1506PS05X	XCC1510PS05X	–	XCC1912PS05RN
	Push-pull	XCC1406PR05K	XCC1406TR05K	XCC1506PS05Y	XCC1510PS05Y	–	XCC1912PS05KN
1000	5 V, RS 422	XCC1406PR10R	XCC1406TR10R	XCC1506PS10X	XCC1510PS10X	–	XCC1912PS10RN
	Push-pull	XCC1406PR10K	XCC1406TR10K	XCC1506PS10Y	XCC1510PS10Y	–	XCC1912PS10KN
1024	5 V, RS 422	XCC1406PR11R	XCC1406TR11R	XCC1506PS11X	XCC1510PS11X	–	XCC1912PS11RN
	Push-pull	XCC1406PR11K	XCC1406TR11K	XCC1506PS11Y	XCC1510PS11Y	–	XCC1912PS11KN
2500	5 V, RS 422	–	–	XCC1506PS25X	XCC1510PS25X	–	XCC1912PS25RN
	Push-pull	–	–	XCC1506PS25Y	XCC1510PS25Y	–	XCC1912PS25KN
3600	5 V, RS 422	–	–	–	–	–	XCC1912PS36RN
	Push-pull	–	–	–	–	–	XCC1912PS36KN
256...4096	5 V, RS 422	–	–	–	–	XCC1514TSM02X	–
	Push-pull	–	–	–	–	XCC1514TSM02Y	–
5000	5 V, RS 422	–	–	XCC1506PS50X	XCC1510PS50X	–	XCC1912PS50RN
	Push-pull	–	–	XCC1506PS50Y	XCC1510PS50Y	–	XCC1912PS50KN
360...5760	5 V, RS 422	–	–	–	–	XCC1514TSM03X	–
	Push-pull	–	–	–	–	XCC1514TSM03Y	–
500...8000	5 V, RS 422	–	–	–	–	XCC1514TSM05X	–
	Push-pull	–	–	–	–	XCC1514TSM05Y	–
10 000	5 V, RS 422	–	–	–	–	–	XCC1912PS00RN
	Push-pull	–	–	–	–	–	XCC1912PS00KN
1024...16 384	5 V, RS 422	–	–	–	–	XCC1514TSM11X	–
	Push-pull	–	–	–	–	XCC1514TSM11Y	–
5000...80 000	5 V, RS 422	–	–	–	–	XCC1514TSM50X	–
	Push-pull	–	–	–	–	XCC1514TSM50Y	–

Accessories

Shaft couplings

with spring	Bore diameter (encoder side)	Bore diameter (machine side)	Reference
	6 mm	6 mm	XCCRAR0606
	6 mm	8 mm	XCCRAR0608
	6 mm	10 mm	XCCRAR0610
	10 mm	10 mm	XCCRAR1010
	10 mm	12 mm	XCCRAR1012
elastic	6 mm	6 mm	XCCRAE0606
			

Fixing brackets

Plain bracket	for Ø 58 mm for Ø 90 mm	XCCRE5SN XCCRE9SN
		
Bracket with play compensator	for Ø 58 mm for Ø 90 mm	XCCRE5RN XCCRE9RN
		

Absolute - single turn

Absolute - multiturn

Communicating multiturn absolute



1

Diameter of housing (mm)	Ø 58	Ø 90	Ø 58	Ø 90	Ø 58 CANopen	Ø 58 PROFIBUS-DP
Shaft Ø (mm)	Ø 6	Ø 12	Ø 10	Ø 12	Ø 10	Ø 10
Type of shaft (2)	solid shaft	solid shaft	solid shaft	solid shaft	solid shaft (4)	solid shaft (4)
Maximum rotational speed (rpm)	9000	6000	6000	6000	6000	6000
Maximum frequency (kHz)	100	100 (1000 SSI)	100 (500 SSI)	100 (500 SSI)	800	800
Maximum load (daN)	10	20	10	20	11	11
Torque (N.cm)	0.4	1	0.4	1	0.3	0.3
Product certification	CE	CE	CE	CE	CE	CE
Temperature range (°C)	- 20...+ 90	- 20...+ 85	- 20...+ 85	- 20...+ 85	- 40...+ 85	- 40...+ 85
Degree of protection (conforming to IEC 60529)	IP 65	IP 66	IP 65 / IP 67 (3)	IP 66	IP 64	IP 64
Supply voltage	11...30 V					
Connection	M23 male connector, radial				2 x M12 + 1 x Pg 9	3 x Pg 9
Resolution	Output stage	Code				
... 8192 points	Push-pull	Binary	XCC2506PS81KB	XCC2912PS81KBN	—	—
		Gray	XCC2506PS81KGN	XCC2912PS81KGN	—	—
	SSI, 13-bit	Binary	XCC2506PS81SBN	XCC2912PS81SBN	—	—
		Gray	XCC2506PS81SGN	XCC2912PS81SGN	—	—
4096 points / 8192 turns	SSI, 25-bit (5)	Gray	—	—	XCC3510PS48SGN	—
8192 points / 4096 turns	SSI, 25-bit (5)	Binary	—	—	XCC3510PS84SBN	XCC3912PS84SBN
8192 points / 4096 turns	SSI, 25-bit (5)	Gray	—	—	XCC3510PS84SGN	XCC3912PS84SGN
8192 points / 4096 turns	CANopen, 25-bit	Binary	—	—	—	XCC3510PS84CB
8192 points / 4096 turns	PROFIBUS-DP, 25-bit	Binary	—	—	—	XCC3510PV84FB

(1) Anti-rotation device included with through shaft version encoders. To achieve Ø 6, 8, 10 or 12 mm through shafts, use the reduction collars.

(2) All versions are also available with through shaft and anti-rotation device.

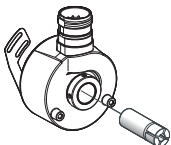
(3) IP 67 with sealed collar XCCRB3.

(4) Versions available with hollow shaft and anti-rotation device.

(5) "Parallel" outputs possible for multiturn absolute encoders using deserialisation jumper cables XCCRM23SUB37●●.

Reduction collars

For Ø 58 mm incremental encoders with through shaft



Ø 14 to Ø 6 mm	XCCR158RDA06
Ø 14 to Ø 8 mm	XCCR158RDA08
Ø 14 to Ø 10 mm	XCCR158RDA10
Ø 14 to Ø 12 mm	XCCR158RDA12

IP 67 sealed collar

For encoders XCC1510, 2510, 3510

Ø 58 mm	XCCRB3
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Pre-wired connectors and jumper cables

Pre-wired M23 female connectors (cable length 5 m)



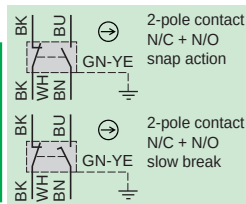
8-wire for SSI encoders	XCCPM23122L5
10-wire for incremental encoders	XCCPM23121L5
16-wire for parallel single turn absolute encoders	XCCPM23161L5

Deserialisation jumper cables (M23 F - SUB-D37 M) (L = 0.5 m)

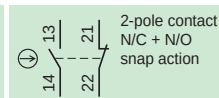


SSI Gray - // Gray PNP	XCCRM23SUB37PG
SSI binary - // binary NPN	XCCRM23SUB37PB

XCMD



XCKT



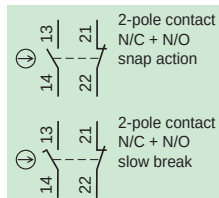
Miniature XCMD metal, pre-cabled; fixing by the body or by the head

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	M12 head metal end plunger
Mechanical durability (millions of operating cycles)	10	10	10	10	10
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	0.5
Switches conforming to standard IEC 947-5-1 section 3 ⊕	⊕	⊕	⊕	⊕	⊕
Product certification	CE - UL - CSA - CCC				
Degree of protection conforming to IEC 60529	IP 66 and IP 67				
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)				
Cable entry	Pre-cabled, adjustable direction, length = 1 m (other lengths available on request)				
Fixing centres (mm)	20				M12 x 1
Body dimensions (mm) W x D x H	30 x 16 x 50				
Complete switch (2-pole N/C + N/O snap action)	XCMD2110L1	XCMD2102L1	XCMD2115L1	XCMD2145L1	XCMD21F0L1
(2-pole N/C + N/O break before make, slow break)	XCMD2510L1	XCMD2502L1	XCMD2515L1	XCMD2545L1	XCMD25F0L1

⊕ Positive opening operation.

ISO entry
(to EN 50262)

XCKP/XCKD



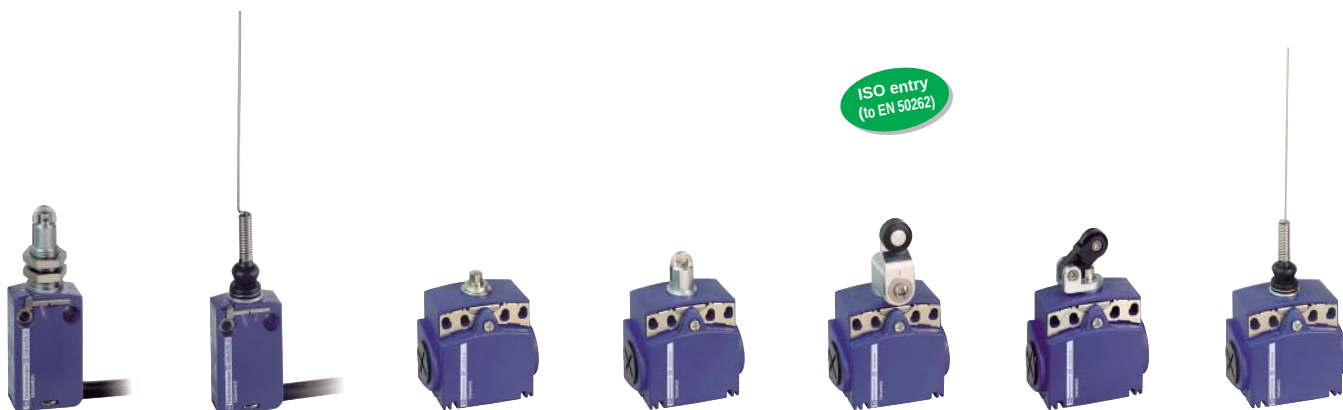
Compact XCKD metal and XCKP plastic conforming to standard EN 50047

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	M18 head metal end plunger	M18 head steel roller plunger	
Mechanical durability (millions of operating cycles)	15	10	15	10	10	
Actuation speed (in m/s)	0.5	0.5	1	0.5	0.5	
Switches conforming to standard IEC 947-5-1 section 3 ➡	➡	➡	➡	➡	➡	
Product certification	CE - CSA - CCC - GOST					
Degree of protection conforming to IEC 60529	IP 66 and IP 67					
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry	1 tapped entry for ISO M16 x 1.5 cable gland (2)					
Fixing centres (mm)	20	20	20	M18 x 1	M18 x 1	
Body dimensions (mm) W x D x H	31 x 30 x 65					
Metal switches						
Complete switch	(2-pole N/C + N/O snap action)	XCKD2110P16	XCKD2102P16	XCKD2121P16	XCKD21H0P16	XCKD21H2P16
	(2-pole N/C + N/O break before make, slow break)	XCKD2510P16	XCKD2502P16	XCKD2521P16	XCKD25H0P16	XCKD25H2P16
Plastic, double insulated switches						
Complete switch	(2-pole N/C + N/O snap action)	XCKP2110P16	XCKP2102P16	XCKP2121P16	XCKP21H0P16	XCKP21H2P16
	(2-pole N/C + N/O break before make, slow break)	XCKP2510P16	XCKP2502P16	XCKP2521P16	XCKP25H0P16	XCKP25H2P16

(2) For Pg 11 cable entries, replace P16 by G11. Example: XCKD2110P16 becomes XCKD2110G11.

For other cable entries, see customised assembly on page 1/34.

⊕ Positive opening operation.



ISO entry
(to EN 50262)

1

Compact XCKT plastic, 2 cable entries

M12 head steel roller plunger	"Cat's whisker"		Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever plunger, horizontal actuation	"Cat's whisker"
10	5		15	10	10	15	5
0.1	1		0.5	0.5	1.5	1	1
⊕	–		⊖	⊕	⊕	⊕	–
			CE - CSA - CCC - GOST				
			IP 66 and IP 67				
			AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
			2 tapped entries for ISO M16 x 1.5 cable gland (1)				
	20		20 or 40				
			58 x 30 x 51				
	XCMD21F2L1	XCMD2106L1	XCKT2110P16	XCKT2102P16	XCKT2118P16	XCKT2121P16	XCKT2106P16
	XCMD25F2L1	XCMD2506L1	–	–	–	–	–

(1) For Pg 11 cable entries, replace P16 by G11. Example: XCKT2110**P16** becomes XCKT2110**G11**.



ISO entry
(to EN 50262)

Application - XCPR and XCDR with manual reset

Thermoplastic roller lever	Variable length Thermoplastic roller lever	Thermoplastic roller lever Ø 50 mm	"Cat's whisker"	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever
10	10	10	5	1	1	1	1	1
1.5	1.5	1.5	1	0.5	0.5	1	1	1.5
⊕	⊕	⊕	–	⊕	⊕	⊕	⊕	⊕
CE - CSA - CCC - GOST								
IP 66 and IP 67								
AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)								
1 tapped entry for ISO M20 x 1.5 cable gland (3)								
20	20	20	20	20	20	20	20	20
31 x 30 x 95								
XCKD2118P16	XCKD2145P16	XCKD2139P16	XCKD2106P16	XCDR2110P20	XCDR2102P20	XCDR2121P20	XCDR2127P20	XCDR2118P20
XCKD2518P16	XCKD2545P16	XCKD2539P16	XCKD2506P16	XCDR2510P20	XCDR2502P20	XCDR2521P20	XCDR2527P20	XCDR2518P20
XCKP2118P16	XCKP2145P16	XCKP2139P16	XCKP2106P16	XCPR2110P20	XCPR2102P20	XCPR2121P20	XCPR2127P20	XCPR2118P20
XCKP2518P16	XCKP2545P16	XCKP2539P16	XCKP2506P16	XCPR2510P20	XCPR2502P20	XCPR2521P20	XCPR2527P20	XCPR2518P20

(3) For Pg 13.5 cable entries, replace P20 by G13. Example: XCDR2110**P20** becomes XCDR2110**G13**.

For other cable entries, see customised assembly on page 1/34.

Osiswitch

Limit switches

Universal

Customised assembly of miniature and compact

1

Heads - common to miniature and compact bodies

Metal plunger and multi-directional heads

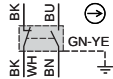
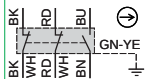
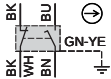
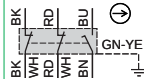
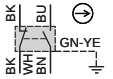
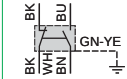
Description	Metal end plunger	Metal end plunger with protective elastomer boot	Steel roller plunger	Retractable steel roller lever plunger	Thermoplastic roller lever plunger, horizontal actuation
					
Reference	⊖ ZCE10	⊖ ZCE11	⊖ ZCE02	⊖ ZCE24 (2)	⊖ ZCE21

Metal rotary heads and levers

Description	Rotary head without lever, spring return, for actuation from LH or RH side	Thermoplastic roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Steel roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Thermoplastic roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)	Steel roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)
					
Reference	⊖ ZCE01	⊖ ZCY15 (2)	⊖ ZCY16 (2)	⊖ ZCY25 (2)	⊖ ZCY26 (2)

(1) Recommended for use with bodies: ZCD... / ZCP... / ZCT... (2) Recommended for use with bodies: ZCMD...

Bodies

	Miniature					
						
Type of contact	 2-pole N/C + N/O Snap action	 3-pole N/C+N/C+N/O Snap action	 2-pole N/C + N/O Slow break	 3-pole N/C+N/C+N/O Slow break	 2-pole N/C + N/O Snap action M12 5-pin connector	 1 C/O single-pole Snap action M12 4-pin connector
Reference of metal body	ZCMD21	ZCMD39	ZCMD25	ZCMD37	ZCMD21C12	ZCMD21M12
Reference of plastic body	—	—	—	—	—	—

Connection of miniature bodies

Specific pre-cabled connection components					Option: pre-wired M12 connector, L = 2 m	
	for ZCMD21	for ZCMD39	for ZCMD25	for ZCMD37		
L = 1 m	ZCMC21L1	ZCMC39L1	ZCMC25L1	ZCMC37L1	XZCP1164L2	XZCP1169L2
L = 2 m	ZCMC21L2	ZCMC39L2	ZCMC25L2	ZCMC37L2		
L = 5 m	ZCMC21L5	ZCMC39L5	ZCMC25L5	ZCMC37L5		

⚡ Positive opening operation.

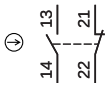
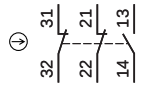
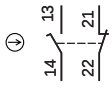
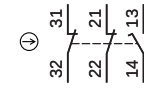
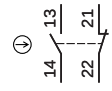
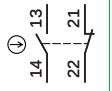
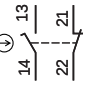
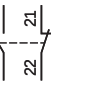
switches

1

Thermoplastic roller lever plunger, vertical actuation	M12 head metal end plunger	M18 head metal end plunger	M12 head steel roller plunger	M18 head steel roller plunger	Spring rod	Spring rod with plastic end	"Cat's whisker"
							
⊕ ZCE27	⊕ ZCEF0 (2)	⊕ ZCEH0 (1)	⊕ ZCEF2 (2)	⊕ ZCEH2 (1)	ZCE08	ZCE07	ZCE06

Thermoplastic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Steel roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Ceramic roller lever	Variable length thermoplastic roller lever	Round, glass fibre rod lever Ø 3 mm L = 125 mm	Metal spring-rod lever	Thermoplastic roller lever Ø 50 mm	Adjustable thermo-plastic roller lever Ø 50 mm
							
⊕ ZCY18 (1)	⊕ ZCY19 (1)	⊕ ZCY22	⊕ ZCY45	ZCY55	ZCY91	⊕ ZCY39	⊕ ZCY49

Compact

								
Type of contact								
Ref. metal body	ZCD21	ZCD39	ZCD25	ZCD37	ZCD21M12	—	—	—
Ref. plastic body	ZCP21	ZCP39	ZCP25	ZCP37	—	ZCP21M12	ZCT21P16	ZCT25P16

Connection of compact bodies

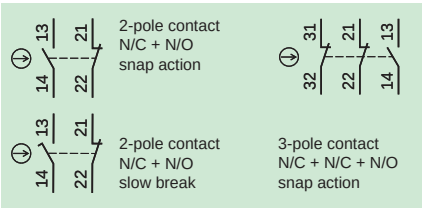
Interchangeable outlet for cable gland							Option: pre-wired M12 connector, L = 2 m		ZCT Pg 11 cable gland versions: replace the suffix P16 by G11. Example: ZCT21P16 becomes ZCT21G11 ZCT 1/2" NPT versions: replace the suffix P16 by N12 (adaptor). Example: ZCT21P16 becomes ZCT21N12
Description	For ISO M16 cable gland	For ISO M20 cable gland	For Pg 11 cable gland	For Pg 13.5 cable gland	For 1/2" NPT cable gland	For PF 1/2 (G12) cable gland			
Metal	ZCDEP16	ZCDEP20	ZCDEG11	ZCDEG13	ZCDEN12	ZCDEF12	XZCP1164L2	XZCP1141L2	
Plastic	ZCPEP16	ZCPEP20	ZCPEG11	ZCPEG13	ZCPEN12	ZCPEF12			

Osiswitch

Limit switches

Classic - XCKM, complete switches

XCKM



ISO entry
(to EN 50262)



Type XCKM metal, 3 cable entries

Type of operator	Metal end plunger	Steel roller plunger	Roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)	20	20	20	15	10
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	0.5
Product certification	CE - UL - CSA - CCC - GOST - C-TICK - BV				
Degree of protection conforming to IEC 60529	IP 665				
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
Cable entry (1)	3 tapped entries for ISO M20 x 1.5 cable gland (2 entries fitted with blanking plugs)				
Fixing centres (mm)	41				
Body dimensions (mm) W x D x H	63 x 30 x 64				

Complete switch (2-pole N/C + N/O snap action)	⊕ XCKM110H29	⊕ XCKM102H29	⊕ XCKM121H29	⊕ XCKM115H29	XCKM106H29
(2-pole N/C + N/O, break before make, slow break)	⊕ XCKM510H29	⊕ XCKM502H29	⊕ XCKM521H29	⊕ XCKM515H29	—

(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKM110H29 becomes XCKM110.
⊕ Positive opening operation.

Customised assembly of Classic XCKM switches

Body/contact sub-assemblies



Type XCKM metal, 3 cable entries

Type of contact

13

14

21

22

2-pole

N/C + N/O

snap action

13

14

21

22

2-pole

N/C + N/O

slow break

31

32

21

22

13

14

3-pole

N/C + N/C + N/O

snap action

31

32

21

22

13

14

3-pole

N/C + N/C + N/O

slow break

Reference of body with contact block	⊕ ZCKM1H29	⊕ ZCKM5H29	⊕ ZCKMD39H29	⊕ ZCKMD37H29
Reference of contact block only	⊕ XE2SP2151	⊕ XE2NP2151	⊕ XE3SP2141	⊕ XE3NP2141

Customised assembly of Classic XCKM switches

Operating heads,
complete or for customer assembly



Complete switch

=



Body/contact assembly

+



Head

+



Lever

1

Rotary or multi-directional heads

with thermoplastic
roller lever (2)

with steel roller
lever (2)

with variable length
thermoplastic
roller lever (2)

with Ø 6 mm
thermoplastic rod
L = 200 mm (3)

with thermoplastic
roller lever (3)
for actuation from
left **AND** right
or
left **OR** right

with "Cat's
whisker"

with spring rod



Reference

➔ ZCKD15

➔ ZCKD16

ZCKD41

ZCKD59

➔ ZCKD31

ZCKD06

ZCKD08

Plunger heads

with metal
end plunger

with metal
end plunger
and protective
boot

with steel
roller plunger

with thermoplastic
roller lever plunger,
horizontal actuation
in 1 direction

with steel
roller lever plunger,
horizontal actuation
in 1 direction



Reference

➔ ZCKD10

➔ ZCKD109

➔ ZCKD02

➔ ZCKD21

➔ ZCKD23

Rotary heads and separate levers

spring return,
for actuation from
left **AND** right
or
left **OR** right

lever with
thermoplastic
roller (2)

lever with
steel roller (2)

variable length
lever with
thermoplastic
roller (2)

variable length
lever with
steel roller (2)

rod, Ø 6 mm
thermoplastic
L = 200 mm (3)



Reference

➔ ZCKD05

➔ ZCKY31

➔ ZCKY33

ZCKY41

ZCKY43

ZCKY59

(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Osishwitch

Limit switches

Classic - XCKJ, complete switches

XCKJ

13

14

21

22

2-pole contact

N/C + N/O

snap action

31

32

21

22

13

14

3-pole contact

N/C + N/C + N/O

snap action

13

14

21

22

2-pole contact

N/C + N/O

slow break

31

32

21

22

13

14

3-pole contact

N/C + N/C + N/O

slow break

ISO entry
(to EN 50262)



Type XCKJ metal, fixed body, conforming to standard EN 50041

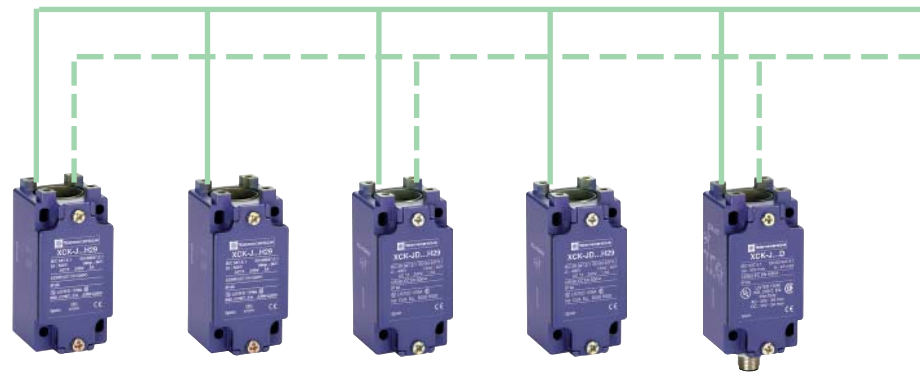
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	30	25	30	30	30
Actuation speed (in m/s)	0.5	1	1.5	1.5	1.5
Product certification	CE - UL - CSA - CCC - GOST - C-TICK - BV				
Degree of protection conforming to IEC 60529	IP 667				
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland				
Fixing centres (mm)	30 x 60				
Body dimensions (mm) W x D x H	40 x 44 x 77				

Complete switch (2-pole N/C + N/O snap action)	⇒ XCKJ161H29	⇒ XCKJ167H29	⇒ XCKJ10511H29	⇒ XCKJ10541H29	⇒ XCKJ10559H29
	(2-pole N/C + N/O break before make, slow break)	⇒ XCKJ561H29	⇒ XCKJ567H29	⇒ XCKJ50511H29	⇒ XCKJ50541H29

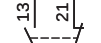
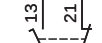
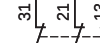
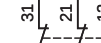
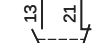
(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161.
⇒ Positive opening operation.

Customised assembly of Classic XCKJ switches

Body/contact sub-assemblies



Type XCKJ metal, 1 cable entry

Type of contact					
	2-pole N/C + N/O snap action	2-pole N/C + N/O slow break	3-pole N/C + N/C + N/O snap action	3-pole N/C + N/C + N/O slow break	2-pole N/C + N/O snap action
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland				M12 connector
Reference of body with contact block	➞ ZCKJ1H29	➞ ZCKJ5H29	➞ ZCKJD39H29	➞ ZCKJD37H29	➞ ZCKJ1D
Reference of contact block only	➞ XE2SP2151	➞ XE2NP2151	➞ XE3SP2141	➞ XE3NP2141	➞ XE2SP2151

Customised assembly of Classic XCKJ switches

Operating heads,
complete or for customer assembly



Complete switch

=



Body/contact assembly

+



Head

+



Lever

Plunger or multi-directional heads

with reinforced
steel roller
end plunger



Reference

⊕ ZCKE67

with metal
end plunger



⊕ ZCKE61

with thermoplastic
roller lever plunger,
1 direct. of actuation



⊕ ZCKE21

with steel
roller lever plunger,
1 direct. of actuation



⊕ ZCKE23

with steel roller
end plunger



⊕ ZCKE62

with steel
ball bearing
end plunger



⊕ ZCKE66

with metal
side plunger



Reference

⊕ ZCKE63

with steel roller
side plunger



⊕ ZCKE64

with spring rod



ZCKE08

with "Cat's whisker"



ZCKE06

Separate rotary heads and levers

spring return
for actuation from
left AND right
or
left OR right



Reference

⊕ ZCKE05

lever with
thermoplastic
roller (2)



⊕ ZCKY11

lever with
steel roller (2)



⊕ ZCKY13

variable length
lever with
thermoplastic
roller (2)



ZCKY41

variable length
lever with
steel roller (2)



ZCKY43

rod, Ø 6 mm
thermoplastic
L = 200 mm (2)



ZCKY59

spring-metal rod
lever (3)



ZCKY91

stay put
for actuation from
left AND right



Reference

ZCKE09

forked arm lever
with thermoplastic
rollers, 1 track (2)



ZCKY71

forked arm lever
with thermoplastic
rollers, 2 track (2)

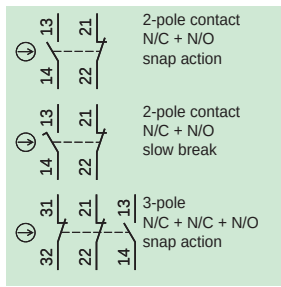


ZCKY61

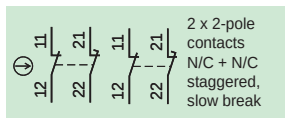
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

(3) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

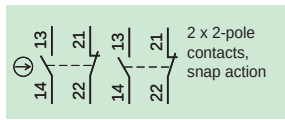
XCKS



XCKMR



XCR



ISO entry
(to EN 50262)



Type XCKS plastic, double insulated, conforming to standard EN 50041

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Rubber roller lever Ø 50 mm	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	25	15	20	20	20	20
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	1	1
Product certification	CE - UL - CSA - CCC - GOST - C-TICK					
Degree of protection conforming to IEC 60529	IP 653					
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	40 x 36 x 72.5					

Complete switch (2-pole N/C + N/O snap action)	⊕ XCKS101H29	⊕ XCKS102H29	⊕ XCKS131H29	XCKS141H29	XCKS139H29	XCKS159H29
(2-pole N/C + N/O break before make, slow break)	⊕ XCKS501H29	⊕ XCKS502H29	⊕ XCKS531H29	XCKS541H29	XCKS539H29	XCKS559H29
Body (2-pole N/C + N/O snap action)	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29
(2-pole N/C + N/O break before make, slow break)	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29
(3-pole N/C + N/C + N/O snap action)	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29
Associated head (including operator)	⊕ ZCKD01	⊕ ZCKD02	⊕ ZCKD31	ZCKD41	ZCKD39	ZCKD59
Operating lever for rotary head	-	-	⊕ ZCKY31	ZCKY41	ZCKY39	ZCKY59
Complete switch with 2-pole snap action contacts (2 x N/C + N/O contacts actuated in each direction)	-	-	-	-	-	-
(1 x N/C + N/O contact actuated in each direction)	-	-	-	-	-	-
Complete switch (2 x single-pole C/O snap action contacts)	-	-	-	-	-	-
(2 x 2-pole N/C + N/C staggered, slow break contacts)	-	-	-	-	-	-

⊕ Positive opening operation.

(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161.

XC2J switches, customised assembly
Body/contact sub-assemblies

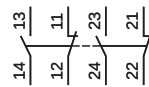


Type XC2J metal, fixed body, 1 cable entry incorporating cable gland

Type of contact



Single-pole
1 C/O contact
snap action



Double-pole
2 C/O simultaneous contacts
snap action

Reference of body with contact block	ZC2JC1	ZC2JC2
Reference of contact block only	XCKZ01	XESP1021

XCKMR and XCR, complete switches



Types XCKMR and XCR "Application - hoisting, materials handling, conveying"

	Square rod levers ☒ 6 mm, "crossed"	Square rod lever ☒ 6 mm	Large roller rod lever Ø 50 mm	Square rod levers ☒ 6 mm, "crossed" or "T"	Conveyor belt shift monitoring switches	
					Galvanised steel operating lever	Stainless steel operating lever
	2	10	10	10	0.3	0.3
	1.5	1.5	1.5	1.5	1.5	1.5
	CE - UL - CSA - GOST	CE - CSA - CCC - GOST				
	IP 545				IP 665	
	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
	3 x ISO M20 x 1.5 entries	1 tapped entry for n° 13 cable gland (for ISO M20 x 1.5, adaptor DE9RA1620 must be ordered separately)				
	61.5	85 x 75				105 x 70
	118 x 59 x 77	85 x 75 x 95				85 x 87 x 146

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	⊕ XCRA11 (2)	⊕ XCRA15	⊕ XCRE18 (2)	-	-
-	⊕ XCRB11 (2)	-	⊕ XCRF17 (3)	-	-
-	-	-	-	XCRT115	XCRT315 (4)
XCKMR54D1H29 (2)	-	-	-	-	-

(2) Steel rods, L = 200 mm

(3) Steel "T" rods, L = 200 mm, W = 300 mm.

(4) Polyester enclosure

Operating heads, complete or for customer assembly

Plunger heads

with metal end plunger

with steel roller end plunger



Reference	ZC2JE61	ZC2JE62
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Rotary heads and separate levers

spring return
for actuation from
left **AND** right

spring return
for actuation from
left **OR** right

variable length lever
with thermoplastic
roller (1)

rigid rod
☐ 3 mm, steel
L = 125 mm (1)

lever with
thermoplastic roller
(1)

lever with
steel roller (1)

spring lever
(1)

spring-rod lever



Reference	ZC2JE01	ZC2JE05	ZC2JY31	ZC2JY51	ZC2JY11	ZC2JY13	ZC2JY81	ZC2JY91
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(1) Adjustable throughout 360°.



Pressure range (bar) (1)	-1...0	0...1	0...6	0...10	0...16	0...25	0...100	0...250	0...400
Fluids controlled	Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+125°C								
Ambient air temperature	- 15...+ 85°C								
Degree of protection (conforming to IEC 60529)	IP 66 and IP 67								
Product certification	CE - UL - CSA - GOST								
Voltage limits	12...24 V DC, 8...33 V DC								
Dimensions (mm) Ø x L	Ø 22.8 x 70 (not including connector)								
Fluid connection (2)	1/4" BSP male								
Electrical connection (3)	M12 connector								
Type of output (4)	4...20 mA, 2-wire technique								
Analogue output 4...20 mA	XMLGM01D21	XMLG001D21	XMLG006D21	XMLG010D21	XMLG016D21	XMLG025D21	XMLG100D21	XMLG250D21	XMLG400D21

Available in bulk packs for selling in lots, please consult us.
The XMLG range also includes pressure switches, please consult us.

Electronic sensors XMLE
Electrical connection by DIN 43650 connector

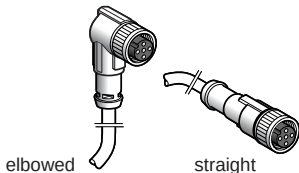


Setting range (bar) (1)	-1...0	0...1	0...10	0...25	0...100	0...250	0...600
Fluids controlled	Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C						
Ambient air temperature	- 15...+ 80°C						
Degree of protection (conforming to IEC 60529)	IP 65						
Product certification	CE - UL - CSA - GOST						
Voltage limits	24 V DC, 11...33 V DC						
Dimensions (mm) Ø x L	Ø 40 x 90 (not including connector)						
Fluid connection (2)	1/4" BSP male						
Electrical connection (3)	DIN 43650 connector						
Type of output (4)	Transmitter	4...20 mA, 2-wire technique					
	Pressure switch	PNP or NPN, normally closed (NC)					
Analogue output 4...20 mA	XMLEM01U1C21	XMLE001U1C21	XMLE010U1C21	XMLE025U1C21	XMLE100U1C21	XMLE250U1C21	XMLE600U1C21
NPN output	XMLEM01U1C31	XMLE001U1C31	XMLE010U1C31	XMLE025U1C31	XMLE100U1C31	XMLE250U1C31	XMLE600U1C31
PNP output	XMLEM01U1C41	XMLE001U1C41	XMLE010U1C41	XMLE025U1C41	XMLE100U1C41	XMLE250U1C41	XMLE600U1C41

(1) Other sizes, please consult us.
(2) Other fluid connections, please consult us.
(3) Other types of connection, please consult us.
(4) Other types of output; 0...5 V, 0...10 V, etc., please consult us.

Suitable female plug-in connectors

Pre-wired connectors, L = 5 m (without LED)



M12 XZCP1241L5 XZCP1141L5

Other connectors



Screw terminal XZCC12FCM40B
DIN 43650A XZCC43FCP40B

Other versions: please consult your Schneider Electric agency.



Setting range of lower limit (PB): vacuum switches (bar) of upper limit (PH): pressure switches		-0.08...-1	0.08...1	0.2...2.5	0.8...10	3.2...40
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		1/4" BSP female (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLFM01D2025	XMLF001D2025	XMLF002D2025	XMLF010D2025	XMLF040D2025
solid-state output, 200 mA	0...10 V	XMLFM01D2125	XMLF001D2125	XMLF002D2125	XMLF010D2125	XMLF040D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLFM01D2035	XMLF001D2035	XMLF002D2035	XMLF010D2035	XMLF040D2035
Analogue sensors	4...20 mA	XMLFM01D2015	XMLF001D2015	XMLF002D2015	XMLF010D2015	XMLF040D2015
	0...10 V	XMLFM01D2115	XMLF001D2115	XMLF002D2115	XMLF010D2115	XMLF040D2115
Possible differential (bar) (pressure switches)	Min. at low setting	0.03	0.03	0.08	0.3	1.2
	Min. at high setting	0.03	0.03	0.08	0.3	1.2
	Max. at high setting	0.95	0.95	2.38	9.5	38



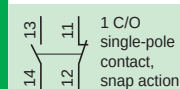
Setting range of upper limit (PH): pressure switches (bar)		8...100	12.8...160	20...250	32...400	48...600
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		1/4" BSP female (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLF100D2025	XMLF160D2025	XMLF250D2025	XMLF400D2025	XMLF600D2025
solid-state output, 200 mA	0...10 V	XMLF100D2125	XMLF160D2125	XMLF250D2125	XMLF400D2125	XMLF600D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLF100D2035	XMLF160D2035	XMLF250D2035	XMLF400D2035	XMLF600D2035
Analogue sensors	4...20 mA	XMLF100D2015	XMLF160D2015	XMLF250D2015	XMLF400D2015	XMLF600D2015
	0...10 V	XMLF100D2115	XMLF160D2115	XMLF250D2115	XMLF400D2115	XMLF600D2115
Possible differential (bar) (pressure switches)	Min. at low setting	3	4.8	7.5	12	18
	Min. at high setting	3	4.8	7.5	12	18
	Max. at high setting	95	152	237.5	380	570

(1) Available with other fluid connections: 1/4" NPT female and SAE 7/16-20 UNF.

(2) For M12 connection accessories, see page previous page.

(3) AC 120 V version with 2.5 A relay output and SAE 7/8-16 UN connector also available.

ISO entry
(to EN 50262)



Size (bar)	-1	5	1	2.5
Environmental characteristics	Ambient air temperature (°C): - 25...+ 70 Degree of protection (conforming to IEC 60529): IP 66			
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)			
Product certification	CE - UL - CSA - CCC - BV - LROS - RINA - GL - DNV - VIT-SEPRO - GOST			
Fluid connection	1/4" BSP female (other connections possible, please consult us)			
Electrical connection	Screw terminals (1), tapped entry for ISO M20 x 1.5 cable gland - For n° 13 (DIN Pg 13.5) cable gland			

Fluids controlled	Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 70°C
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Type XMLA - fixed differential, single threshold detection

Setting range (bar) of upper limit (PH): pressure switches	-0.28...-1 (4)	—	0.03...1	0.15...2.5
Dimensions (mm) H x W x D	113 x 35 x 75	113 x 35 x 75	162 x 110 x 110	158 x 55 x 77.5
With setting scale 1 C/O single-pole, snap action contact	XMLAM01V2S12	—	XMLA001R2S12	XMLA002A2S12
Without setting scale 1 C/O single-pole, snap action contact	XMLAM01V1S12	—	XMLA001R1S12	XMLA002A1S12
Natural differential (bar) at low setting	0.24 (2)	—	0.02	0.13
subtract from PH to give PB at high setting	0.24 (2)	—	0.04	0.13

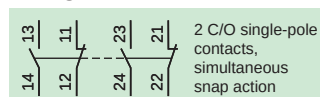
Type XMLB - adjustable differential, regulation between 2 thresholds

Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.5...5	0.05...1	0.3...2.5
With setting scale 1 C/O single-pole, snap action contact	XMLBM02V2S12	XMLBM05A2S12	XMLB001R2S12	XMLB002A2S12
Possible differential (bar) Min. at low setting	0.13 (3)	0.5	0.04	0.16
subtract from PH to give PB Min. at high setting	0.13 (3)	0.5	0.06	0.21
Max. at high setting	0.8 (3)	6	0.75	1.75

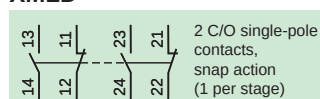
XMLC and D

ISO entry
(to EN 50262)

XMLC



XMLD



Fluids controlled	Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 160°C
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Type XMLC - adjustable differential, regulation between 2 thresholds

Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.55...5	0.05...1	0.3...2.5
Dimensions (mm) H x W x D	113 x 46 x 85	113 x 46 x 85	175 x 110 x 110	158 x 55 x 90
With setting scale 2 C/O single-pole, snap action contacts	XMLCM02V2S12	XMLCM05A2S12	XMLC001R2S12	XMLC002B2S12
Possible differential (bar) Min. at low setting	0.13 (4)	0.45	0.03	0.13
subtract from PH to give PB Min. at high setting	0.14 (4)	0.45	0.04	0.17
Max. at high setting	0.8 (4)	6	0.8	2

Type XMLD - fixed differential, dual stage, for detection at each threshold

Setting range (bar)	2 nd stage switching point (PB2)	-0.12...-1 (4)	—	0.12...1	0.34...2.5
	1 st stage switching point (PB1)	-0.10...-0.98	—	0.04...0.92	0.2...2.36
	Spread between 2 stages (PB2 - PB1)	-0.02...-0.88	—	0.08...0.73	0.14...1.5
Without setting scale 2 C/O single-pole, snap action contacts (1 per stage)		XMLDM02V1S12	—	XMLD001R1S12	XMLD002B1S12
Natural differential (bar) at low setting		0.1 (2)	—	0.03	0.14
subtract from PH 1/2 to give PB 1/2 at high setting		0.1 (2)	—	0.07	0.19



1

	4	10	20	35	70	160	300	500
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conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1

tapped entry, replace the last number of the reference (2) by 1 (example: XMLA010A2S12 becomes XMLA010A2S11)

	Hydraulic oils, fresh water, sea water, air up to 70°C			Hydraulic oils up to 160°C				
--	---	--	--	----------------------------	--	--	--	--

	0.4...4	0.6...10	1...20	1.5...35	5...70	10...160	20...300	30...500
	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75
	XMLA004A2S12	XMLA010A2S12	XMLA020A2S12	XMLA035A2S12	XMLA070D2S12	XMLA160D2S12	XMLA300D2S12	XMLA500D2S12
	XMLA004A1S12	XMLA010A1S12	XMLA020A1S12	XMLA035A1S12	XMLA070D1S12	XMLA160D1S12	XMLA300D1S12	XMLA500D1S12
	0.35	0.5	0.4	1.25	3	5.5	16.5	20
	0.35	0.5	1	1.25	7.5	18	35	45

	0.25...4	0.7...10	1.3...20	3.5...35	7...70	10...160	22...300	30...500
	XMLB004A2S12	XMLB010A2S12	XMLB020A2S12	XMLB035A2S12	XMLB070D2S12	XMLB160D2S12	XMLB300D2S12	XMLB500D2S12
	0.02	0.57	1	1.7	4.7	9.3	19.4	23
	0.25	0.85	1.6	2.55	8.8	20.8	37	52.6
	2.4	7.5	11	20	50	100	200	300

- (1) For electrical connection by DIN 43650A connector (IP 65), replace the letter "S" in the reference by "C". Example: XMLB010A2S12 becomes XMLB010A2C12.
(2) For vacuum switch: natural differential to be added to PB to give PH.
(3) For vacuum switch: possible differential to be added to PB to give PH.
(4) Setting range (bar) of lower limit (PB): vacuum switch.



	Hydraulic oils, fresh water, sea water, air up to 160°C			Hydraulic oils up to 160°C				
--	--	--	--	----------------------------	--	--	--	--

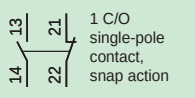
	0.3...4	0.7...10	1.3...20	3.5...35	7...70	12...160	22...300	30...500
	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85
	XMLC004B2S12	XMLC010B2S12	XMLC020B2S12	XMLC035B2S12	XMLC070D2S12	XMLC160D2S12	XMLC300D2S12	XMLC500D2S12
	0.15	0.45	0.7	1	4.5	9	16	19
	0.17	0.7	1	1.5	8.9	21	35	52
	2.5	8	11	22	60	110	240	340

	0.40...4	1.2...10	2.14...20	4.4...35	9.4...70	16.5...160	36...300	41...500
	0.19...3.79	0.52...9.32	0.9...18.76	1.9...32.5	6.6...67.2	10.5...154	25...289	25...484
	0.21...2.18	0.68...5.8	1.24...9.55	2.5...20.4	2.8...46	6...83	11...189	16...244
	XMLD004B1S12	XMLD010B1S12	XMLD020B1S12	XMLD035B1S12	XMLD070D1S12	XMLD160D1S12	XMLD300D1S12	XMLD500D1S12
	0.15	0.45	0.7	1.5	5	8.8	17	21
	0.19	0.6	1.3	2.6	9.5	20	42	65

Nautilus

Sensors for pressure control
Electromechanical pressure switches XMX, XMA

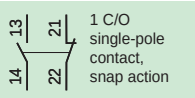
1



Setting range of upper limit (PH) (bar)	1...6	1.3...12	3.5...25
Fluids controlled	Air, water (fresh water, sea water) from 0...+70°C		
Ambient air temperature	- 25...+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)		
Product certification	CE - UL - CSA - CCC		
Dimensions (mm) H x W x D	106 x 57 x 98		126 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		

Type XMX with internal setting screw

Without setting scale, screw terminal connections				
1 C/O single-pole, snap action contact		XMXA06L2135	XMXA12L2135	XMXA25L2135
Possible differential (bar) subtract from PH to give PB	Min. at low setting	0.8	1	3.4
	Min. at high setting	1.2	1.7	4.5
	Max. at high setting	4.2	8.4	20



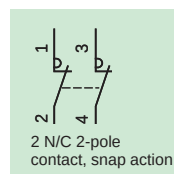
Setting range of upper limit (PH) (bar)	1...6	1.3...12	3.5...25
Fluids controlled	Air, water (fresh water, sea water) from 0...+70°C		
Ambient air temperature	- 25...+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)		
Product certification	CE - UL - CSA - CCC		
Dimensions (mm) H x W x D	113 x 57 x 98		133 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, tapped entry for n° 13 (DIN Pg 13.5) cable gland		

Type XMA with external setting screw (transparent cover)

Without setting scale, screw terminal connections				
1 C/O single-pole, snap action contact		XMAV06L2135	XMAV12L2135	XMAV25L2135
Possible differential (bar)	Min. at low setting	0.8	1	3.4
subtract from PH to give PB	Min. at high setting	1.2	1.7	4.5
	Max. at high setting	4.2	8.4	20

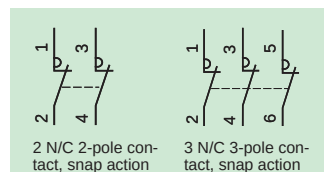
Sensors for pressure control

Electromechanical pressure switches for power circuits, adjustable differential for regulation between 2 thresholds



1

Degree of protection			IP 20			IP 65		
Size (bar)			4.6	7	10.5	4.6	7	10.5
Setting range of upper limit (PH) (bar)			1.4...4.6	2.8...7	5.6...10.5	1.4...4.6	2.8...7	5.6...10.5
Fluids controlled			Water (fresh water, sea water) from 0...+55°C					
Electrical connection			Screw terminals, 2 cable entries with grommet			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		
Product certification			CE					
Ambient air temperature			For operation: 0...+ 50°C. For storage: - 30...+ 80°C					
Rated operational characteristics			Ie = 10 A, Ue = 250 V AC					
Power rating of controlled motors	110 V	AC 2-pole, single-phase	0.75 kW (1 HP)			0.75 kW (1 HP)		
		AC 2-pole, 3-phase	1.1 kW (1.5 HP)			1.1 kW (1.5 HP)		
	230 / 400 V	AC 2-pole, single-phase	1.5 kW (2 HP)			1.5 kW (2 HP)		
		AC 2-pole, 3-phase	2.2 kW (3 HP)			2.2 kW (3 HP)		
Dimensions (mm) H x W x D			96/105 x 72 x 102	94 x 72 x 102		115 x 72 x 106	115 x 72 x 106	
Fluid connection	G 1/4 (BSP female)		FSG2	FYG22	FYG32	FSG2NE	FYG22NE	FYG32NE
	R 1/4 (BSP male)		FSG9	FYG29	FYG39	—	—	—
	G 3/8 (BSP female) rotating nut		—	—	—	FSG2NEG	—	—
Possible differential subtract from PH to give PB	At low setting		1 min. - 2.1 max.	1.2 min. - 2.3 max.	1.9 min. - 3 max.	1 min. - 2.1 max.	1.2 min. - 2.3 max.	1.9 min. - 3 max.
	At middle setting		1.1 min. - 2.2 max.	1.4 min. - 2.5 max.	2.1 min. - 3.2 max.	1.1 min. - 2.2 max.	1.4 min. - 2.5 max.	2.1 min. - 3.2 max.
	At high setting		1.2 min. - 2.3 max.	1.6 min. - 2.7 max.	2.3 min. - 3.4 max.	1.2 min. - 2.3 max.	1.6 min. - 2.7 max.	2.3 min. - 3.4 max.



Size (bar)			6		12		25
Setting range of upper limit (PH) (bar)			1...6		1.3....12		3.5...25
Fluids controlled			Air, water (fresh water, sea water) from 0...+70°C				
Ambient air temperature			For operation: - 25...+ 70°C. For storage: - 40...+ 70°C				
Decompression valve / On/Off knob			without	with	without	with	without
Fluid connection			G 1/4 (BSP female)	4 x G 1/4 (BSP female)	G 1/4 (BSP female)	4 x G 1/4 (BSP female)	G 1/4 (BSP female)
Electrical connection			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland				
Degree of protection			IP 54		IP 54		IP 54
Product certification			CE - CCC				
Rated insulation voltage			Ui = 500 V				
Electrical durability	Power	1.5 kW	400 V AC 3-phase: 1 000 000 operating cycles				
			230 V AC 3-phase: 600 000 operating cycles				
		2.2 kW	400 V AC 3-phase: 700 000 operating cycles				
		3 kW	400 V AC 3-phase: 500 000 operating cycles				
Dimensions (mm) H x W x D			106 x 57 x 97.5	138 x 57 x 97.5	106 x 57 x 97.5	138 x 57 x 97.5	126 x 57 x 97.5
Type of contacts	2 N/C 2-pole, snap action contact		XMPA06B2131	XMPE06B2431	XMPA12B2131	XMPE12B2431	XMPA25B2131
	3 N/C 3-pole, snap action contact		XMPA06C2131	XMPE06C2431	XMPA12C2131	XMPE12C2431	XMPA25C2131
Possible differential (bar)		Min. at low setting	0.8	0.8	1	1	3.4
subtract from PH to give PB		Min. at high setting	1.2	1.2	1.7	1.7	4.5
		Max. at high setting	4.2	4.2	8.4	8.4	20

1

Presentation

Ositrack® is open to the majority of ISO 18000-3, ISO 15693 and ISO 14443 electronic tags. Ositrack® integrates Modbus RTU, Uni-Telway and Modbus TCP/IP (using Ethernet box XGSZ33ETH) protocols.

The Ositrack® RFID offer comprises:

- 2 models of 13.56 MHz compact stations (read/write)
- 6 models of 13.56 MHz electronic tags
- 1 portable RFID diagnostics terminal
- 2 models of network connection boxes plus connection and mounting accessories.

Setting-up

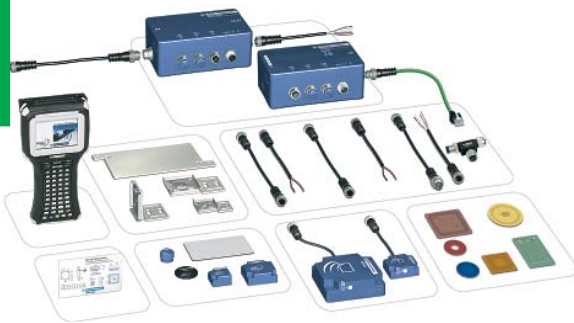
Ositrack® compact stations are simple to set-up:

- Integrated RFID and network functions
- No programming
- Automatic detection of the RFID electronic tags (read or write)
- Automatic setting of the communication parameters (speed, format, parity, protocol, etc.)
- Configuration of the network address (1 to 15) using badge included with the station
- Low sensitivity to metal environments.

Installation

Ositrack® stations easily integrate in flexible manufacturing production lines:

- quick connection using M12 connector
- screw fixing or clip-on mounting.



Compact stations, 13.56 MHz		C format	D format
Dimensions (mm), W x H x D		40 x 40 x 15	80 x 80 x 26
Nominal sensing distance depending on tag (mm)		18 to 70	20 to 100
Type of associated tag		ISO 15693 and ISO 14443 standard tags. Automatic detection of the type of tag.	
Display		1 dual colour LED for the communication network, 1 dual colour LED for the RFID communication	
Conformity to standards		CE, EN 301489-1, EN 301489-3, ETS 300330-1 and ETS 300330-2, FCC part 15 - UL	
Degree of protection conforming to IEC 60529		IP 65	
Serial link	Type	RS 485	
	Protocol	Modbus and Uni-Telway	
	Speed (Bauds)	9600...115 200 (automatic detection)	
Ambient air temperature (°C)		For operation: - 25...+ 55°C, for storage: - 40...+ 85°C	
Nominal supply voltage		24 VDC PELV (Protective Extra Low Voltage)	
Connection		M12, 5-pin male, shielded connector on flying lead. Only for connection to the communication network and the supply	
References		XGCS4901201	XGCS8901201



Electronic tags		C format		ISO badge (1)	Disc	E format	Cylindrical
Dimensions (mm), W x H x D		40 x 40 x 15		54 x 85.5 x 0.8	Ø 30 x 3	26 x 26 x 13	M18 x 1 x 12
Type of memory		EEPROM					
Memory capacity (bytes)		3 408	13 632	256	112	256	256
Nominal sensing distance (mm) (Read/Write)	With station XGCS49●	33	30	70	48	40	18
	With station XGCS89●	48	40	100	65	55	20
Time (ms)	Read	9.25 + 0.375 x n (2)	16.25 + 0.375 x n (2)	12 + 0.825 x n (2)			
	Write	13 + 0.8 x n (2)	20 + 0.8 x n (2)	20 + 11.8 x n (2)	12 + 5.6 x n (2)	20 + 11.8 x n (2)	19 + 4.1 x n (2)
Degree of protection conforming to IEC 60529		IP 68		IP 65		IP 68	
Standard supported		ISO 14443		ISO 15693			
Mounting on metal support		Yes		No		Yes	No
References		XGHB444345	XGHB445345	XGHB90E340	XGHB320345	XGHB221346	XGHB211345

(1) Customised versions on request. (2) n = number of 16-bit words.



Connection boxes	Ethernet box	Tap-off box
Dimensions (mm), W x H x D	130 x 80 x 51	130 x 80 x 51
Protocols	Modbus TCP/IP	Modbus, Uni-Telway
Supply voltage	24 VDC PELV. M12, 4-pin male, A coding, connector	
Conformity to standards	CE - UL	
Station connection	M12, 5-pin female, A coding, connector	
Degree of protection conforming to IEC 60529	IP 65	
References	XGSZ33ETH	TCSAMT31FP



Terminal	Portable 13.56 MHz RFID diagnostics terminal
Dimensions (mm), W x H x P	120 x 250 x 62
Function	Read/Write operations on electronic tags and diagnostics on compact stations
Operating system	Microsoft® Windows CE.NET Professional® version 4.2
Conformity to standards	CE, FCC class A, Part 15225
Display	72 x 54 mm colour touchscreen; QVGA TFT, 320 x 240 pixels resolution
Degree of protection conforming to IEC 60529	IP 65
Memory	RAM
	Storage
Reference	XGSTP401 (Battery, battery charger, carrying case and 3 styluses included with terminal)



Connection accessories						
	for Modbus network			for Ethernet	"T" connector	Pre-wired connector
Description	Modbus connecting cable M12 connectors Male / Female	Pre-wired connector M12 male / Bare wires	Modbus connecting cable M12 male / Mini-DIN 8	Ethernet ConneXium connecting cable M12 male / RJ 45	Network M12 "T" connector 1 male / 2 female	Pre-wired supply connector M12 female
Application	RS485 connection between a compact station and a Modbus box or between 2 Modbus boxes	Connection between a Modbus box and a Modbus / Uni-Telway network	Connection between a Modbus box and a PLC	Connection between an Ethernet box and the Ethernet network	For RS 485 network	24 VDC supply to connection boxes
L = 2 m	TCSMCN1M1F2	TCSMCN1F2	TCSMCN1F9M2P	TCSECL1M3M3S2 (3)	TCSCN011M11F	XGSZ08L2
L = 5 m	TCSMCN1M1F5	TCSMCN1F5	-	TCSECL1M3M5S2		XGSZ08L5

(3) L = 3 m

Accessories	RS232/RS485 converter	Technical documentation
	For connecting a PC to an Ositrack® station XGSZ24	Ositrack® compact stations guide DIA4ED3051001

Operator dialog

Harmony *Optimise the creation of your dialogue solutions!*

2

Unequalled and of high quality, it is the largest offer on the market.



- **Simplicity:** the clip together components ensure simple and secure assembly.
- **Ingenuity:** LED technology for all signalling functions.
- **Flexibility:** of modular construction, the products evolve with the automation system.
- **Robustness:** mechanical performance much higher than standard requirements.
- **Compactness:** the overall dimensions are the smallest on the market.

Magelis *HMI at the touch of a finger and the blink of an eye.*



The new Magelis range, comprising display units, terminals, graphic terminals with keypad or touchscreen and i PC industrial PCs, offers improved robustness for ensuring availability of your installation.

- **Compact,** the range of Magelis display units, terminals and industrial PCs is characterised by its ease of implementation.
- **Ingenuous,** the software range simplifies the design of your HMI (Human/Machine Interface) applications.

- Take advantage of these new offers that are **open** to the new information and communication technologies.

Contents

Control and signalling units

- Pushbuttons, switches and pilot lights Ø 16 with plastic bezel, **Harmony XB6**2/2 to 2/4
- LED pilot lights Ø 8 and 12
- Harmony XVL**2/5
- Pushbuttons, switches and pilot lights Ø 22 with metal bezel, **Harmony XB4**2/6 to 2/9
- Pushbuttons, switches and pilot lights Ø 22 with plastic bezel, **Harmony XB5**2/10 to 2/12
- Control stations
- Harmony XAL**2/13
- Monolithic pushbuttons, switches and pilot lights Ø 22 with plastic bezel, **Harmony XB7**2/14 to 2/15
- Pushbuttons, switches and pilot lights Ø 30 with metal or plastic bezel, **Harmony 9001**2/16 to 2/19
- Cam switches
- Harmony Series K**2/20 to 2/21
- Beacons and indicator banks "Universal"
- Harmony XVB / XVP**2/22
- Beacons and indicator banks "Optimum"
- Harmony XVM / XVDLS / XVE**2/23
- Beacons and indicator banks "Application"
- Harmony XVD / XVR / XVS**2/24
- Beacons and indicator banks accessories
- Harmony XV**2/25
- Pendant control stations
- XAC**2/26 to 2/27
- Control and signalling units for explosive atmospheres (see Chapter 10 "Explosive Atmospheres")



Perfect software interoperability (configuration, supervision, reporting...).



Human/Machine Interfaces

- Display units and terminals
- Magelis XBT N, R, RT, GT, GK, GTW**2/28 to 2/33
- Industrial PCs
- Magelis Smart,**
- Magelis Compact and Modular i PC**
- Magelis i Display**2/34 to 2/37
- Software of
- Vijeo DesignerLite / Vijeo Designer,**
- Vijeo Citect Lite / Vijeo Citect, Vijeo**
- Historian, OFS**2/38 to 2/42
- Embedded Web servers and gateways
- FactoryCast**2/43

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated pushbuttons

Type of head			Flush push				
Shape of head			  				
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II				
Mounting (mm)			panel cut-out mounting centres				
Dimensions (mm)			W x H x D (below head)				
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering				
Type of push			Spring return				
			Complete products	Products for user assembly			
			12 ... 24 V AC/DC				
References	white		N/O	XB6 DW1B1B	ZB6 E●1B (1)	ZB6 Z1B	ZB6 DW1
			N/C + N/O	XB6 DW1B5B	ZB6 E●1B (1)	ZB6 Z5B	ZB6 DW1
	green		N/O	XB6 DW3B1B	ZB6 E●3B (1)	ZB6 Z1B	ZB6 DW3
			N/C + N/O	XB6 DW3B5B	ZB6 E●3B (1)	ZB6 Z5B	ZB6 DW3
	red		N/C	XB6 DW4B2B	ZB6 E●4B (1)	ZB6 Z2B	ZB6 DW4
			N/C + N/O	XB6 DW4B5B	ZB6 E●4B (1)	ZB6 Z5B	ZB6 DW4
	yellow		N/O	–	ZB6 E●5B (1)	ZB6 Z1B	ZB6 DW5
			N/C + N/O	XB6 DW5B5B	ZB6 E●5B (1)	ZB6 Z5B	ZB6 DW5
Type of push			Latching				
References	white		N/O	–	ZB6 E●1B (1)	ZB6 Z1B	ZB6 DF1
			N/C + N/O	XB6 DF1B5B	ZB6 E●1B (1)	ZB6 Z5B	ZB6 DF1
	green		N/O	XB6 DF3B1B	ZB6 E●3B (1)	ZB6 Z1B	ZB6 DF3
			N/C + N/O	XB6 DF3B5B	ZB6 E●3B (1)	ZB6 Z5B	ZB6 DF3
	red		N/C	XB6 DF4B2B	ZB6 E●4B (1)	ZB6 Z2B	ZB6 DF4
			N/C + N/O	XB6 DF4B5B	ZB6 E●4B (1)	ZB6 Z5B	ZB6 DF4
	yellow		N/O	–	ZB6 E●5B (1)	ZB6 Z1B	ZB6 DF5
			N/C + N/O	–	ZB6 E●5B (1)	ZB6 Z5B	ZB6 DF5



Pilot lights

Type of head			Smooth lens cap		
Shape of head			rectangular (2)		
			Complete products	Products for user assembly	
			12 ... 24 V AC/DC		
References	white		XB6 DV1BB	ZB6 E●1B (1)	ZB6 DV1
	green		XB6 DV3BB	ZB6 E●3B (1)	ZB6 DV3
	red		XB6 DV4BB	ZB6 E●4B (1)	ZB6 DV4
	yellow		XB6 DV5BB	ZB6 E●5B (1)	ZB6 DV5
	blue		–	ZB6 E●6B (1)	ZB6 DV6

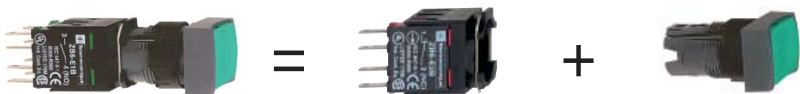
(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6 DW1B1B becomes XB6 CW1B1B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6 DW1B1B becomes XB6 AW1B1B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

Contact functions



Pushbuttons

Type of head			Flush push		
Shape of head			rectangular (1)		
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II		
Mounting (mm)			Ø 16.2 ^{+0.2} ₀		
mounting centres			24 x 18 with rectangular head, 18 x 18 with square or circular head		
Dimensions (mm)			24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head		
Connection (2)			Tags for 2.8 x 0.5 Faston connectors or for soldering		
Type of push			Spring return		
			Complete products	Products for user assembly	
					
References	white	N/O	XB6 DA11B	ZB6 Z1B	ZB6 DA1
		N/C + N/O	XB6 DA15B	ZB6 Z5B	ZB6 DA1
	black	N/O	–	ZB6 Z1B	ZB6 DA2
		N/C + N/O	XB6 DA25B	ZB6 Z5B	ZB6 DA2
	green	N/O	XB6 DA31B	ZB6 Z2B	ZB6 DA3
		N/C + N/O	XB6 DA35B	ZB6 Z5B	ZB6 DA3
	red	N/O	–	ZB6 Z1B	ZB6 DA4
		N/C + N/O	XB6 DA45B	ZB6 Z5B	ZB6 DA4

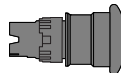
(1) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6 DA11B becomes XB6 CA11B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6 DA11B becomes XB6 AA11B).

(2) Alternative connection: 1 x 0.5 pins for printed circuit boards.



Ø 30 mushroom head Emergency stop pushbuttons (3)

Type of head				Trigger action (EN 418)			
Shape of head				cylindrical			
Type of push				Turn to release			
				Complete products		Products for user assembly	
							
							
							
References	red		2 N/C + 1 N/O	XB6 AS8349B	ZB6 E2B	ZB6 Z5B	ZB6 AS834
Type of push				Key release, Ronis 200			
References	red		2 N/C + 1 N/O	XB6 AS9349B	ZB6 E2B	ZB6 Z5B	ZB6 AS934

(3) The trigger action mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5, Machinery Directive 98/37/EC and standard EN 418.

Please consult your Regional Sales Office for full details of these standards and directives.

Harmony

XB6

Pushbuttons, switches and pilot lights Ø 16 with plastic bezel

Contact functions and light functions with integral LED



2

Selector switches and key switches

Type of head			Black handle	
Shape of head			rectangular (2)	
Degree of protection			IP 66 / Nema 4, 4X, 13 / Class II	
Mounting (mm)	panel cut-out		$\varnothing 16.2^{+0.2}_0$	
	mounting centres		24 x 18 with rectangular head, 18 x 18 with square or circular head	
Dimensions (mm)	W x H x D (below head)		24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head	
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering	
Type of operator			Black handle	
			Complete products	Products for user assembly
Number and type of positions			2 positions stay put	2 positions stay put
References	N/O	XB6 DD221B	ZB6 Z1B	ZB6 DD22
	N/C + N/O	XB6 DD225B	ZB6 Z5B	ZB6 DD22
Number and type of positions			3 positions stay put	3 positions spring return to centre
References	N/O	XB6 DD235B	ZB6 Z5B	ZB6 DD23



Type of operator	Ronis key, n° 200			
			Complete products	Products for user assembly
Number and type of positions			2 positions stay put	2 positions stay put
References	N/C + N/O	XB6 DGC5B	ZB6 Z5B	ZB6 DGC
Number and type of positions			3 positions stay put	3 positions spring return to centre
References	N/C + N/O	XB6 DGH5B	ZB6 Z5B	ZB6 DGH

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated selector switches

Type of operator	Coloured handle			
	Products for user assembly			
Number and type of positions			2 positions stay put	3 positions stay put
References	white	N/C + N/O	ZB6 E●1B (1)	ZB6 Z5B
	green	N/C + N/O	ZB6 E●3B (1)	ZB6 Z5B
	red	N/C + N/O	ZB6 E●4B (1)	ZB6 Z5B

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6 DD221B becomes XB6 CD221B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6 DD221B becomes XB6 AD221B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

LED pilot lights Ø 8 and 12

(1):

Voltage	Number (●)
5 V (25 mA)	1
12 V (18 mA)	2
24 V (18 mA)	3
48 V (10 mA)	4



LED pilot lights		With black bezel		With integral lens cap	
Type of head		Protruding LED, Ø 8 mm		Covered LED, Ø 8 mm	Covered LED, Ø 12 mm
Degree of protection		IP 40, IP 65 with seal (2)			
Mounting (mm)	panel cut-out	Ø 8.2 mm		Ø 8.2 mm	Ø 12.2 mm
	mounting centres	12.5 x 12.5 mm		10.5 x 10.5 mm	16.5 x 16.5 mm
Dimensions (mm)		Ø 12 x 32		Ø 10 x 34	Ø 16 x 45
Connection		Tags (3)		Tags (3)	Threaded connectors
References (1)	green ●	XVL A1●3		XVL A2●3	XVL A3●3
	red ●	XVL A1●4		XVL A2●4	XVL A3●4
	yellow ●	XVL A1●5		XVL A2●5	XVL A3●5
Tightening key		For Ø 8 mm pilot lights		For Ø 12 mm pilot lights	
References		XVL X08		XVL X12	

(1) Basic reference, to be completed by the number 1, 2, 3 or 4 indicating the required voltage. See voltage table above.

(2) For an IP 65 degree of protection, include the seals: XVL Z911 for pilot lights XVL A1●● and XVL A2●●; XVL Z912 for pilot lights XVL A3●●.

(3) Tags for 2.8 x 0.5 Faston connectors or for soldering.

Sub-assemblies & accessories for Ø 16 plastic bezel control and signaling units



Sub-assemblies				Bodies for pushbuttons and selector switches			Bodies for pilot lights			
Rated operational characteristics, AC-15: Ue = 240 V and Ie = 1.5 A or Ue = 120 V and Ie = 3 A				Positive operation of contacts conforming to IEC/EN 60947-5-1: N/C contacts with positive opening operation, positive opening force 20 N			Consumption			
							15 mA	12 ... 24 V AC/DC		
							25 mA	48 ... 120 V AC		
							25 mA	230 ... 240 V AC		
				Type of contact	Fixing collar + contacts	Contacts	Pilot light bodies	12 ... 24 V	48 ... 120 V	230 ... 240 V
References				N/O	ZB6 Z1B	ZB6 E1B	White ●	ZB6 EB1B	ZB6 EG1B	ZB6 EM1B
				N/C	ZB6 Z2B	ZB6 E2B	Green ●	ZB6 EB3B	ZB6 EG3B	ZB6 EM3B
				2 N/O	ZB6 Z3B	–	Red ●	ZB6 EB4B	ZB6 EG4B	ZB6 EM4B
				2 N/C	ZB6 Z4B	–	Yellow ●	ZB6 EB5B	ZB6 EG5B	ZB6 EM5B
				N/O + N/C	ZB6 Z5B	–	Blue ●	ZB6 EB6B	ZB6 EG6B	ZB6 EM6B
Accessories										
Legend holders				24 x 28 mm (8 x 21 mm legend)			24 x 36 mm (16 x 21 mm legend)			
Blank legend				Background colour	without legend	yellow or white	black or red	without legend	yellow or white	black or red
References (10)*					ZB6 YD20	ZB6 YD21	ZB6 YD22	ZB6 YD30	ZB6 YD31	ZB6 YD32
Blank legends for legend holders					8 x 21 mm (24 x 28 mm legend holder)			16 x 21 mm (24 x 36 mm legend holder)		
				Background colour	–	yellow or white	black or red	–	yellow or white	black or red
References (20)*					–	ZB6 Y1001	ZB6 Y2001	–	ZB6 Y4001	ZB6 Y3001
Ø 45 mm yellow legend for mushroom head Emergency stop pushbutton										
				Marking	Blank, for engraving		EMERGENCY STOP		ARRET D'URGENCE	
References					ZB6 Y7001		ZB6 Y7330		ZB6 Y7130	
				Body/fixing collar	Plate		Tightening tool		Dismantling tool	
				anti-rotation			and slackening, for fixing nut		for removal of contact blocks	
References				ZB6 Y009 (10)*	ZB6 Y003 (10)*		ZB6 Y905 (2)*		ZB6 Y018 (5)*	
				Protective shutter for pushbuttons and switches			Connector		Blanking plug	
				for rectangular heads	for circular and square heads		Faston, female		IP 65	
References				ZB6 YD001	ZB6 YA001		ZB6 Y004 (100)*		ZB6 Y005 (10)*	

* sold in lots of



Pushbuttons, spring return

Type of head		Chromium plated circular bezel						
Degree of protection		IP 66 / Nema 4X, 13 / Class I						
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)						
	mounting centres	30 (horizontal) x 40 (vertical)						
Depth (mm)		43						
Connection (1)		Screw clamp terminals						
Type of push		Flush			Flush, booted			
Unmarked	Products	Complete	For user assembly		Complete	For user assembly		
References	black ● N/O	XB4 BA21	ZB4 BZ101	ZB4 BA2	XB4 BP21	ZB4 BZ101	ZB4 BP2	
	green ● N/O	XB4 BA31	ZB4 BZ101	ZB4 BA3	XB4 BP31	ZB4 BZ101	ZB4 BP3	
	red ● N/C	XB4 BA42	ZB4 BZ102	ZB4 BA4	XB4 BP42	ZB4 BZ102	ZB4 BP4	
	yellow ● N/O	XB4 BA51	ZB4 BZ101	ZB4 BA5	XB4 BP51	ZB4 BZ101	ZB4 BP5	
	blue ● N/O	XB4 BA61	ZB4 BZ101	ZB4 BA6	XB4 BP61	ZB4 BZ101	ZB4 BP6	
Type of push		Flush			Mushroom head, Ø 40 mm			
With international marking	Products	Complete	For user assembly					
References	green ⓘ N/O	XB4 BA3311	ZB4 BZ101	ZB4 BA331	—	—	—	
	red ⓘ N/C	XB4 BA4322	ZB4 BZ102	ZB4 BA432	—	—	—	
	white ⓘ N/O	XB4 BA3341	ZB4 BZ101	ZB4 BA334	—	—	—	
	black ⓘ N/O	XB4 BA3351	ZB4 BZ101	ZB4 BA335	—	—	—	
Type of push		Projecting			Double-headed pushbuttons, booted			
Unmarked	Products	Complete	For user assembly		Complete	For user assembly		
References	black ● N/O	—	—	—	XB4 BC21	ZB4 BZ101	ZB4 BC2	
	red ● N/C	XB4 BL42	ZB4 BZ102	ZB4 BL4	—	—	—	
Type of push		Double-headed pushbuttons			Double-headed pushbuttons, booted			
Degree of protection		IP 40			IP 66			
With international marking	Products	Complete	For user assembly		Complete	For user assembly		
References	green / red ⓘ N/C + N/O	XB4 BL845	ZB4 BZ105	ZB4 BL8434	XB4 BL945	ZB4 BZ105	ZB4 BL9434	

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).



Ø 40 mm mushroom head Emergency stop pushbuttons (2)

		Latching			Trigger action (EN 418)			
Type of push		Push-pull (N/C)			Push-pull (N/C + N/O)			
Unmarked	Products	Complete	For user assembly		Complete	For user assembly		
References	red ● N/C or N/C + N/O	XB4 BT42	ZB4 BZ102	ZB4 BT4	XB4 BT845	ZB4 BZ105	ZB4 BT84	
Type of push		Turn to release (N/C)			Turn to release (N/C + N/O)			
References	red ● N/C or N/C + N/O	XB4 BS542	ZB4 BZ102	ZB4 BS54	XB4 BS8445	ZB4 BZ105	ZB4 BS844	
Type of push		Key release (N/C)			Key release (N/C + N/O)			
References	red ● N/C or N/C + N/O	XB4 BS142	ZB4 BZ102	ZB4 BS14	XB4 BS9445	ZB4 BZ105	ZB4 BS944	

(2) The mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

Trigger action mushroom head Emergency stop pushbuttons conform to standard EN 418.

Contact functions



Selector switches and key switches

Type of head	Chromium plated circular bezel	
Degree of protection	IP 66 / Nema 4X, 13 / Class I	
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)
	mounting centres	30 (horizontal) x 40 (vertical)
Depth (mm)	below head	43
Connection (1)	Screw clamp terminals	
Type of operator	Handle	

Products			Complete	For user assembly	Complete	For user assembly
Number and type of positions			2 positions stay put		2 positions spring return to left	
References	black	● N/O	XB4 BD21	ZB4 BZ101 ZB4 BD2	XB4 BD41	ZB4 BZ101 ZB4 BD4
Number and type of positions			3 positions stay put		3 positions spring return to centre	
References	black	● N/O + N/O	XB4 BD33	ZB4 BZ103 ZB4 BD3	XB4 BD53	ZB4 BZ103 ZB4 BD5



Type of operator				Key, n° 455					
Products				Complete	For user assembly		Complete	For user assembly	
									
Number and type of positions (2)				2 positions stay put			2 positions stay put		
References	black		N/O	XB4 BG21	ZB4 BZ101	ZB4 BG2	XB4 BG41	ZB4 BZ101	ZB4 BG4
Number and type of positions				2 positions spring return to left			3 positions stay put		
References	black		N/O	XB4 BG61	ZB4 BZ101	ZB4 BG6	–	–	–
	black		N/O + N/O	–	–	–	XB4 BG33	ZB4 BZ103	ZB4 BG3

Separate components



Electrical blocks

Single contact blocks

Rated operational characteristics	AC-15, 240 V - 3 A	
Positive operation of contacts conforming to IEC/EN 60947-5-1	All functions incorporating a N/C contact are positive opening operation	
References (5)*	N/O	ZBE 101
	N/C	ZBE 102

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

(2) The symbol indicates key withdrawal position.

* sold in lots of

Pushbuttons, switches and pilot lights Ø 22 with metal bezel

Light functions



Pilot lights

Type of head			Circular bezel Smooth lens cap					
Degree of protection			IP 66 / Nema 4X, 13 / Class I					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)						
	mounting centres	30 (horizontal) x 40 (vertical)						
Depth	below head	43						
Connection (1)			Screw clamp terminals					
Light source			Integral LED			Direct supply for BA 9s bulb (not included)		
Products			Complete			Complete	For user assembly	
								
Supply voltage			24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white		XB4 BVB1	XB4 BVG1	XB4 BVM1	XB4 BV61	ZB4 BV6	ZB4 BV01
	green		XB4 BVB3	XB4 BVG3	XB4 BVM3	XB4 BV63	ZB4 BV6	ZB4 BV03
	red		XB4 BVB4	XB4 BVG4	XB4 BVM4	XB4 BV64	ZB4 BV6	ZB4 BV04
	yellow		XB4 BVB5	XB4 BVG5	XB4 BVM5	XB4 BV65	ZB4 BV6	ZB4 BV05
	blue		XB4 BVB6	XB4 BVG6	XB4 BVM6	—	—	—



Illuminated pushbuttons and selector switches

Type				Flush push, spring return, illuminated pushbuttons					
Light source				Integral LED			Direct supply for BA 9s bulb (not included)		
Products				Complete			Complete	For user assembly	
									
Supply voltage				24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white		N/C + N/O	XB4 BW31B5	XB4 BW31G5	XB4 BW31M5	XB4 BW3165	ZB4 BW065	ZB4 BW31
	green		N/C + N/O	XB4 BW33B5	XB4 BW33G5	XB4 BW33M5	XB4 BW3365	ZB4 BW065	ZB4 BW33
	red		N/C + N/O	XB4 BW34B5	XB4 BW34G5	XB4 BW34M5	XB4 BW3465	ZB4 BW065	ZB4 BW34
	yellow		N/C + N/O	XB4 BW35B5	XB4 BW35G5	XB4 BW35M5	XB4 BW3565	ZB4 BW065	ZB4 BW35
	blue		N/C + N/O	XB4 BW36B5	XB4 BW36G5	XB4 BW36M5	—	—	—



Type		Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)		
Degree of protection		IP 40			IP 65		
Light source		Integral LED			Integral LED		
Products		Complete			Complete		
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	24 V AC/DC	48...120 V AC	230...240 V AC
References	green	N/C + N/O	–	–	XB4 BK123B5	XB4 BK123G5	XB4 BK123M5
	red	N/C + N/O	–	–	XB4 BK124B5	XB4 BK124G5	XB4 BK124M5
	yellow	N/C + N/O	XB4 BW84B5	XB4 BW84G5	XB4 BW84M5	XB4 BK125B5	XB4 BK125G5

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

Separate components and accessories

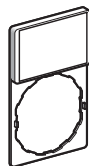
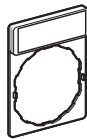


Electrical blocks

Single contact blocks			Light blocks with integral LED				Light block, direct supply
Rated operational characteristics	AC-15, 240 V - 3 A		Consumption				
			18 mA	24 V AC/DC			
Positive operation of contacts	N/C contacts with positive		14 mA				
conforming to IEC/EN 60947-5-1	opening operation		14 mA				
			To combine with heads for integral LED				For BA 9s bulb (not included)
References (5)*	N/O	ZBE 101	white	24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.
	N/C	ZBE 102	green	ZBV B1	ZBV G1	ZBV M1	ZBV 6
			red	ZBV B3	ZBV G3	ZBV M3	Colour provided by lens
			yellow	ZBV B4	ZBV G4	ZBV M4	
			blue	ZBV B5	ZBV G5	ZBV M5	
				ZBV B6	ZBV G6	ZBV M6	



Diecast metal enclosures (Zinc alloy, usable depth 49 mm)		1 vertical row				2 vertical rows		
Number of cut-outs	Front face dimensions	1	2	3	4	2	4	6
References	80 x 80 mm	XAP M1201	—	—	—	XAP M1202	—	—
	80 x 130 mm	—	XAP M2202	XAP M2203	—	—	XAP M2204	—
	80 x 175 mm	—	—	XAP M3203	XAP M3204	—	—	XAP M3206



Accessories

Legend holders, 30 x 40 mm, for 8 x 27 mm legends

Marking	Background colour: black or red						white or yellow
References (10)*	Blank	ZBY 2101					
	International	0 (red background) ZBY 2931	I ZBY 2147	AUTO ZBY 2115	STOP ZBY 2304	—	—
	English	OFF ZBY 2312	ON ZBY 2311	START ZBY 2303	—	—	—
	French	ARRET (red b/grnd) ZBY 2104	ARRET-MARCHE ZBY 2166	MARCHE ZBY 2103	—	—	—
	German	AUS ZBY 2204	AUS-EIN ZBY 2266	EIN ZBY 2203	—	—	—
	Spanish	PARADA (red b/grnd) ZBY 2404	PARADA-MARCHA ZBY 2466	MARCHA ZBY 2403	—	—	—

Legend holders, 30 x 50 mm, for 18 x 27 mm legends

Background colour	black or red						white or yellow
References (10)*	Blank	ZBY 6101					

Ø 60 mm legend for mushroom head Emergency stop pushbutton

Background colour	yellow					
Marking	Blank	EMERGENCY STOP	ARRET D'URGENCE	NOT-AUS	PARADA DE EMERGENCIA	
References	ZBY 9101	ZBY 9330	ZBY 9130	ZBY 9230	ZBY 9430	

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

* sold in lots of

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel

Contact functions



Pushbuttons, spring return

Type of head		Circular bezel						
Degree of protection		IP 66 / Nema 4X, 13 / Class II						
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)						
	mounting centres	30 (horizontal) x 40 (vertical)						
Depth (mm)		43						
Connection (1)		Screw clamp terminals						
Type of push			Flush			Flush, booted		
Unmarked	Products		Complete	For user assembly		Complete	For user assembly	
References	black	N/O	XB5 AA21	ZB5 AZ101	ZB5 AA2	XB5 AP21	ZB5 AZ101	ZB5 AP2
	green	N/O	XB5 AA31	ZB5 AZ101	ZB5 AA3	XB5 AP31	ZB5 AZ101	ZB5 AP3
	red	N/C	XB5 AA42	ZB5 AZ102	ZB5 AA4	XB5 AP42	ZB5 AZ102	ZB5 AP4
	yellow	N/O	XB5 AA51	ZB5 AZ101	ZB5 AA5	XB5 AP51	ZB5 AZ101	ZB5 AP5
	blue	N/O	XB5 AA61	ZB5 AZ101	ZB5 AA6	XB5 AP61	ZB5 AZ101	ZB5 AP6
Type of push			Flush			Mushroom head, Ø 40 mm		
With international marking	Products		Complete	For user assembly		Complete	For user assembly	
References	green	N/O	XB5 AA3311	ZB5 AZ101	ZB5 AA3311	—	—	—
	red	N/C	XB5 AA4322	ZB5 AZ102	ZB5 AA4322	—	—	—
	white	N/O	XB5 AA3341	ZB5 AZ101	ZB5 AA334	—	—	—
	black	N/O	XB5 AA3351	ZB5 AZ101	ZB5 AA335	—	—	—
Type of push			Projecting			Double-headed pushbuttons, booted		
Unmarked	Products		Complete	For user assembly		Complete	For user assembly	
References	black	N/O	—	—	—	XB5 AC21	ZB5 AZ101	ZB5 AC2
	red	N/C	XB5 AL42	ZB5 AZ102	ZB5 AL4	—	—	—
Type of push			Double-headed pushbuttons			Double-headed pushbuttons, booted		
Degree of protection			IP 40			IP 66		
With international marking	Products		Complete	For user assembly		Complete	For user assembly	
References	green / red	N/C + N/O	XB5 AL845	ZB5 AZ105	ZB5 AL8434	XB5 AL945	ZB5 AZ105	ZB5 AL9434

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).



Ø 40 mm mushroom head Emergency stop pushbuttons (2)

			Latching			Trigger action (EN 418)		
Type of push			Push-pull (N/C)			Push-pull (N/C + N/O)		
Unmarked	Products		Complete	For user assembly		Complete	For user assembly	
References	red	N/C or N/C + N/O	XB5 AT42	ZB5 AZ102	ZB5 AT4	XB5 AT845	ZB5 AZ105	ZB5 AT84
Type of push			Turn to release (N/C)			Turn to release (N/C + N/O)		
References	red	N/C or N/C + N/O	XB5 AS542	ZB5 AZ102	ZB5 AS54	ZB5 AZ105	ZB5 AZ105	ZB5 AS844
Type of push			Key release (N/C)			Key release (N/C + N/O)		
References	red	N/C or N/C + N/O	XB5 AS142	ZB5 AZ102	ZB5 AS14	ZB5 AZ105	ZB5 AZ105	ZB5 AS944

(2) The mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

Trigger action mushroom head Emergency stop pushbuttons conform to standard EN 418.

Contact functions



Selector switches and key switches

Type of head		Circular bezel			
					
Degree of protection		IP 66 / Nema 4X, 13 / Class II			
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)			
	mounting centres	30 (horizontal) x 40 (vertical)			
Depth (mm)	below head	43			
Connection (1)		Screw clamp terminals			
Type of operator		Handle			
Products		Complete	For user assembly	Complete	For user assembly
Number and type of positions		2 positions stay put 	2 positions stay put 	2 positions spring return to left 	2 positions spring return to left 
References	black  N/O	XB5 AD21	ZB5 AZ101 ZB5 AD2	XB5 AD41	ZB5 AZ101 ZB5 AD4
Number and type of positions		3 positions stay put 	3 positions stay put 	3 positions spring return to centre 	3 positions spring return to centre 
References	black  N/O + N/O	XB5 AD33	ZB5 AZ103 ZB5 AD3	XB5 AD53	ZB5 AZ103 ZB5 AD5
Type of operator		Key, n° 455			
Number and type of positions (2)		2 positions stay put 	2 positions stay put 	2 positions stay put 	2 positions stay put 
References	black  N/O	XB5 AG21	ZB5 AZ101 ZB5 AG2	XB5 AG41	ZB5 AZ101 ZB5 AG4

(2) The symbol  indicates key withdrawal position.

Separate components and accessories

Electrical blocks

Single contact blocks			Light blocks with integral LED				Light block, direct supply	
			To combine with heads for integral LED				For BA 9s bulb (not included)	
				24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.	
References (5)*	N/O	ZBE 101	white 	ZBV B1	ZBV G1	ZBV M1	ZBV6	
	N/C	ZBE 102	green 	ZBV B3	ZBV G3	ZBV M3	Colour provided by lens	
			red 	ZBV B4	ZBV G4	ZBV M4		
			yellow 	ZBV B5	ZBV G5	ZBV M5		
			blue 	ZBV B6	ZBV G6	ZBV M6		

Accessories

Legend holders, 30 x 40 mm, for 8 x 27 mm legends

	Marking	Background colour: black or red								white or yellow
References (10)*	Blank	ZBY 2101								ZBY 4101
References	International	0 (red background)	ZBY 2931	I	ZBY 2147	AUTO	ZBY 2115	STOP	ZBY 2304	–
	English	OFF	ZBY 2312	ON	ZBY 2311	START	ZBY 2303	–		–
	French	ARRET (red b/grnd)	ZBY 2104	ARRET-MARCHE	ZBY 2166	MARCHE	ZBY 2103	–		–
	German	AUS	ZBY 2204	AUS-EIN	ZBY 2266	EIN	ZBY 2203	–		–
	Spanish	PARADA (red b/grnd)	ZBY 2404	PARADA-MARCHA	ZBY 2466	MARCHA	ZBY 2403	–		–

Legend holders, 30 x 50 mm, for 18 x 27 mm legends

Background colour	black or red	white or yellow
References (10)*	Blank	ZBY 6101

Ø 60 mm legend for mushroom head Emergency stop pushbutton

Background colour	yellow				
Marking	Blank	EMERGENCY STOP	ARRET D'URGENCE	NOT-AUS	PARADA DE EMERGENCIA
References	ZBY 9101	ZBY 9330	ZBY 9130	ZBY 9230	ZBY 9430
Body/fixing collar			Fixing nut	Bezel tool	Plate
for electrical block (contact or light)			for head	for tightening fixing nut ZB5 AZ901	anti-rotation
References	ZB5 AZ009 (10)*		ZB5 AZ901 (10)*	ZB5 AZ905	ZB5 AZ902

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

* sold in lots of

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel

Light functions



Pilot lights

Type of head		Circular bezel Smooth lens cap						
Degree of protection		IP 66 / Nema 4X, 13 / Class II						
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)						
	mounting centres	30 (horizontal) x 40 (vertical)						
Depth	below head	43						
Connection (1)		Screw clamp terminals						
Light source		Integral LED				Direct supply for BA 9s bulb (not included)		
Products		Complete				Complete	For user assembly	
						 		
Supply voltage		24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.			
References	white 	XB5 AVB1	XB5 AVG1	XB5 AVM1	XB5 AV61	ZB5 AV6	ZB5 AV01	
	green 	XB5 AVB3	XB5 AVG3	XB5 AVM3	XB5 AV63	ZB5 AV6	ZB5 AV03	
	red 	XB5 AVB4	XB5 AVG4	XB5 AVM4	XB5 AV64	ZB5 AV6	ZB5 AV04	
	yellow 	XB5 AVB5	XB5 AVG5	XB5 AVM5	XB5 AV65	ZB5 AV6	ZB5 AV05	
	blue 	XB5 AVB6	XB5 AVG6	XB5 AVM6	—	—	—	



Illuminated pushbuttons and selector switches

Type				Flush push, spring return, illuminated pushbuttons					
Light source				Integral LED			Direct supply for BA 9s bulb (not included)		
Products				Complete			Complete	For user assembly	
Supply voltage				24 V AC/DC	48...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white		N/C + N/O	XB5 AW31B5	XB5 AW31G5	XB5 AW31M5	XB5 AW3165	ZB5 AW065	ZB5 AW31
	green		N/C + N/O	XB5 AW33B5	XB5 AW33G5	XB5 AW33M5	XB5 AW3365	ZB5 AW065	ZB5 AW33
	red		N/C + N/O	XB5 AW34B5	XB5 AW34G5	XB5 AW34M5	XB5 AW3465	ZB5 AW065	ZB5 AW34
	yellow		N/C + N/O	XB5 AW35B5	XB5 AW35G5	XB5 AW35M5	XB5 AW3565	ZB5 AW065	ZB5 AW35
	blue		N/C + N/O	XB5 AW36B5	XB5 AW36G5	XB5 AW36M5	—	—	—



Type				Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)		
Degree of protection				IP 40			IP 66		
Light source				Integral LED			Integral LED		
Products				Complete			Complete		
Supply voltage				24 V AC/DC	48...120 V AC	230...240 V AC	24 V AC/DC	48...120 V AC	230...240 V AC
References	green		N/C + N/O	–	–	–	XB5 AK123B5	XB5 AK123G5	XB5 AK123M5
	red		N/C + N/O	–	–	–	XB5 AK124B5	XB5 AK124G5	XB5 AK124M5
	yellow		N/C + N/O	XB5 AW84B5	XB5 AW84G5	XB5 AW84M5	XB5 AK125B5	XB5 AK125G5	XB5 AK125M5

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

Separate components and accessories: see previous page.

(1):

Number of cut-outs	Number (●)
1	1
2	2
3	3
4	4
5	5

**Complete stations with 1 pushbutton, selector switch or key switch**

(light grey RAL 7035 base with dark grey RAL 7016 lid)

Degree of protection			IP 65 / Nema 4X and 13 / Class II				
Dimensions (mm)			W x H x D				
Fixing (mm)			2 x Ø 4.3 on 54 mm centres				
Function			1 Start or Stop function			1 Start-Stop function	
Marking			On spring return push			On legend holder and legend below head	
Number and type of pushbutton/selector switch/key switch			1 flush green p/b	1 flush red p/b	1 projecting red p/b	1 2 position stay put selector switch or key switch	
						Black handle	Key n° 455 (key withdrawal LH pos.)
References	N/O	I	XAL D102	–	–	–	–
		Start	XAL D103	–	–	–	–
		O - I	–	–	–	XAL D134	XAL D144
	N/C	O	–	XAL D112	XAL D115	–	–

(1) Empty enclosures:

Basic reference: XAL K0●, replace the ● by the number of cut-outs required (see cut-out table above)



Function			Emergency stop (2) (light grey RAL 7035 base with yellow RAL 1012 lid)			
Number and type of mushroom head pushbutton			1 red Ø 40 head, turn to release			1 red Ø 40 head, key release
Latching mechanism			Trigger action (EN 418)			Latching
References			—	XAL K174	—	XAL K184
References	N/C	N/C + N/C	XAL K178F	XAL K174F	—	XAL K184F
		N/C + N/O	XAL K178E	XAL K174E	—	XAL K184E
		N/C + N/C + N/O	XAL K178G	XAL K174G	—	XAL K184G

(2) The mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

Trigger action mushroom head pushbuttons conform to standard EN 418.



(1) Empty enclosures:

Basic reference: XAL K0●, replace the ● by the number of cut-outs required (see cut-out table above)

Complete stations with 2 and 3 pushbuttons or 2 pushbuttons + 1 pilot light

(light grey RAL 7035 base with dark grey RAL 7016 lid)

Dimensions (mm)			W x H x D			
Fixing (mm)			2-way control stations: 2 x Ø 4.3 on 54 x 68 centres; 3-way control stations: 2 x Ø 4.3 on 54 x 98 centres			
Function			Start-Stop functions			2 functions 3 functions
Marking			On spring return push			
Number and type of pushbutton/pilot light			1 flush green p/b 1 flush red p/b	1 flush green pushbutton 1 flush red pushbutton 1 red pilot light with integral LED (1)	1 flush white p/b 1 flush black p/b	1 flush white p/b 1 flush red p/b 1 flush black p/b 1 Ø 30 red mushroom head p/b 1 flush black p/b
References				24 V AC/DC XAL D363B	230 V AC XAL D363M	—
References	N/O + N/C	I - O	XAL D213	—	—	—
		Start - Stop	XAL D215	—	—	—
		N/O + N/O	—	—	—	XAL D222
		N/O + N/C + N/O	—	—	—	XAL D324 XAL D328

Accessories		Standard contact blocks		(1) Light blocks with integral LED, colour red	
Description		N/O contact	N/C contact	24 V AC/DC	230 V AC
References		ZEN L1111	ZEN L1121	ZAL VB4	ZAL VM4

Harmony

XB7

Pushbuttons, switches and pilot lights Ø 22
with plastic bezel - Monolithic

Contact functions



Pushbuttons					
Type of head				Flush or projecting push	
Degree of protection				IP 54, class II	
Mounting (mm)	panel cut-out			Ø 22.4 (0 +0.1)	
	mounting centres			30 (horizontal) x 40 (vertical)	
Dimensions (mm)			Ø x Depth (below head)	Ø 29 x 41.5 (Ø 40 x 41.5 for Emergency stop)	
Connection (1)				Screw clamp terminals, 1 x 0.34 mm² to 1 x 1.5 mm²	
Type of push				Flush, spring return	Flush, push and push-to-release
References (10)*	black		N/O	XB7 EA21P	XB7 EH21P
			C/O	XB7 EA25P	XB7 EH25P
	green		N/O	XB7 EA31P	XB7 EH31P
			C/O	XB7 EA35P	XB7 EH35P
	red		N/C	XB7 EA42P	–
			C/O	XB7 EA45P	–
	yellow		N/O	XB7 EA51P	–
Type of push				Flush, spring return	Projecting, spring return
References	green		N/O	XB7 EA3131P	–
	red		N/C	–	XB7 EL4232P
	white		N/O + C/O	XB7 EA11341P	–
	black		N/O + C/O	XB7 EA21341	–

(1) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.



Selector switches and key switches					
Type of operator		Black handle		Ronis key, n° 455	
Number and type of positions		2 positions stay put		2 positions stay put	
		3 positions stay put		3 positions stay put	
References (10*)	N/O	XB7 ED21P	–	XB7 EG21P	–
	N/C + N/O	XB7 ED25P	–	–	–
	2 N/O	–	XB7 ED33P	–	XB7 EG33P



Ø 40 mushroom head Emergency stop pushbuttons (2)					
Type of push		Turn to release		Key release, Ronis 455	
References (10)*	red	 N/C	XB7 ES542P	XB7 ES142P	
	red	 N/C + N/O	XB7 ES545P	XB7 ES145P	

(2) The mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.
For conformity to standard EN 418, use a trigger action Emergency stop from the Harmony XB5 range (XB5A●8●●● and XB5AS9●●●). See page 2/10.
* sold in lots of 10

Contact functions and light functions

(1):

Voltage	Letter (●)
24 V AC/DC	B
120 V AC	G
230 V AC	M



Illuminated pushbuttons

Type of head		Projecting push	
		circular	
Degree of protection		IP 54, class II	
Mounting (mm)	panel cut-out	Ø 22.4 (0 +0.1)	
	mounting centres	30 (horizontal) x 40 (vertical)	
Dimensions (mm)		Ø 29 x 41.5, (Ø 40 x 41.5 for Emergency stop)	
Connection (2)		Screw clamp terminals, 1 x 0.34 mm² to 1 x 1.5 mm²	
Type of push		Spring return	
Light source		Integral LED	Incandescent bulb
Supply voltage		24 V DC or 230 V AC	direct supply (bulb not included)
References (10)*	green N/O	XB7 EW33●1P (1)	XB7 EW3361P
	red N/O	XB7 EW34●1P (1)	XB7 EW3461P
	N/C	XB7 EW34●2P (1)	—
	yellow N/O	XB7 EW35●1P (1)	XB7 EW3561P
Type of push		Push and push-to-release	
Light source		Integral LED	Incandescent bulb
Supply voltage		24 V DC or 230 V AC	direct supply (bulb not included)
References (10)*	green N/O	XB7 EH03●1P (1)	XB7 EH0361P
	red N/O	XB7 EH04●1P (1)	XB7 EH0461P
	N/C	XB7 EH04●2P (1)	—
	yellow N/O	XB7 EH05●1P (1)	XB7 EH0561P



Pilot lights

Light source		Integral LED	Incandescent bulb direct supply (bulb not included)	Incandescent bulb direct through resistor (bulb included)
Supply voltage		24VAC/DC or 120VAC or 230...240VAC	6 or 24 V DC, or 130 V AC	230 V AC
References (10)*	white	XB7 EV01●P (1)	XB7 EV61P	XB7 EV71P
	green	XB7 EV03●P (1)	XB7 EV63P	XB7 EV73P
	red	XB7 EV04●P (1)	XB7 EV64P	XB7 EV74P
	yellow	XB7 EV05●P (1)	XB7 EV65P	XB7 EV75P
	blue	XB7 EV06●P (1)	XB7 EV66P	XB7 EV76P
	orange	XB7 EV08●P (1)	XB7 EV68P	XB7 EV78P

Incandescent bulbs, long life

BA 9s base fitting, Ø 11 mm max., length 28 mm max.

References	6 V (1.2 W)	24 V (2 W)	130 V (2.4 W)
	DL1 CB006	DL1 CE024	DL1 CE130

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.

* sold in lots of 10

Harmony

9001K/SK

Pushbuttons, switches and pilot lights Ø 30 with metal bezel

Contact functions



2

Pushbuttons, spring return

Type of push		Flush	Projecting	Projecting (high guard)
Colour of push		Multi-coloured (set of 7 clip-in coloured caps)		
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		
Mounting (mm)	panel cut-out	Ø 31		
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Depth below head (mm)		42		
Connection		Screw clamp terminals		
References	C/O	9001KR1UH13	9001KR3UH13	9001KR2UH13
	N/O	9001KR1UH5	9001KR3UH5	9001KR2UH5



Mushroom head Emergency stop pushbuttons, latching (1)

Type of push		Spring return	Push-pull	
		Ø 35 mushroom head	Ø 57 mushroom head	Ø 41 mushroom head
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		
Mounting (mm)	panel cut-out	Ø 31		
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
	mounting centres (Ø 57 head)	57.2 x 57.2 (with legend 9001KN2●● or 9001KN3●●)		
Depth below head (mm)		42		
Connection		Screw clamp terminals		
References	C/O	9001KR24RH13	9001KR25RH13	9001KR9R94H13
	N/C	9001KR24RH6	9001KR25RH6	9001KR9R9H6

(1) The mushroom head Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.
For conformity to standard EN 418, use a trigger action Emergency stop from the Harmony XB4 range (XB4B●8●●● and XB4BS9●●●). See page 2/6.



Selector switches and key switches

Type of operator		Long black handle	Key, n° 455			
	positions (2)	3 - spring return	2 - stay put	2 - spring return	3 - stay put	2 - stay put
Number and type of positions						
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II				
Mounting (mm)	panel cut-out	Ø 31				
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)				
Depth below head (mm)		42				
Connection		Screw clamp terminals				
References	N/O	–	9001KS11FBH5	9001KS34FBH5	–	–
	C/O	9001KS53FBH1	–	–	9001KS43FBH1	9001KS11K1RH1

(2) The symbol indicates key withdrawal position.

Light functions



Pilot lights

Type of head		Smooth lens cap			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
	green ●	9001KP35LGG9	9001KP36LGG9	9001KP38LGG9	9001KP7G9
	red ●	9001KP35LRR9	9001KP36LRR9	9001KP38LRR9	9001KP7R9
	yellow ●	9001KP35LYA9	9001KP36LYA9	9001KP38LYA9	9001KP7A9



Illuminated pushbuttons, spring return

Type of head		Spring return flush push			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
	green ● C/O	9001K3L35LGGH13	9001K3L36LGGH13	9001K3L38LGGH13	9001K2L7RH13
	red ● C/O	9001K3L35LRRH13	9001K3L36LRRH13	9001K3L38LRRH13	9001K2L7GH13
	yellow ● C/O	9001K3L35LYAH13	9001K3L36LYAH13	9001K3L38LYAH13	9001K2L7AH13



Illuminated Ø 41 mushroom head pushbuttons, latching, high luminosity LED

Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
Type of head		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC/DC
		2 position, push-pull			
	red ● C/O	9001KR9P35RH13	9001KR9P36RH13	9001KR9P38RH13	9001KR9P7RH13
Type of head		3 position, push-pull (pull: spring return, centre: stay put, push: spring return)			
References	red ● N/C + N/C late break	9001KR8P35RH25	9001KR8P36RH25	9001KR8P38RH25	9001KR8P7RH25

Harmony

9001K/SK

Pushbuttons, switches and pilot lights Ø 30 with plastic bezel

Contact functions and light functions



2

Pushbuttons, spring return

Type of push		Flush	Projecting	Projecting (high guard)
Colour of push		Multi-colour (set of 7 clip-in coloured caps)		
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II		
Mounting (mm)	panel cut-out	Ø 31		
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Depth below head (mm)		42		
Connection		Screw clamp terminals		
References	C/O	9001SKR1UH13	9001SKR3UH13	9001SKR2UH13
	N/O	9001SKR1UH5	9001SKR3UH5	9001SKR2UH5



Selector switches

Type of operator		Long black handle			
	positions	3 - spring return	2 - stay put	2 - spring return	3 - stay put
Number and type of positions					
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
References	N/O	–	9001SKS11FBH5	9001SKS34FBH5	–
	C/O	9001SKS53FBH1	–	–	9001SKS43FBH1



Pilot lights

Type of head		Smooth lens cap			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
	green	9001SKP35LGG9	9001SKP36LGG9	9001SKP38LGG9	9001SKP7G9
	red	9001SKP35LRR9	9001SKP36LRR9	9001SKP38LRR9	9001SKP7R9
	yellow	9001SKP35LYA9	9001SKP36LYA9	9001SKP38LYA9	9001SKP7A9

Accessories



Contact blocks with protected terminals

Type of contact	Single contact blocks	
Connection	Screw clamp terminals	
References	C/O	9001KA1
	N/O	9001KA2
	N/C	9001KA3
	C/O, late break	9001KA4
	N/C, late break	9001KA5
	N/O, early make	9001KA6

2



Enclosures

Type	Number of Ø 30 mm cut-outs	NEMA ratings	Reference
Aluminium	1	1, 3, 4, 6, 12, 13	9001KY1
	2	1, 3, 4, 6, 12, 13	9001KY2
	3	1, 3, 4, 6, 12, 13	9001KY3
	4	1, 3, 4, 6, 12, 13	9001KY4
Stainless steel	1	1, 3, 4, 4X, 13	9001KYSS1
	2	1, 3, 4, 4X, 13	9001KYSS2
	3	1, 3, 4, 4X, 13	9001KYSS3

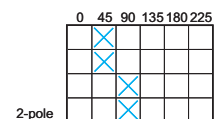
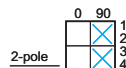


Legends

Type	Colour of legend	Aluminium, size 44 x 43 mm black background	Plastic, size 57 x 57 mm white background
Marking	Blank	9001KN200	9001KN100WP
	START	9001KN201	9001KN101WP
	STOP (red background)	9001KN202	9001KN102RP
	FORWARD	9001KN206	9001KN106WP
	REVERSE	9001KN207	9001KN107WP
	CLOSE	9001KN208	9001KN108WP
	OPEN	9001KN209	9001KN109WP
	DOWN	9001KN210	9001KN110WP
	UP	9001KN211	9001KN111WP
	HIGH	9001KN214	9001KN114WP
	LOW	9001KN215	9001KN115WP
	RESET	9001KN223	9001KN123WP
	PULL TO START/ PUSH TO STOP	9001KN379	9001KN179WP



positions (°)

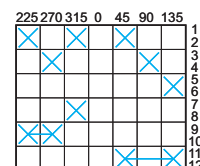
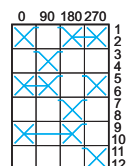
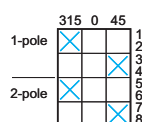


Cam switches, K1 / K2 series

Function	Switches	ON-OFF switches	Stepping switches
	45° switching angle	90° switching angle	with "0" position
Degree of protection front face	IP 65 (1)	IP 65 (1)	IP 65 (1)
Conventional thermal current (Ith)	12 A 20 A	12 A 20 A	12 A 20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2	2	2 + "0" position
Number of poles	2	2	2
Dimensions of front plate (mm)	45 x 45	45 x 45	45 x 45
Front mounting method	Multifixing plate, 45 x 45 mm	K1B 002ALH K2B 002ALH	K1B 1002HLH K2B 1002HLH
	Plastic mounting plate for Ø 22 mm hole	K1B 002ACH K2B 002ACH	K1B 1002HCH K2B 1002HCH
			K1D 012QLH K2D 012QLH
			K1D 012QCH K2D 012QCH



positions (°)



Cam switches, K1 / K2 series

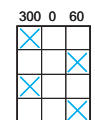
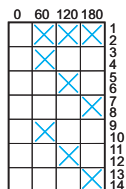
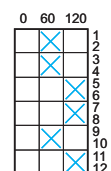
Function	Changeover switches	Ammeter switches	Voltmeter switches
Degree of protection front face	IP 65 (1)	IP 65 (1)	IP 65 (1)
Conventional thermal current (Ith)	12 A 20 A	12 A 20 A	12 A 20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2 + "0" position	3 + "0" position (3 circuits + "0" position)	6 + "0" position (measurements between 3 phases & N + "0" pos.)
Number of poles	2	4	7
Dimensions of front plate (mm)	45 x 45	45 x 45	45 x 45
Front mounting method	Multifixing plate, 45 x 45 mm	K1D 002ULH K2D 002ULH	K1F 003MLH to be compiled *
	Plastic mounting plate for Ø 22 mm hole	K1D 002UCH K2D 002UCH	K1F 003MCH to be compiled *
			K1F 027MLH to be compiled *
			K1F 027MCH to be compiled *

(1) With seal KZ73 for switch with Multifixing plate, with seal KZ65 for Ø 22 mm hole mounting switches. Seal to be ordered separately.

(*) Please consult your Schneider Electric agency.



positions (°)



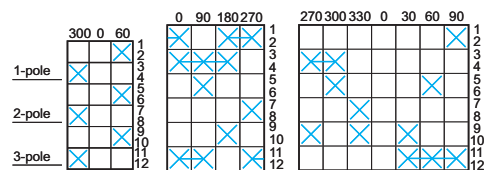
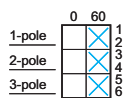
Cam switches with key operated lock, K1 series

Function	Stepping switches	Run switches	Changeover switches + "0" pos.
Degree of protection front face	IP 65	IP 65	IP 65
Conventional thermal current (Ith)	12 A	12 A	12 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2 + "0" position	3 + "0" position	2 + "0" position
Number of poles	3	2	2
Dimensions of front plate (mm)	55 x 100	55 x 100	55 x 100
Colour of handle	red black	red black	red black
Front mounting method	Ø 22 mm hole + Ø 43.5 mm hole	K1F 022QZ2 K1F 022QZ4	K1G 043RZ2 K1G 043RZ4
			K1D 002UZ2 K1D 002UZ4

10 to 150 A ratings



positions (°)

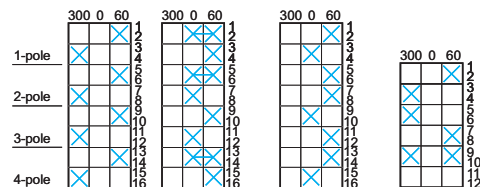
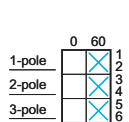


Cam switches, K10 series								
Function	Switches			Changeover switches		Ammeter switches	Voltmeter switches	
	60° switching angle			with "0" position		IP 65	IP 65	
Degree of protection front face	IP 65			IP 65		IP 65	IP 65	
Conventional thermal current (Ith)	10 A			10 A		10 A	10 A	
Rated insulation voltage (Ui) conforming to IEC60947-1	440 V			440 V		440 V	440 V	
Number of positions	2			2 + "0" position		3 + "0" pos. (1)	6 + "0" pos. (2)	
Number of poles	1	2	3	2	3	3	3	
Dimensions of front plate (mm)	30 x 30			30 x 30		30 x 30	30 x 30	
Front mounting method By Ø 16 mm or 22 mm hole	K10 A001ACH	K10 B002ACH	K10 C003ACH	K10 D002UCH	K10F003UCH	K10 F003MCH	K10 F027MCH	

- (1) (3 circuits + "0" position).
(2) (Measurements between 3 phases and N + "0" position).



positions (°)



Cam switches, K30 series							
Function	Switches	Switches	Changeover	Starting	Starting	Reversing	
		ON-OFF	with "0" position	star-delta	2-speed		
Degree of protection front face	IP 40	IP 40	IP 40	IP 40	IP 40	IP 40	
Conventional thermal current (Ith)	32 A	32 A	32 A	32 A	32 A	32 A	
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V	690 V	690 V	690 V	
Number of positions	2	2	3	3	3	3	
Number of poles	3	3 4	4	3	3	3	
Dimensions of front plate (mm)	64 x 64	64 x 64	64 x 64	64 x 64	64 x 64	64 x 64	
Front mounting method Multifixing	K30 C003AP(3)	K30 C003HP(3) K30 D004HP(3)	K30 H004UP(3)	K30 H001YP(3)	K30 H004PP(3)	K30 E003WP(3)	

- (3) To order switches with other thermal current ratings (50, 63, 115, 150 A): replace the number 30 in the reference by 50, 63, 115 or 150 respectively.
Example: a switch with a 32 A current rating, for example K30 C003AP, becomes K50 C003AP for a current rating of 50 A.

Accessories for cam switches K1/K2

Rubber seals			
for IP 65 degree of protection	For use with heads	with 45 x 45 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 60 x 60 mm front plate Ø 22 mm hole or 4 hole front mtg.
References (5)*		KZ 65	KZ 66
			with 45 x 45 mm front plate multifixing KZ 73

* sold in lots of

Universal range

High performance and wide choice of units



Ø 70 mm

Illuminated beacons XVB L		Steady light signaling		Flashing light signaling	
Light source		Incandescent BA 15d bulb, 10 W max. (not included)	Protected BA 15d LED (included)	Protected BA 15d LED (included)	"Flash" discharge tube 5 J (1)
Degree of protection		IP 66			
Beacon references (2)	12...250 V AC/DC	XVBL3●	—	—	—
	24 V AC/DC	—	XVBL0B●	XVBL1B●	XVBL6B●
	120 V AC	—	XVBL0G●	XVBL1G●	XVBL6G●
	230 V AC	—	XVBL0M●	XVBL1M●	XVBL6M●



Ø 70 mm

Indicator banks XVB C comprising 2 to 5 signaling units (3)		Base units	Steady light signaling		Flashing light signaling	"Flash" light signaling	Audible units (90 db at 1 m)
Light source		—	Incandescent BA 15d bulb, 10 W max. (not included)	Integral protected LED	Integral protected LED	"Flash" discharge tube 5 J (1)	—
Degree of protection		IP 66					
Base unit references	with cover	XVBC21 (4)	—	—	—	—	—
	without cover	XVBC07 (5)	—	—	—	—	—
Lens unit references (2)	12... 230 V AC/DC	—	XVBC3●	—	—	—	—
	24 V AC/DC	—	—	XVBC2B●	XVBC5B●	XVBC6B●	—
	120 V AC	—	—	XVBC2G●	XVBC5G●	XVBC6G●	—
	230 V AC	—	—	XVBC2M●	XVBC5M●	XVBC6M●	—
Audible unit references	12...48 V AC/DC	—	—	—	—	—	XVBC9B
	unidirectional 120...230 V AC	—	—	—	—	—	XVBC9M

(4) For connection on AS-Interface, order base unit XVBC21A (side cable entry) or XVBC21B (bottom cable entry with M12 connector on flying lead).

(5) For indicator banks with "flash" discharge tube unit.



Ø 50 mm

Indicator banks XVP C comprising 2 to 5 signaling units (3), black clamping ring (6)		Base unit	Steady or flashing light signaling	"Flash" light signaling		Audible units (55...85 dB at 1 m)
Light source		—	Incandescent BA 15d bulb, 7 W max. (not included)	"Flash" discharge tube 0.3 J	"Flash" discharge tube 0.6 J	—
Degree of protection		IP 65				
Base unit	with cover	XVPC21	—	—	—	—
References (2)	250 V max.	—	XVPC3●	—	—	—
	24 V AC/DC (flash) - 24 V DC (buzzer)	—	—	XVPC6B●	—	XVPC09B
	120 V AC	—	—	—	XVPC6G●	XVPC09G
	230 V AC	—	—	—	XVPC6M●	XVPC09M

(1) To order a lens unit with a 10 J discharge tube, replace the number 6 by 8 in the reference (example: XVBL6B● becomes XVBL8B●).

(2) To obtain the complete reference, replace the ● by the number designating the colour as follows: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(3) An indicator bank comprises: 1 base unit + 1 to 5 signaling units maximum.

(6) To order products with a **cream clamping ring**, add the letter **W** to the end of the reference (example: base unit + green lens unit: XVPC21W + XVPC33W etc.).

Optimum range

Excellent price/performance ratio



Ø 45 mm

Complete, pre-cabled indicator banks XVM (1)		2 sig. units + integral buzzer (2)		3 signaling units + integral buzzer (2)			
		Steady light signaling		Steady light signaling		Steady light signaling + "flash" (3)	
Light source		Incandescent	BA 15d	Incandescent	BA 15d	Incandescent	BA 15d
		BA 15d bulb, 5 W max. (included)	LED (included)	BA 15d bulb, 5 W max. (included)	LED (included)	BA 15d bulb, 5 W max. (included)	LED (included)
Degree of protection		IP 42					
Signalling colours		Red - Green		Red - Orange - Green			
Indicator bank references	24 V AC/DC	XVMB1RGS	XVMB2RGS	XVMB1RAGS	XVMB2RAGS	XVMB1R6AGS	XVMB2R6AGS
	120 V AC/DC (bulb) - 120 V AC (LED)	XVMG1RGS	XVMG2RGS	XVMG1RAGS	XVMG2RAGS	XVMG1R6AGS	XVMG2R6AGS
	230 V AC/DC (bulb) - 230 V AC (LED)	XVMM1RGS	XVMM2RGS	XVMM1RAGS	XVMM2RAGS	XVMM1R6AGS	XVMM2R6AGS

(1) Indicator banks XVM are also available as separate components for customised assembly by the user: please refer to www.schneider-electric.com.

(2) To order products without an integral buzzer, delete the letter **S** from the end of the reference (example: XVMB2RGS becomes XVMB2RG).

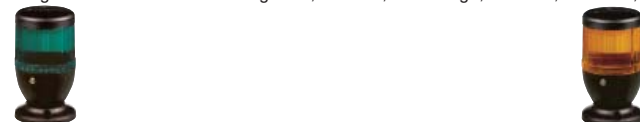
(3) Flash signaling colour: red - 0.8 J.



Ø 45 mm

Miniature illuminated beacons XVDLS		Steady light signaling	"Flash" light signaling
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	"Flash" discharge tube, 0.5 J
Degree of protection		IP 40	
Beacon references (4)	24...230 V AC/DC	XVDLS3●	-
	24 V AC/DC	-	XVDLS6B●
	120 V AC	-	XVDLS6G●
	230 V AC	-	XVDLS6M●

(4) To obtain the complete reference, replace the ● by the number designating the colour as follows: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.



Ø 70 mm

Illuminated beacons XVE L		Steady light signaling		"Flash" light signaling
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	"Flash" discharge tube, 1 J
Degree of protection		IP 42/IP 54 (with sealing kit)		
Beacon references (5)	24... 240 V AC/DC	XVEL3●	-	
	24 V AC/DC	-	XVEL2B●	XVEL6B●
	120 V AC	-	XVEL2G●	XVEL6G●
	230 V AC	-	XVEL2M●	XVEL6M●

(5) To obtain the complete reference, replace the ● by the number designating the colour as follows: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear.



Ø 70 mm

Indicator banks XVE C comprising 2 to 5 signaling units (5)		Base units	Steady light signaling		Flashing light signaling	"Flash" light signaling	Audible units (85 db at 1 m)
Light source		-	Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	Integral LED	"Flash" discharge tube 1 J	-
Degree of protection		IP 42/IP 54 (with sealing kit)					
Base unit references	IP 42	XVEC21	-	-	-	-	-
	IP 54	XVEC21P	-	-	-	-	-
Lens unit references (6)	24...230 V AC/DC	-	XVEC3●	-			
	24 V AC/DC	-	-	XVEC2B●	XVEC5B●	XVEC6B●	XVEC9B
	120 V AC	-	-	XVEC2G●	XVEC5G●	XVEC6G●	XVEC9G
	230 V AC	-	-	XVEC2M●	XVEC5M●	XVEC6M●	XVEC9M

(6) An indicator bank comprises: 1 base unit + 1 to 5 signaling units.

Application specific range

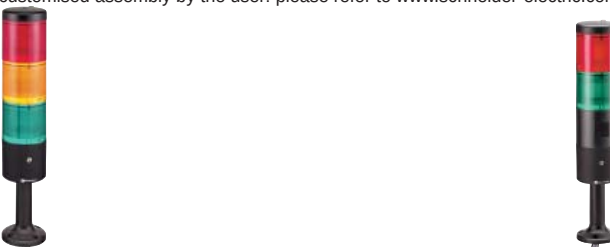
Ready to use for specific requirements



Ø 70 mm

Complete, pre-cabled beacons and indicator banks XVD (1)	1 signaling unit		2 signaling units			
	Flash light		Steady light		Steady light + “flash”	“Flash” light + buzzer
Light source	“Flash” discharge tube 5 J		BA 15d LED (included)		BA 15d LED (included) + “Flash” discharge tube, 5 J	“Flash” discharge tube, 5 J + buzzer, 90 db
Degree of protection	IP 40					
Signalling colours	Orange	Red	Green - Red	Orange - Red	Green - Red	Orange
Beacon/Indicator bank references 24 V AC/DC	XVDBA6	XVDBR6	XVDB2GR	XVDB2AR	XVDB2GR6	XVDBSA6
230 V AC	XVDMA6	XVDMR6	–	–	–	–

(1) Indicator banks XVD are also available as separate components for customised assembly by the user: please refer to www.schneider-electric.com.



Ø 70 mm

Complete, pre-cabled beacons and indicator banks XVD (1)		3 signaling units Steady light		Steady light + "flash"	Steady light + buzzer
Light source		Incandescent BA 15d bulb, 10 W max. (included)	BA 15d LED (included)	BA 15d LED (included) + "Flash" discharge tube, 5 J	BA 15d LED (included) + buzzer, 90 db
Degree of protection		IP 40			
Signalling colours		Green - Orange - Red		Green - Orange - Red	Green - Red (2)
Indicator bank references 24 V AC/DC		XVDB1GAR	XVDB2GAR	XVDB2GAR6	XVDB2SGR
230 V AC		XVDM1GAR	XVDM2GAR	–	XVDM2SGR

Complete, pre-cabled beacons and indicator banks XVD (2)		4 signaling units Steady light		Steady light + buzzer	
Light source		BA 15d LED (included)		Incandescent BA 15d bulb, 10 W max. (included)	BA 15d LED (included)
Degree of protection		IP 40			
Signalling colours		Clear - Green - Orange - Red		Green - Orange - Red	
Indicator bank references 24 V AC/DC		XVDB2CGAR		XVDB1SGAR	XVDB2SGAR
230 V AC		–		–	XVDM2SGAR

(1) Beacons and indicator banks XVD are also available as separate components for customised assembly by the user: please refer to www.schneider-electric.com.

(2) Also available in 24 V AC/DC with colours Orange - Red: **XVDB2SAR**.



Rotating mirror beacon XVR and Sirens XVS		Rotating mirror beacon		Sirens, 106 db	
Description		Halogen bulb 70 W H1 (included)	Incandescent bulb 25 W BA 15d (included)	1 tone	2 tone
Diameter		Ø 165 mm		Ø 92 mm	
Degree of protection		IP 65		IP 40	
References (3)	24 V AC/DC	XVR1B9●	XVR1B0●	XVSB1	XVSB2
	120 V AC	–	XVR1G0●	XVSG1	XVSG2
	230 V AC	–	XVR1M0●	XVSM1	XVSM2

(3) To obtain the complete reference, replace the ● by the number designating the colour as follows: 3 = green , 4 = red , 5 = orange, 6 = blue, 8 = yellow.



Bulbs and LEDs		Beacons and indicator banks XVB / XVP (1) / XVD				Rotating mirror beacon XVR	
Light source		Incandescent BA 15d base 7 W	Incandescent BA 15d base 10 W (not XVP)	LED (2) BA 15d base	Flashing LED (2) BA 15d base	Incandescent BA 15d base 25 W	Halogen H1 base 70 W
References	12 V	DL1BEJ	DL1BLJ	–	–	–	–
	24 V	DL1BEB	DL1BLB	DL1BDB●	DL1BKB●	DL1 BRB	DL1 BRBH
	48 V	DL1BEE	DL1BLE	–	–	–	–
	120 V	DL1BEG	DL1BLG	DL1BDG●	DL1BKG●	DL1 BRG	–
	230 V	DL1BEM	DL1BLM	DL1BDM●	DL1BKM●	DL1 BRM	–

(1) Indicator banks XVP can be fitted with 5 W incandescent bulbs: see beacons XVDLS / XVE.

(2) To obtain the complete reference, replace the ● by the number designating the colour as follows: 1 = white, 3 = green, 4 = red, 5 = orange, 6 = blue, 8 = yellow.



Bulbs and LEDs		Beacons XVDLS / XVE	Indicator banks XVM / XVE			
Light source		Incandescent BA 15d base 5 W	Incandescent BA 15d base 5 W	LED (3) BA 15d base	Flashing LED (3) BA 15d base	"Flash" discharge tube, 0.8 Joule BA 15d base
References	24 V	DL1EDBS	DL1EDBS	DL2EDB●	DL1EKB●	DL6BB
	120 V	DL1EDGS	DL1EDGS	DL2EDG●	DL1EKG●	DL6BG
	230 V	DL1EDMS	DL1EDMS	DL2EDM●	DL1EKM●	DL6BM

(3) To obtain the complete reference, replace the ● by the number designating the colour as follows: 1 = white, 3 = green, 4 = red, 6 = blue, 8 = orange.



Mounting accessories		Beacons and indicator banks XVB / XVD / XVE		Indicator banks XVP		Indicator banks XVM		Rotating mirror beacon XVR
Description		Aluminium tube with integral black plastic fixing base	Plastic tube with integral black plastic fixing base	Aluminium tube with integral black plastic fixing base	Aluminium tube with steel fixing bracket	Aluminium tube with integral cream plastic fixing base	Aluminium tube with steel fixing bracket	–
Diameter (mm)		Ø 25	Ø 25	Ø 20	Ø 20	Ø 20	Ø 20	–
Support tubes	60 mm	XVEZ13	–	–	–	–	–	–
	100 mm	–	–	–	XVPC02T	XVMZ02	XVMZ02T	–
	112 mm	–	–	XVPC02 (4)	–	–	–	–
	120 mm	XVBZ02	–	–	–	–	–	–
	140 mm	–	XVDC02	–	–	–	–	–
	250 mm	–	–	–	XVPC03T	XVMZ03	XVMZ03T	–
	260 mm	–	–	XVPC03 (4)	–	–	–	–
	400 mm	–	–	–	XVPC04T	XVMZ04	XVMZ04T	–
	410 mm	–	–	XVPC04 (4)	–	–	–	–
	420 mm	XVBZ03	–	–	–	–	–	–
	820 mm	XVBZ04	–	–	–	–	–	–
Fixing plates, black	for vertical support	XVBC12		XVPC12 (4)		–		XVR012
	for horizontal support	XVBZ01		–		–		XVR013

(4) To order an aluminium support tube with integral cream fixing base, add the letter **W** to the end of the reference (example: XVPC02W).

Pendant control stations
for control circuits
Ready to use



Type XAC A “Pistol grip”

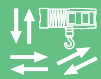
Degree of protection		IP 65 / Nema 4, 4X / Class II			
Rated operational characteristics		AC 15 (240 V 3 A), DC 13			
Conventional thermal current		10 A			
Connection		Screw clamp terminals, 1 x 2.5 mm ² or 2 x 1.5 mm ²			
For control of		single-speed motors 		2-speed motors 	
Dimensions (mm)	W x H x D	52 x 295 x 71 (x 85 with ZA2 BS44)		52 x 295 x 71 (x 85 with ZA2 BS44)	
Number of operators	mechanically interlocked	2		2	
	Emergency stop	without	ZA2 BS44	without	ZA2 BS44
References		XAC A201	XAC A2013	XAC A207	XAC A2073



Type XAC A

For control of single-speed motors					
Dimensions (mm)	W x H x D	80 x 314 x 70 (x 90 with ZA2 BS44)		80 x 440 x 70 (x 90 with ZA2 BS54)	
Number of operators	mechanically interlocked between pairs	2		4	
	Emergency stop	without	ZA2 BS44	without	ZA2 BS54
References		XAC A271	XAC A2713	XAC A471	XAC A4713



For control of single-speed motors			+ I / O
Dimensions (mm)	W x H x D	80 x 500 x 70 (x 90 with ZA2 BS54)	80 x 560 x 70
Number of operators	mechanically interlocked between pairs	6	8
	Emergency stop	without ZA2 BS54	without
References		XAC A671 XAC A6713	XAC A871

Magelis

Simple terminals

Magelis XBT N
with matrix screen ⁽¹⁾



Type		Characteristics				
Display	Capacity	2 lines, 20 characters		1 to 4 lines, 5 to 20 characters		
	Type	Back-lit LCD green			Back-lit LCD 3 colours green, orange, red	Back-lit LCD green
Data entry		Via keypad with 8 keys (4 with changeable legends)				
Function	Representation of variables	Alphanumeric				
Communication	Downloadable protocols	Uni-TE, Modbus Master		Uni-TE, Modbus, Siemens, Rockwell, Omron, Mitsubishi		Modbus
Development software		Vijeo Designer Lite (on Windows 2000 and XP)				
Dimensions W x D x H		132 x 37 x 74 mm				
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340		Motor starter Tesys Model U
Supply voltages		5 VDC or PLC power supply		24 VDC		
References		XBTN200	XBTN400	XBTN410	XBTN401	XBTNU400

(1) Except XBTN200: alphanumeric screen.

Magelis

Simple terminals

Magelis XBT R
with matrix screen



Type		Characteristics		
Display	Capacity	4 lines, 20 characters		
	Type	Back-lit LCD green		Back-lit LCD, 3 colours green, orange, red
Data entry		Via keypad with 20 keys (12 with changeable legends)		
Function	Representation of variables	Alphanumeric		
Communication	Downloadable protocols	Uni-TE, Modbus Master	Uni-TE, Modbus, Siemens, Rockwell, Omron, Mitsubishi	
Development software		Vijeo Designer Lite (on Windows 2000 and XP)		
Dimensions W x D x H		137 x 37 x 118 mm		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340	
Supply voltages		5 VDC or PLC power supply	24 VDC	
References		XBTR400	XBTR410	XBTR411

2

Magelis XBT RT
with semi-graphic touch screen



Type		Characteristics		
Display	Capacity	10 lines, 33 characters		
	Type	Back-lit LCD green		
Data entry		Via keypad with 12 keys (10 with changeable legends)		
Functions	Representation of variables	Alphanumeric, bargraph, curves, button and light		
Communication	Downloadable protocols	Uni-TE, Modbus Master		
Development software		Vijeo Designer Lite (on Windows 2000 and XP)		
Dimensions W x D x H		137 x 37 x 118 mm		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340		
Supply voltages		5 VDC or PLC power supply		
References		XBTRT500		

Magelis

Graphic terminals
Magelis XBT GT
with 3.8" touchscreen



Type		Characteristics				
Display	LCD screen size	3.8"				
	Type	STN monochrome, amber or red			TFT colour	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad				
	Curves	yes, with log				
	Alarm logs	yes, incorporated				
Communication	Downloadable protocols	Uni-TE, Modbus		Uni-TE, Modbus, Modbus TCP/IP		
	Bus and networks	–		Ethernet, IEEE 802.3 10 BASE-T, RJ45	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Third party protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)				
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)				
Dimensions W x D x H		130x41x104mm				
Compatibility with PLCs		Twido, Nano, TSX Micro, Premium, Quantum, Modicon M340				
«Compact Flash» card slot		no				
USB port		–	1	–	1	1
Built-in Ethernet TCP/IP		no		yes		
Supply voltage		24 VDC				
References		XBTGT1100	XBTGT1105	XBTGT1130	XBTGT1135	XBTGT1335

Magelis XBT GT

with 5,7" touchscreen



Type		Characteristics				
Display	LCD screen size	5.7"				
	Type	Back-lit STN, monochrome blue black and white		STN, colour 4096 colours	TFT, colour 65536 colours	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad				
	Curves	yes, with log				
	Alarm logs	yes, incorporated				
Communication	Downloadable protocols	Uni-TE, Modbus		Uni-TE, Modbus, Modbus TCP/IP	Uni-TE, Modbus	Uni-TE, Modbus, Modbus TCP/IP
	Bus and networks	–		Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45
Third party protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)				
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)				
Dimensions W x D x H		167.5x60x135mm				
Compatibility with PLCs		Twido, Nano, TSX Micro, Premium, Quantum, Modicon M340				
«Compact Flash» card slot		no	yes			
USB port		1				
Video in		no				
Built-in Ethernet TCP/IP		no	no	yes	no	yes
Supply voltage		24 VDC				
References		XBTGT2110	XBTGT2120	XBTGT2130	XBTGT2220	XBTGT2330



Type		Characteristics								
Display	LCD screen size	7.5"			10.4"			12.1"		15"
	Type (colour)	STN	TFT	TFT	STN	TFT	TFT	TFT	TFT	TFT
	Number of colours	4096	65536	65536	4096	65536	65536	65536	65536	65536
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad								
	Curves	yes, with log								
	Alarm logs	yes, incorporated								
Communication	Downloadable protocols	Uni-TE, Modbus, Modbus TCP/IP								
	Bus and networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45								
Third party protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)								
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)								
Dimensions W x D x H (mm)		215x60x170			313x56x239	271x57x213		313x56x239		395x60x294
Compatibility with PLCs		Twido, Nano, TSX Micro, Premium, Quantum, Modicon M340								
«Compact Flash» card slot		yes								
USB port		1	1	1	2	2	2	2	2	2
Video in		no	no	yes	no	no	yes	no	yes	yes
Built-in Ethernet TCP/IP		yes								
Supply voltage		24 VDC								
References		XBTGT4230	XBTGT4330	XBTGT4340	XBTGT5230	XBTGT5330	XBTGT5340	XBTGT6330	XBTGT6340	XBTGT7340

Magelis XBT GK

with touchscreen / keypad



Type		Characteristics		
Display	Screen size	5,7"		10,4"
	Type	STN monochrome black and white		TFT Colour 65536 colours
Data entry	Soft function keys with LED	14		18
	Static function keys with LED	10 + legends		12 + legends
	Service keys	8		
	Alphanumeric keys	12		
	Touchscreen and industrial pointer	yes		
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves	Yes, with log		
	Alarm logs	Yes		
Communication	Downloadable protocols	Uni-TE, Modbus		Uni-TE, Modbus, Modbus TCP/IP
	Bus and networks	—		Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45
Third party protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)		
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)		
«Compact Flash» card slot		yes		
Dimensions W x D x H		220,3x88x265mm		296x91x332mm 197x92,6x147mm
Compatibility with PLCs		Twido, Nano, TSX Micro, Premium, Quantum, Modicon M340		
USB port		1		2
Video in		no		no
Built-in Ethernet TCP/IP		yes		
Supply voltage		24 VDC		
References		XBTGK2120		XBTGK2330 XBTGK5330

Magelis

Graphic terminals “open”
Magelis XBT GTW
with 8,4”,15” touchscreen



Type		Characteristics	
Display	LCD screen size	8,4"	15"
	Type (colour)	TFT	TFT
	Number of colours	262 144	16 777 216
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves	yes, with log	
	Alarm historic	yes, incorporated	
Communication	Downloadable protocols	Uni-TE, Modbus, Modbus TCP/IP	
	Bus and networks	Dual Ethernet, IEEE 802.3 10/100/1Gb BASE-T, RJ 45	
Third party protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)	
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)	
Dimensions W x D x H (mm)		230 x 177 x 65	395 x 294 x 65
Compatibility with PLCs		Twido, Nano, TSX Micro, Premium, Quantum, Modicon M340	
«Compact Flash» card slot		2	1
USB port		4	4 + 1 on front panel
Video in		no	
Built-in Ethernet TCP/IP		2	
Supply voltage		24 VDC	
References		XBTGTW450	XBTGTW750

Certifications Magelis XBT range:



C-Tick



Class 1 Div 2

Catégorie 3

For more informations, consult your HMI catalogue.

Magelis

Accessories

For display units and terminals



Connection cables	PC to Magelis transfer cables 2.5 m	2 m
Application	PC to XBTN / R / RT	PC to XBTGT / GK / GTW
Type of connector	RJ45/RJ45	USB/USB
Physical link	RS 485	–
References	XBTZ925 (1)	XBTZG935

(1) Adaptor TSXCUSB485 for linking USB port of PC, to be used with connecting cables XBTZ925

Cards and gateways for fieldbus	Modbus Plus	Fipio	Profibus DP	Device Net
References	XBTZGUMP	TSXCUSBFIP	XBTZGPDP	XBTZGDVN

Connection cables	PLC connection cables (2.5 m)					
Application	XBTGT, GK, N200, N400, R400 RT500 to: Modicon M340	Twido, Nano, TSX Micro, Premium	XBTGT,GK,GTW to: Quantum	All XBT, XBT N410, N401, R410, R411 to:		
				Twido, Nano, TSX Micro, Premium	Quantum	Momentum (port 1)
Type of connector	RJ45/RJ45	RJ45 / MiniDin	SUB D 9 / SUB D 9	MiniDin / SUB D 25	SUB D 9 / SUB D 25	RJ45 / SUB D 25
Physical link	RS 485	RS 485	RS 232	RS 485	RS 232	RS 232
References	XBTZ9980	XBTZ9780	990NAA26320	XBTZ968	XBTZ9710	XBTZ9711

«Compact Flash» card				
Memory	128 Mb	256 Mb	512 Mb	1 Gb
References	XBTZGM128	XBTZGM256	MPCYN00CFE00N	MPCYN00CF100N

Connection cables	off-set USB
Application	XBTGT (except XBTGT1100/1130) / GT / GTW
Type of connector	USB / USB
Reference	XBTZGUSB



Type		Characteristics		
Display	Size	8,4" SVGA (800 x 600)	12" SVGA (800 x 600)	15" XGA (1024 x 768)
	Type	TFT colour		
Data entry		Via touchscreen		
Processor	Type	Intel Celerom M		
	Frequency	600 MHz		
Internal hard disk		1Go Compact flash		
RAM memory		256 MB expandable up to 1024 MB		
CD-ROM drive		–		
Expansion slots		–	1 x PCMCIA slot 1 x type III/type I	1 x PCMCIA slot 1 x type III or 2 x type I
Ethernet TCP/IP network		2 x 10BASE-T/100BASE-TX (RJ45)		
Operating system		Windows Embedded XPe SP2		
Input/Output ports		4 x USB, 1 x RS232		2 x USB, 1 x COM1, 1 x COM2, 1 x parallel, 1 x PS2 keyboard, 1 x PS2 pointing device
		on front panel		– 1 x USB
Fixing		Fixings included with each product for mounting on panel or enclosure door		
Dimensions W x D x H		230 x 177 x 65	313 x 239 x 60	395 x 294 x 65
Supply voltage		100...240 VAC and 24 VDC	100...240 VAC	24 VDC
References	Client Edition (1)	MPCST11NAJ00T	MPCST21NAJ10T	MPCST52NDJ20T
	HMI Edition (2)	MPCST11NAJ00H	MPCST21NAJ10R	MPCST52NDJ20H

(1) Vizualisation with Internet Explorer or any client application (ex FactoryCast P2143).

(2) Vijeo Designer RT application and above client application.

Accessories

Protection film	8,4"	12"	15"
References	MPCYK10SPSKIT	MPCYK20SPSKIT	MPCYK50SPSKIT

Magelis

Industrial PCs “all in one”

Magelis Compact i PC



Type		Characteristics		
Display	Size	8,4" SVGA (800 x 600)	12" XGA (1024 x 768)	15" XGA (1024 x 768)
	Type	TFT colour		
Data entry		Via touchscreen		
Processor	Type	Celeron M	Intel Celeron M	Pentium M
	Frequency	1,0 GHz	1,3 GHz	1,6 GHz
Internal hard disk		≥ 40 GB		
RAM memory		512 MB expandable up to 1024 MB		512 MB
CD-ROM drive		–		yes
Expansion slots		1 PCI	1 x PCI bus slot	1 x PCI bus slot
		–	1 x PCMCIA slot	1 x PCMCIA slot
		–	1 x type III/type I	1 x type III or 2 x type II
Ethernet TCP/IP network		2 x 10BASE-T/100 BASE-TX (RJ45)		
Operating system		Windows XP Pro		
Input/Output ports		4 x USB, 1 x RS232		2 x USB, 1 COM1, 1 x COM2, 1 x parallel, 2 x PS2
	on front panel	1 x USB		
Fixing		Fixings included with each product for mounting on panel or enclosure door		
Dimensions W x D x H		230 x 177 x 105	313 x 239 x 100	395 x 294 x 100
Supply voltage		100...240 VAC		
References	XP Pro	MPCKT12NAX00N	MPCKT22NAX00N	MPCKT52NAX20N

2

Combined offers (bundle pack)

Magelis i PC Compact industrial PCs can be supplied with software packages.
Characteristics identical to standard industrial PCs shown above.

Type		8,4"	12"	15"
Applications	Vijeo Designer RT	MPCKT12NAX00H	MPCKT22NAX00R	MPCKT55NAX20H
	Vijeo Citect RT	–	–	MPCKT55NAX20V

Accessories

RAM memory expansion			
Capacity	SO DIMM 512 Mo	SO DIMM 512 Mo	SO DIMM 1024 Mo
Compatibility	MPCST52●●●	MPCKT55●●●	MPCST21●●●
	MPCKT52●●●	MPCKT22●●●	MPCKT22●●●
	–	MPCST21●●●	MPCKT55N●●2●●
References	MPCYK02RAM512	MPCYK05RAM512	MPCYK22RA1024

Magelis

Modular Industrial PCs (PC Based Control/SCADA)
Magelis Modular i PC



2

Central unit Control box type		102		402	
Processor	Type	Intel Celeron M	Intel Pentium M	Intel Celeron M	Intel Pentium M
	Frequency	1,3 GHz	1,6 GHz	1,3 GHz	1,6 GHz
Internal hard disk		≥ 40 Gb IDE, 2"1/2			
RAM memory		512 Mb SDRAM expandable up to 2 Gb (2 memory slots max.)			
CD-ROM drive		Yes, removable 24 x and Combo CD-RW option			
Expansion slots		3 slots (1 PCI bus and 2 PCMCIA bus)		6 slots (4 PCI bus and 2 PCM CIA bus)	
Ethernet TCP/IP network		1 x 10 BASE-T/100 BASE-TX (RJ45)			
Bus and networks		With additional card on ISA or PCI bus: Modbus/Uni-TE/Fipio bus, Modbus Plus/Fipway networks, INTERBUS-S/Profibus DP/CANopen Third party bus			
Video card	built-in	Controller built-in Intel chipset			
Operating system		Windows 2000 or Windows XP Pro pre-installed			
Input/Output ports		2 x USB, 1 x COM1, 1 x COM4 and 1 x LTP1 (parallel) 1 x external VGA video screen, 1 x PS/2 keyboard (1) and 1 x PS/2 pointing device (1)			
Associated product		1 front panel screen or as a stand-alone (2)			
Fixing		Fixings included with each screen for mounting on panel or enclosure door			
Dimensions W x D x H		310 x 310 x 110 mm		310 x 310 x 200 mm	
115...230 VAC supply voltage	Windows 2000	MPCEN02NAA00N	MPCEN05NAA00N	MPCDN02NAA00N	MPCDN05NAA00N
	Windows XP Pro	MPCEN02NAX00N	MPCEN05NAX00N	MPCDN02NAX00N	MPCDN05NAX00N
24 VDC supply voltage	Windows 2000	MPCEN02NDA00N	MPCEN05NDA00N	MPCDN02NDA00N	MPCDN05NDA00N
	Windows XP Pro	MPCEN02NDX00N	MPCEN05NDX00N	MPCDN02NDX00N	MPCDN05NDX00N

(1) Port not operational when the central unit Control box is used with the front panel screen.
(2) To use the Control box without a front panel screen, mounting panel **MPCNP00NNN00N** is required.

Modular Industrial PCs (PC Based Control/SCADA)

Magelis Modular i PC



Front panel screen type		15"		
Display	Size	15" active matrix XGA (1024 x 768)		
	Type	Back-lit active matrix TFT colour LCD (262,144 colours)		
Data entry		Via keyboard	Via keyboard and touchscreen	Via touchscreen
	Keyboard	70 standard IBM keys + 2 x 10 user function keys		—
Dimensions W x D x H		480 x 52.7 x 370 mm	480 x 52.7 x 370 mm	460 x 52.7 x 340 mm
Input/Output ports on front panel		1 x IrDA infrared and 1 x PS/2 keyboard/mouse		
Associated product		1 central unit Control box or 1 central unit Control box pack (combined offer)		
Fixing		Fixings included with each screen for mounting on panel or enclosure door		
Supply voltage		From Control box unit		
References		MPCNA50NNN20N	MPCNB50NNN20N	MPCNT50NNN20N

2

External screen

Magelis i Display



Separate components				
External LCD flat screen with touch screen		15" XGA (1024 x 768)	19" SXGA (1280 x 1024)	
References	115...230 VAC supply voltage	MPCYT50NAN00N	MPCYT90NAN00N	

Accessories

Separate components for Control box		
Qwerty PS/2 keyboard, 101 keys	MPCYN00KBD00N	
SDRAM memory expansion	512 Mb	1024 Mb
References	MPCYDERAM0512	MPCYDERAM1024
Option Combo, DVD drive, CD-RW recorder	MPCYN00CDWROM	

Vijeo Designer Lite _____ Configuration software for Magelis XBT N, R, RT simple graphic terminals



Vijeo Designer Lite configuration software enables creation of simple operator dialogue applications on Magelis XBT N, R and RT simple terminal ranges (with touch screen). It also enables transparent recovery of all applications for Magelis XBT N and R platforms produced using its predecessor: XBT L1000.

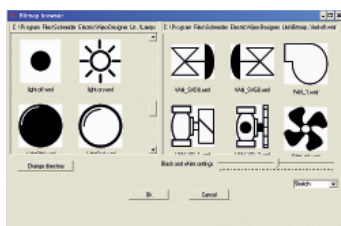
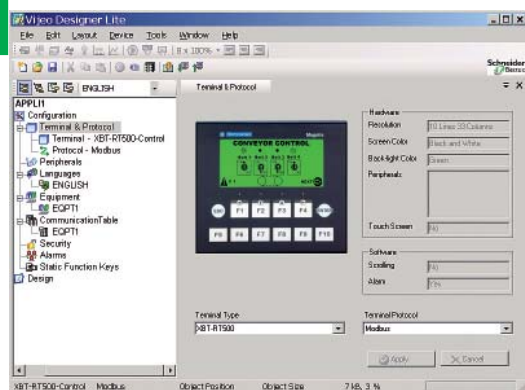
For simplified installation and improved consistency, Vijeo Designer Lite retains the main characteristics of Vijeo Designer software (ergonomics, interface ...) which has become the reference in the HMI field.

Configuration

Vijeo Designer Lite software enables fast and easy creation of different page types (application page, alarm pages, help pages...) and the installation of navigation between pages.

It offers:

- Graphic objects developed for Magelis XBT RT (bar charts, trend curves...)
- Character fonts Byzantine, simplified Chinese, Cyrillic, Japanese
- Project reports
- Application simulation on PC
- Multilingual software : English, French, German, Italian, Spanish and Chinese.



Selection guide

	Description	Composition	References
	Configuration software Vijeo Designer Lite (1 license)	Without cable With USB cable	VJDSNDTMSV●●M VJDSUDTMSV●●M
	Configuration software Vijeo Designer Lite (3 licenses)	Without cable	VJDGNDTMSV●●M
	Configuration software Vijeo designer Lite (10 licenses)	Without cable	VJDTNDTMSV●●M
	Configuration software Vijeo Designer Lite (site license)	Without cable	VJDFNDTMSV●●M
	Transfer cable for USB port	Adapter Link USB/serial link	XBTZ925 TSXCUSB485

Software is delivered on CD-ROM and can be executed under Windows Vista, XP and 2000.
●● represents version number.



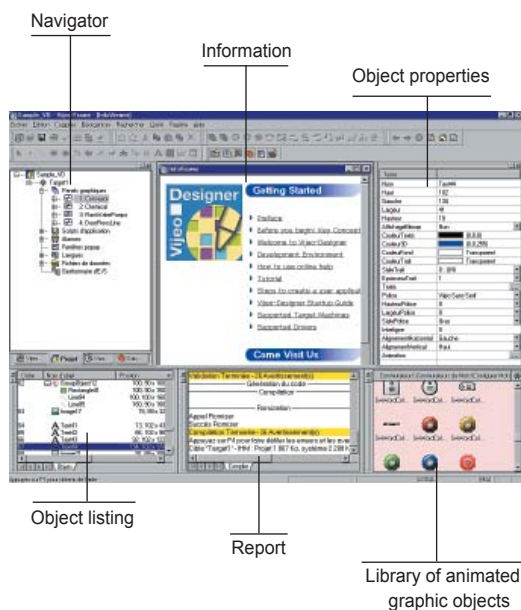
Vijeo Designer configuration software enables creation of automated system control operator dialogue applications for XBT GT, GK, GTW terminals and Smart & Compact i PC. It also enables management of the multimedia functions of XBTGTs and Smart & Compact i PC (video and audio) and offers users of Ethernet terminals and i PC remote access via a Web browser (WEB Gate function).

Configuration

Vijeo Designer configuration software enables fast, simple processing of operator dialogue projects thanks to its ergonomics, developed around 6 configurable windows.

It also offers comprehensive application management tools:

- Project creation; projects comprising one or several applications.
- Recipe editor (32 groups of 64 recipes of max. 1024 ingredients).
- User action list (eg. script) for application adaptability.
- Application variable cross-referencing.
- Vectorial graphic library for more attractive graphic screens.
- Application block diagram documentation.
- Simulation mode for simple design office application testing.
- High-performance graphic editor for simple block diagram creation (over 30 animated preconfigured objects).
- Support of layers and masks for faster development.
- Data sharing (up to 300 variables on 8 terminals).
- Management of 40 languages (including simplified Chinese, Korean, Arabic and Hebrew).
- Programmable controller database sharing (Unity, PL7, Concept, TwidoSoft, ProWORX, ModSoft).
- Advanced traceability function (periodic, at event or on request).
- Project backup on terminal for simple maintenance.
- User-friendly data recovery tool.
- Support of standard USB peripherals (USB key up to 2 GB).
- Support of external USB keyboards and mice.
- Integration with Schneider Electric equipment (buffer diag., variables access ...)
- Over 35 third party protocols
- Multilingual software : English, french, german, italian, spanish and chinese.



Selection guide

	Description	Composition	References
	Configuration software Vijeo Designer (1 license)	Without cable With USB cable	VJDSNDTGSV●●M VJDSUDTGAV●●M
	Configuration software Vijeo Designer (3 licenses)	Without cable	VJDGNDTGSV●●M
	Configuration software Vijeo Designer (10 licenses)	Without cable	VJDTNDTGSV●●M
	Configuration software Vijeo Designer (site license)	Without cable	VJDFNDTGSV●●M

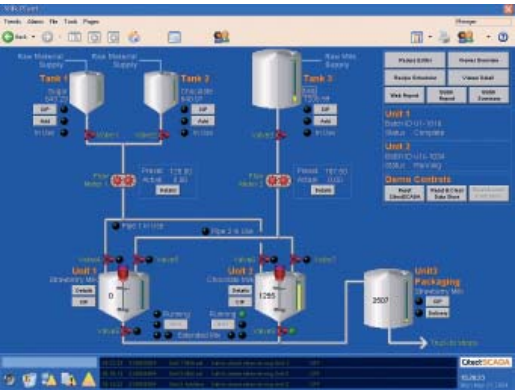
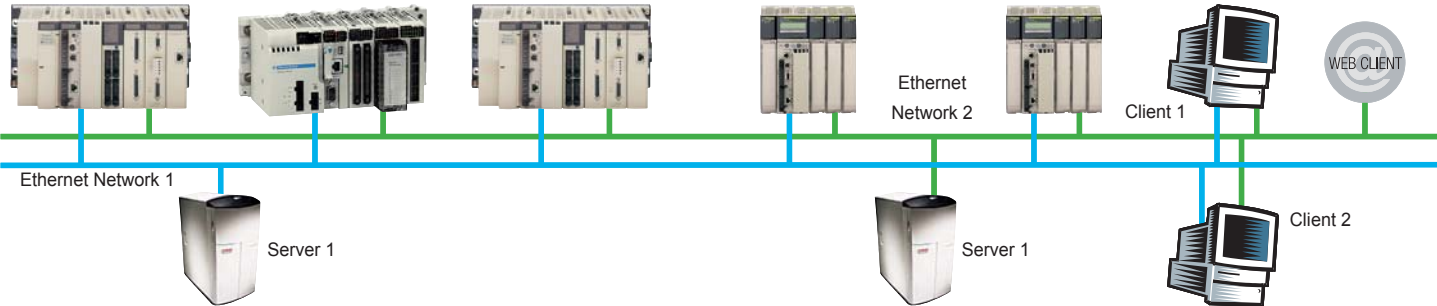
Software is delivered on CD-ROM and can be executed under Windows Vista, XP and 2000.
●● represents version number.

Vijeo Citect

Supervision software (SCADA)



Type	Supervision software (SCADA)
Compatibility	All Schneider-Electric automation platforms and third parties PLCs
Operating system	Windows XP Service Pack 2 and Windows Server 2003 with Service Pack 1
Versions	The development version without network connectivity offers 10 mn operation in communication mode with the PLC. Vijeo Citect includes 6 servers sizes: 75 points, 150 points, 500 points, 1500 points, 5000 points, 15000 Points and more Vijeo Citect Lite without network connectivity is available in 300, 600, 1200 points
References	Please contact your local sales agency



Vijeo Citect is designed for control engineers, product managers and industrial automated system integrators seeking simple configuration and high performance. It provides multi-CPU support, a multi-project Find/Replace tool and integrated XML Web service. Vijeo Citect uses the power of multi-CPU machines to offer outstanding performance.

The possibility of grouping servers from version Vijeo Citect 7.0 enables easy adaptation of SCADA architecture to that of the application for optimum performance.

Highly-developed “Find/Replace” functions enable searches in project graphic pages. The “Find” function can browse the entire project structure, offering the user a unique search engine simplifying configuration.

Industry accepts use of XML Web services as interface between different applications, and Vijeo Citect integrates a read-only Web interface. This enables access to all data, alarms and trends, and simplifies integration of Vijeo Citect in information systems.

Single data entry

Application development time is significantly reduced thanks to SpeedLink software, which enables automatic creation of variables, alarms and histories from Unity Pro applications.

In addition, Citect is compatible with Unity v2.3 Application Generator.

Added security

Configuration security of Vijeo Citect enables application of read-only parameters to all or certain projects within a system. The read-only parameters are based on Windows user or user group privileges to centralise access rights management. Integrators or system producers can therefore lock all or certain of their projects.

Redundancy

Vijeo Citect supports full hot standby configuration. By nominating primary and standby PLCs, Vijeo Citect automatically connects to the active device in case failure. Due to its built-in redundancy, Viject Citect provides switches with no loss of functionality, or performance.

Advanced help

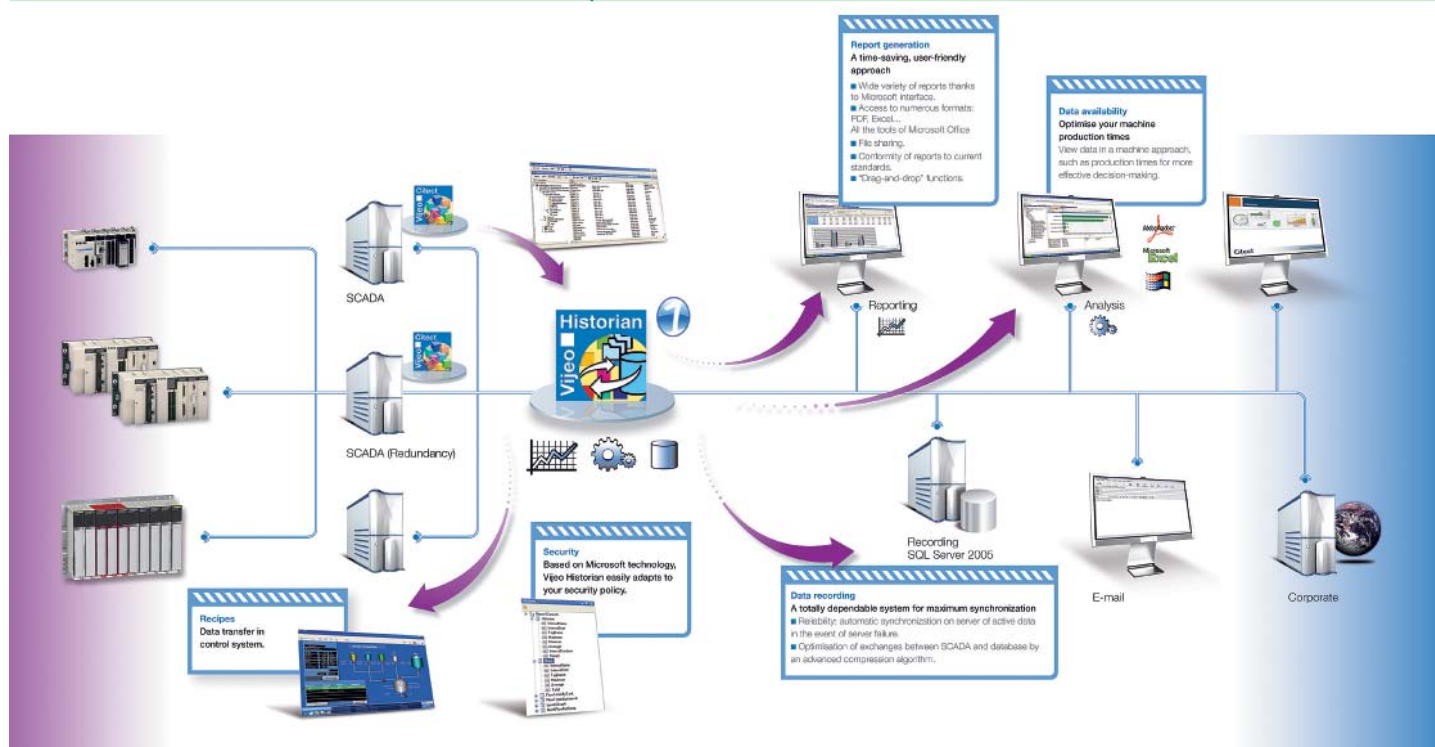
Vijeo Citect online help includes easy access to information and its use of “breadcrumb trails” simplifies navigation.

Vijeo Historian _____ Reporting software



Type	Reporting software
Compatibility	Vijeo Citect 6.1
Operating system	Windows XP and Windows Server 2003 - recommended
References CD-ROM PC	Contact your local sales office

2



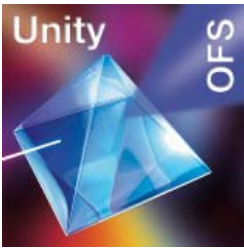
Vijeo Historian is a powerful factory-level reporting tool which collects, memorises and produces reports from different systems. Based on Microsoft SQL Server 2005, it is a true link between production and the information system.

Vijeo Historian offers production managers and operators clear and relevant reports to assist decision-making.

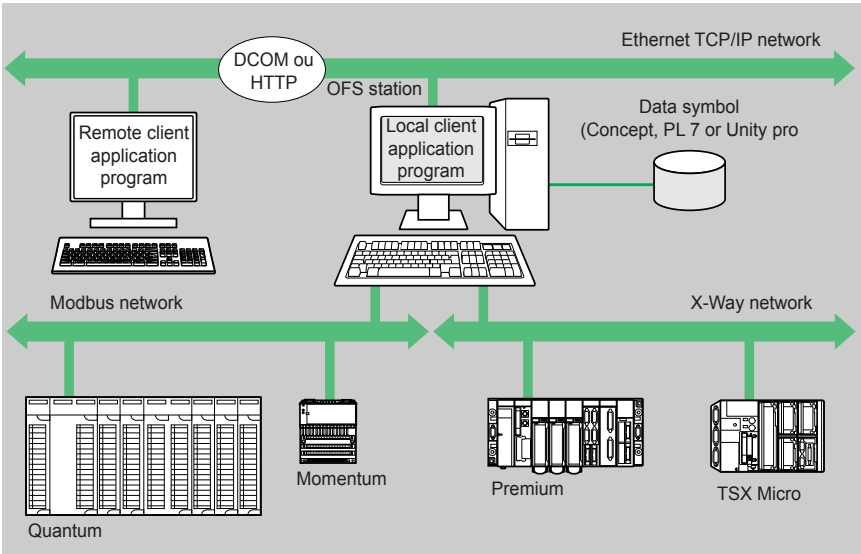
Data is directly accessible via optimisation and management software such as Microsoft Excel or Microsoft Reporting Services. Based on recognised standards, Vijeo Historian is easy to maintain.

Vijeo Historian services

- Display of data from several SCADAs
- Data analysis with Microsoft Excel
- SCADA data transfer to SQL Server 2005 database
- Report creation from standard industry tools



Type		OPC data server OFS Small	OFS Large
Items number		1000 items	Unlimited
OPC protocols		OPC DA, OPC .NET	OPC DA, OPC .NET, OPC XML DA,
References	Single station licence	TLX CD SU OFS 33	TLX CD LU OFS
	10 stations licence	TLX CD ST OFS 33	TLX CD LT OFS 33
	200 stations licence	-	TLX CD LF OFS 33



Description:

Based on the OPC protocols, Schneider-Electric's OFS software (**OPC Factory Server**) enables local or remote OPC client applications such as SCADA, supervisors or custom interfaces, to access Schneider devices and PLCs data in real time.

OFS software is a multi-device data server which provides simultaneous use of various communication protocols, and allows client applications to access control data via physical addresses or via symbols

- Supported devices :**
- Modicon Quantum, Premium, Micro, Compact and Momentum PLCs
 - TSX Series 7 and April Series 1000 Schneider-Electric PLCs
 - Serial Modbus or Uni-Telway devices connected via Schneider-Electric and Merlin Gerin gateways TSX ETG 10xx, EGX xxx ranges etc.

- Supported networks and protocols :**
- Modbus: Serial Modbus, Modbus Plus, Modbus TCP/IP.
 - XWAY/UNI-TE: Uni-Telway, FIPWAY, ETHWAY, ISAWAY, PCIWAY.

- Openess:**
- OFS V3.3, integrates the most recent specifications of the OPC Foundation:
- **OPC-DA** (OPC Data Access)
 - **.NET API interface**
 - **OPC XML-DA V1.0** (OPC XML Data Access)

The development of specialized interfaces is even more easy and open.

Developers and System integrators can develop custom applications (in Visual Basic, VBA for Excel, C++, etc) requiring access to Schneider Electric control devices. The OPC XML-DA V1.0 interface is designed to provide an interface for Windows and non-Windows client applications and remote access via the Internet through firewalls.





Embedded in the TCP/IP communication modules for Modicon M340, Premium and Quantum PLCs, FactoryCast Web servers provide secured access to the diagnostics, monitoring and maintenance functions of your automation installations via a simple web browser.

FactoryCast modules for PLC

"Ready to use" diagnostic and monitoring functions embedded in a PLC module accessible remotely via a simple Internet browser:

- Real-time communication based on Ethernet TCP/IP (Modbus and Uni-TE)
- Secure access to the PLC system and application diagnostics
- Numerical or graphical data monitoring and control
- E-mail notifications
- Web server open to user customization and creation of Web pages for diagnostics suited to your needs
- Library of animated graphic objects
- Open communications using SOAP/XML protocol as a server interface (Web services)

FactoryCast HMI modules for PLC

Diagnostic functions identical as FactoryCast modules + Built-in HMI / SCADA functions embedded in a PLC module:

- Visualization of Unity Pro PLC program and Operator screens via Web pages
- PLC data acquisition
- Calculations scripts for data-processing Real-time database (1000 variables)
- Alarm and report notifications via E-mail
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Data logging in CSV files in the module.
- Recipe management with read Database
- Dynamic HTML Reporting function
- Web server open to user Web pages customization
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Library of animated graphic objects
- Open communication using SOAP/XML protocol as a server interface (Web services)

FactoryCast Gateways - ETG 1000 / 10.. modules

Cost-effective web gateways offer integrating in a stand-alone module:

- All Communications network interfaces: Ethernet TCP/IP, Modbus and Uni-Telway
- Remote access functions, RAS server,
- Transparent gateway / Router functions
- Notification of alarms via E-mail
- Data monitoring and Graphic monitoring (read/write)
- A user customizable Web server for creating an interface fully adapted to your needs
- Library of animated graphic objects



In the areas of distributed infrastructures, transport, RTU installations, industry and machines, ETG 1000 / 3000 modules more than satisfy your requirements for remote diagnostics and maintenance, remote monitoring and control, and remote programming.

FactoryCast HMI Gateways - ETG 3000 / 30.. modules

"All in one" Web gateway module integrating in a stand-alone device:

- a built-in modem (PSTN or GSM/GPRS) depending on the reference
- A Remote Access server function (RAS)
- 2 Ethernet ports and a Modbus serial port
- Transparent gateway / Router functions to Ethernet or Modbus serial devices
- I/O card : 6 discrete inputs/ 2 discrete outputs
- Operating temperature : -25°C to +75°C
- User customizable Web server
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Data Acquisition, Data Processing and Data logging in the module (CSV files)
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Alarms and reports via E-mail / SMS
- Open communication using SOAP/XML protocol as a server interface

FactoryCast FactoryCast PLC Embedded Web Servers



2

Applications		Web Server modules for PLCs				FactoryCast HMI	
		FactoryCast					
Target devices	Type	TSX Micro PLCs	Modicon M340 PLCs	Modicon Premium PLCs	Modicon Quantum PLCs	Modicon Premium PLCs	Modicon Quantum PLCs
Network & Remote access services	Remote access	Intranet or via external RAS/modem					
		Remote programming, downloading via FTP, access to Web server via Internet browser					
	Gateway function	–					
	Serial protocols	–					
	Ethernet protocols	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP
	TCP/IP protocols	BootP/DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP					
	Security	Protection by IP address filtering and passwords					
Web server	Characteristics	HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)					
Predefined services	Configuration	Via Web Designer software or predefined Web pages					
	Diagnostics	System, rack and PLC I/O diagnostics via predefined Web pages					
	Monitoring of variables	Monitoring of devices and application via animated data (read/write variables)					
	Alarm management	PLCs and applications alarms monitoring via predefined Web pages					
Customizable services	Graphic views	Graphic monitoring via animated pages (integrated graphic editor)					
	Unity Pro operator screen	–				Display in the form of Web pages	
Advanced services and HMI	User Web pages	Graphic monitoring via animated Web pages created by the user					
	Calculation scripts	–				Arithmetic and logical scripts	
	E-mail service	Alarm notification by E-mail					
	Data logging	–				Data logging in the module with time stamping (CSV files)	
	Database connection	–				Direct logging in an SQL, Oracle, MySQL database servers	
	Report service	–				Dynamic HTML report management	
	Recipe service	–				Management of "Recipe" data (storage and read locally or on remote database)	

Application development software	Web Designer
	Supplied with each module



References	TSXETZ510	BMXNOE0110	TSXETY5103	140NOE77111	TSXWMY100	140NWM10000

FactoryCast Gateway

Web Gateways for Remote control



Standalone Gateway, Web Server for Remote Access

FactoryCast Gateway ETG 1000

All equipment supporting Modbus

Intranet or via external Modem, integrated RAS function

Remote programming, downloading via FTP, access to Web server via Internet browser

Ethernet to Modbus serial
Modem to Modbus serial and Ethernet

Modbus (Master)

Modbus TCP

BootP/DHCP, SNMP agent, SMTP client, NTP client, FTP

Protection by IP address filtering and password

HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)

Via Web Designer software or predefined Web pages

Diagnostics of serial devices via predefined Web pages

Monitoring of devices and application via data tables (read/write variables)

Via E-mail

Graphic monitoring via animated views (integrated graphic editor)

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Graphic monitoring via animated Web pages created by the user

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Alarm notification by E-mail

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FactoryCast HMI Gateway ETG3000

All Modicon PLCs and third-party equipment supporting Modbus

Intranet or Modem
External modem, integrated RAS

Internet browser

Ethernet to Modbus serial
Modem to Modbus serial and Ethernet (Modbus, UNITE)

Modbus (Master)

Modbus TCP
Uni-TE TCP

DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP

HTTP and FTP server, 32 Mb memory available for user Web pages, memory extension using Compact Flash cards 1 Gb max., hosting of user Web pages and documents (Doc, Pdf, Excel)

Network diagnostics, diagnostics of serial devices and Ethernet via predefined Web pages

Via E-mail/SMS

Arithmetic and logical scripts

Alarm notification by E-mail/SMS

Data logging in the module with time stamping (CSV files)

Direct recording in SQL, Oracle, MySQL database servers

Dynamic HTML report management

Management of "Recipe" data (storage and revad locally or on remote database)

Web Designer

Supplied with each module



TSXETG1000

TSXETG1010

TSXETG3000

TSXETG3010 (Modem RTC)

TSXETG3021
(GSM band 900/1800)
TSXETG3022
(GSM band 850/1900)

Automation

Zelio

Relays and smart relays



Zelio relay range

Zelio Relay plug-in relays, Zelio Control control and measurement relays, Zelio Count counters, Zelio Time timing relays: These ranges offer *compactness* and *simplicity*.

Zelio Logic smart relays

Designed for management of simple automation systems comprising 10 to 40 I/O. Compact or modular, Zelio Logic offers *flexibility* and *simplicity*.

Modicon

Automation platforms



Modicon TSX Micro, ideal for compact machine builders. At the heart of the machine, TSX Micro offers *compactness*, *modularity* and *integration* benefits.

- CANopen machine bus connection
- Low cost Ethernet connection
- Doubling of memory capacity



New

Modicon M340, is designed for complex machine applications and infrastructures control. *Robust*, *powerful* and *compact* it meets your requirements for automation of industrial processes.

- CANopen machine and installation bus
- Ethernet TCP/IP network - Transparent Ready
- Modbus serial link and character mode



Modicon Premium, ideal for manufacturing and infrastructure applications. Outstanding *flexibility* for distributed architectures and *integration* of advanced automation system functions.

- New high performance processors
- CANopen machine bus connection, from entry level



New

Modicon Quantum, ideal for process applications. *High level of performance* for process control, process safety and architecture availability.

- New high performance processors
- Onboard Ethernet
- Memory expansion option using PCMCIA
- Safety new offer

Contents

Twido

Programmable controllers



Twido, ideal for simple installations and small machines: standard applications comprising 10 to 100 I/O (max. 252 I/O). Compact or modular, Twido offers *flexibility* and *simplicity*.

Relays

- **Zelio Relay** - Plug-in relays 3/2 to 3/3
- **Zelio analog** - Analog interface 3/4 to 3/5
- **Zelio Control** - Control and measurement relays 3/6 to 3/9
- **Zelio Count** - Counters 3/10 to 3/11
- **Zelio Time** - Timing relays 3/12 to 3/13
- **Zelio Logic** - Smart relays 3/14 to 3/15

Programmable controllers, Automation platforms

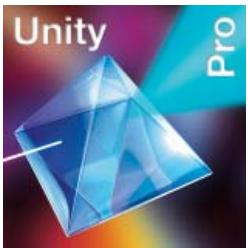
- **Twido** - Programmable controllers 3/16 to 3/19
- **Modicon TSX Micro** - Automation platforms 3/20 to 3/25
- **Modicon M340** - Automation platforms 3/26 to 3/33
- **Modicon Premium** - Automation platforms 3/34 to 3/41
- **Modicon Quantum** - Automation platforms 3/42 to 3/49
- **Unity** - Software 3/50 to 3/51
- **PL7, Concept, ProWORX 32** - Software 3/52 to 3/53

Modicon M340

The ideal solution for machine builders



Choosing Modicon M340 gives you the advantage of all the services of the Unity software offer, from the design through to the implementation of your application.





Type of relay		Interface relays RSB			Miniature relays RXM			
Contact characteristics								
Thermal current I _{th} in A (temperature ≤ 55°C)		8	12	16	12	10	6	3
Number of contacts		2 “C/O”	1 “C/O”	1 “C/O”	2 “C/O”	3 “C/O”	4 “C/O”	4 “C/O”
Contact material		AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu
Switching voltage, min. / max.		5 / 250 VAC/DC			12 / 250 VAC/DC			
Switching capacity, min. / max. (mA / VA)		5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500
Coil characteristics								
Average consumption, inrush,		0.75 VA / 0.45 W			1.2 VA / 0.9 W			
Permissible voltage variation		0.8/0.85...1.1 Un (50/ 60Hz or =)			0.8...1.1 Un (50 / 60Hz or =)			
References		(1)	(1)	(1)	(2)	(2)	(2)	
Coil supply voltage on DC	6 VDC	RSB2A080RD	RSB1A120RD	RSB1A160RD	–	–	–	–
	12 VDC	RSB2A080JD	RSB1A120JD	RSB1A160JD	RXM2AB2JD	RXM3AB2JD	RXM4AB2JD	RXM4GB2JD
	24 VDC	RSB2A080BD	RSB1A120BD	RSB1A160BD	RXM2AB2BD	RXM3AB2BD	RXM4AB2BD	RXM4GB2BD
	48 VDC	RSB2A080ED	RSB1A120ED	RSB1A160ED	RXM2AB2ED	RXM3AB2ED	RXM4AB2ED	RXM4GB2ED
	60 VDC	RSB2A080ND	RSB1A120ND	RSB1A160ND	–	–	–	–
	110 VDC	RSB2A080FD	RSB1A120FD	RSB1A160FD	RXM2AB2FD	RXM3AB2ED	RXM4AB2ED	RXM4GB2ED
Coil supply voltage on AC	24 VAC	RSB2A080B7	RSB1A120B7	RSB1A160B7	RXM2AB2B7	RXM3AB2B7	RXM4AB2B7	RXM4GB2B7
	48 VAC	RSB2A080E7	RSB1A120E7	RSB1A160E7	RXM2AB2E7	RXM3AB2E7	RXM4AB2E7	RXM4GB2E7
	120 VAC	RSB2A080F7	RSB1A120F7	RSB1A160F7	RXM2AB2F7	RXM3AB2F7	RXM4AB2F7	RXM4GB2F7
	220 VAC	RSB2A080M7	RSB1A120M7	RSB1A160M7	–	–	–	–
	230 VAC	RSB2A080P7	RSB1A120P7	RSB1A160P7	RXM2AB2P7	RXM3AB2P7	RXM4AB2P7	RXM4GB2P7
	240 VAC	RSB2A080U7	RSB1A120U7	RSB1A160U7	–	–	–	RXM4GB2U7

Sockets for relays

Type of socket			For interface relays RSB			For miniature relays RXM		
Mixed input/output type sockets with location for protection module								
			–	–	–	RXZE2M114(5)	–	RXZE2M114
			–	–	–	RXZE2M114M(5)	–	RXZE2M114M
Separate input/output type sockets with location for protection module								
			RSZE1S48M	RSZE1S35M	RSZE1S48M(3)	RXZE2S108M	RXZE2S111M	RXZE2S114M
Protection modules								
	Diode	6...230 VDC	RZM040W			RXM040W		
	RC circuit	24...60 VAC	RZM041BN7			RXM041BN7		
		110...240 VAC	RZM041FU7			RXM041FU7		
	Varistor	6...24 VDC or AC	RZM021RB (6)			RXM021RB		
		24...60 VDC or AC	RZM021BN (6)			RXM021BN		
		110...230 VDC or AC	RZM021FP (6)			RXM021FP		
		24 VDC or AC	–			–		
		240 VDC or AC	–			–		
	Multifunction timer module	24...230 VDC or AC	–			–		
Accessories								
Plastic maintaining clamp			RSZR215			RXZR335		
Metal maintaining clamp			–			RXZ400		
Label for socket			RSZL300			RXZL420 (except RXZE2M114)		
Bus jumper		2 poles	–			RXZS2		
DIN rail adapter			–			RXZE2DA		
Panel mounting adapter			–			RXZE2FA		

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7S).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by 2. (Example: RXM2AB2JD becomes RXM2AB1JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected

Universal and power relays



Universal relays RUM						Power relays RPM				RPF	
Cylindrics			Faston								
10	10	3	10	10		15	15	15	15	30 (4)	30 (4)
2 "C/O"	3 "C/O"	3 "C/O"	2 "C/O"	3 "C/O"		1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	2 "N/O"	2 "C/O"
AgNi	AgNi	AgAu	AgNi	AgNi		AgNi	AgNi	AgNi	AgNi	AgSnO ₂	AgSnO ₂
12 / 250 VAC/DC						12 / 250 VAC/DC				12 / 250 VAC/DC	
10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500		100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200
2...3 VA / 1.4 W						0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W	
(2)	(2)	–	(2)	(2)		(2)	(2)	(2)	(2)	–	–
–	–	–	–	–		–	–	–	–	–	–
RUMC2AB2JD	RUMC3AB2JD	–	RUMF2AB2JD	RUMF3AB2JD		RPM12JD	RPM22JD	RPM32JD	RPM42JD	RPF2AJD	RPF2BJD
RUMC2AB2BD	RUMC3AB2BD	RUMC3GB2BD	RUMF2AB2BD	RUMF3AB2BD		RPM12BD	RPM22BD	RPM32BD	RPM42BD	RPF2ABD	RPF2BBD
RUMC2AB2ED	RUMC3AB2ED	RUMC3GB2ED	RUMF2AB2ED	RUMF3AB2ED		RPM12ED	RPM22ED	RPM32ED	RPM42ED	–	–
–	–	–	–	–		–	–	–	–	–	–
RUMC2AB2FD	RUMC3AB2FD	–	RUMF2AB2FD	RUMF3AB2FD		RPM12FD	RPM22FD	RPM32FD	RPM42FD	RPF2AFD	RPF2BFD
RUMC2AB2B7	RUMC3AB2B7	RUMC3GB2B7	RUMF2AB2B7	RUMF3AB2B7		RPM12B7	RPM22B7	RPM32B7	RPM42B7	RPF2AB7	RPF2BB7
RUMC2AB2E7	RUMC3AB2E7	RUMC3GB2E7	RUMF2AB2E7	RUMF3AB2E7		RPM12E7	RPM22E7	RPM32E7	RPM42E7	–	–
RUMC2AB2F7	RUMC3AB2F7	RUMC3GB2F7	RUMF2AB2F7	RUMF3AB2F7		RPM12F7	RPM22F7	RPM32F7	RPM42F7	RPF2AF7	RPF2BF7
–	–	–	–	–		–	–	–	–	–	–
RUMC2AB2P7	RUMC3AB2P7	RUMC3GB2P7	RUMF2AB2P7	RUMF3AB2P7		RPM12P7	RPM22P7	RPM32P7	RPM42P7	RPF2AP7	RPF2BP7
–	–	–	–	–		–	–	–	–	–	–

	For universal relays RUM					For power relays RPM				For power relays RPF
	RUZC2M	RUZC3M	RUZC3M	–	–	RPZF1	RPZF2	RPZF3	RPZF4	–
	–	–	–	–	–	–	–	–	–	–
	RUZSC2M	RUZSC3M	RUZSC3M	RUZSF3M	RUZSF3M	–	–	–	–	–
						1 and 2 poles		3 and 4 poles		
	RUW240BD					RXM040W		RUW240BD		–
	–					RXM041BN7		–		–
	RUW241P7					RXM041FU7		RUW241P7		–
	–					RXM021RB		–		–
	–					RXM021BN		–		–
	–					RXM021FP		–		–
	RUW242B7					RUW242B7		–		–
	RUW242P7					–		RUW242P7		–
	RUW101MW					–		RUW101MW		–
	–					–				–
	RUZC200					RPZF1 (for 1 pole relays)				–
	RUZL420					–				–
	RUZS2					–				–
	–					RPZ1DA	RXZE2DA	RPZ3DA	RPZ4DA	–
	–					RPZ1FA	RXZE2FA	RPZ3FA	RPZ4FA	–

(4) 30A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED

Zelio Analog

_____ Analog Interface
Universal Thermocouple



Type	Thermocouple				
Temperature range	0...150 °C 32...302 °F	0...300 °C 32...572 °F	0...600 °C 32...1112 °F	0...600 °C 32...1112 °F	0...1200 °C 32...2192 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMTJ40BD	RMTJ60BD	RMTJ80BD	RMTK80BD	RMTK90BD

Universal PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT10BD	RMPT20BD	RMPT30BD	RMPT50BD	RMPT70BD

Optimum PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT13BD	RMPT23BD	RMPT33BD	RMPT53BD	RMPT73BD

3

Universal Analog Converter



Type	Analog Converter			
Input range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA	0...50 V / 0...300 V 0...500 V	0...1,5 A / 0...5 A 0...15 A
Output range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA Switchable	0...10 V 0...20 mA 4...20 mA Switchable	0...10 V or 0...20 mA ou 4...20 mA
Dimensions H x W x D	80 x 22,5 x 80 mm			80 x 45 x 80 mm
Voltage	24 VDC - Non isolated	24 VDC - Isolated	24 VDC - Isolated	24 VDC - Isolated
References	RMCA22BD	RMCL55BD	RMCA60BD	RMCA61BD

Zelio Control

Relays

3-phase monitoring relays



Function	presence of phase +phase sequence		+phase sequence, +regeneration +phase unbalance, +under/over voltage	
Monitoring voltage range	208...480 VAC	208...440 VAC	208...480 VAC	220 ... 440 VAC
Outputs	1 C/O	2 C/O	1 C/O	2 C/O
References	RM17TG00	RM17TG20	RM17TE00	RM35TF30

3



Function	presence of phase +under/over voltage		+presence of neutral +under/over voltage
Monitoring voltage range	208...480 VAC	220...480 VAC	120...277 VAC (phase-neutral)
Outputs	1 C/O	2 C/O	2 C/O
References	RM17UB310	RM35UB330	RM35UB3N30

Level / Speed monitoring relays



Function	Conductive liquid level monitoring	Non-conductive material level monitoring	Over/under Speed monitoring
Power supply	24...240 VAC/DC		
Monitoring range	0,25...5 KΩ 5...100 KΩ 0,05...1 MΩ	Input of sensor : Contact / PNP / NPN	Interval between pulses: 0.05...0.5 s, 0.1...1 s, 0.5...5 s 1...10 s, 0.1...1 mn, 0.5...5 mn 1...10 mn
Output	2 C/O	1 C/O	1 C/O
Reference	RM35LM33MW	RM35LV14MW	RM35S0MW

Current / Voltage /Frequency monitoring relays



Function	Voltage Monitoring Under or Over Voltage		
Power Supply	24...240 VAC/DC 50/60Hz		
Monitoring range	0.05...0.5 V	1...10 V	15...150 V
	0.3...3 V	5...50 V	30...300 V
	0.5...5 V	10...100 V	60...600 V
Outputs	2 C/O	2 C/O	2 C/O
References	RM35UA11MW	RM35UA12MW	RM35UA13MW

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Function	Voltage Monitoring Under or Over Voltage			Under and Over Voltage	
Power Supply	self powered			self powered	
Monitoring range	9...15 VDC	20...80 VAC/DC	65...260 VAC/DC	20...80 VAC/DC	65...260 VAC/DC
Outputs	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
References	RM17UAS14	RM17UAS16	RM17UAS15	RM17UBE16	RM17UBE15



Function	Current Monitoring		Frequency Monitoring
	over current	over or under current	Over or under frequency
Power supply	24...240 VAC/DC	24...240 VAC/DC 50/60 Hz	120...277 VAC 50/60 Hz
Monitoring range	2...20 A	2...20 mA	0.15...1.5 A
	built-in CT	10...100 mA	0.5...5 A
		50...500 mA	1.5...15 A
Output	1 C/O	2 C/O	2 C/O
Reference	RM17JC00MW	RM35JA31MW	RM35JA32MW
			RM35HJ21FM

Zelio Control

Relays

Lift / Pump / Motor monitoring relays



Function	Lift motor room temperature monitoring		+phase presence +phase sequence
Power supply	24...240 VAC/DC 50/60Hz		
Monitoring range	input PT100 3 wires Under -1...+11 °C Over +34...+46 °C		208...480 VAC 50/60Hz input PT100 3 wires Under -1...+11 °C Over +34...+46 °C
Output	1 C/O	2 NO	2 C/O
Reference	RM35ATL0MW	RM35ATR5MW	RM35ATW5MW



Function	Pump protection Current monitor +3 phase monitor	Motor Protection Winding Temperature monitor +3 phase monitor	
Power supply	self powered (single phase :230 VAC 50/60 Hz)	24...240 VAC/DC	
Monitoring range	Current: 0.1...10 A Voltage (three phase): 208...480 VAC 50/60Hz	Winding Temperature: PTC sensor Three phase voltage: 208...480 VAC 50/60Hz	
Output	1 C/O	2 NO	2 NO
Reference	RM35BA10	RM35TM50MW	RM35TM250MW

Control relays for 3-phase supplies



Function	Rotational direction and presence of phases					
		+ Undervoltage	+ Over and undervoltage	+ Asymmetry		
Adjustable time delay	without	without	0.1...10 s	0.1...10 s	fixed, 0.5 s	0.1...10 s
Supply voltage	220...440V	380...440V	400V	380...440V	380...440V	380...440V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O
References	RM4TG20	RM4TU02	RM4TR34 (1)	RM4TR32 (2)	RM4TA02	RM4TA32

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

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Current and voltage measurement relays

(3) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	VAC, 50/60 Hz	VDC
24...240 V	MW	MW
110...130 V	F	—
220...240 V	M	—
380...415 V	Q	—



Function	Detection of over and undercurrent					
Measuring range	3...30 mA 10...100 mA 0.1...1 A	0.3...1.5 A 1...5 A 3...15 A	0.05 ...0.5 V 0.3 ...3 V 0.5...5 V	1...10 V 5...50 V 10...100 V	30...300 V 50...500 V	180...270 V
Adjustable time delay	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.1...10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
References	RM4JA31• (3)	RM4JA32• (3)	RM4UA31• (3)	RM4UA32• (3)	RM4UA33• (3)	RM4UB35

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	
	VAC, 50/60 Hz	VAC, 50/60 Hz	VDC
24 V	B	B	—
24...240 V	—	MW	MW
110...130 V	F	F	—
220...240 V	M	M	—
380...415 V	Q	Q	—



Liquid level control relays

Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
References	RM4LG01• (4)	RM4LA32• (4)

Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
References	LA9RM201	RM79696043

Zelio Count

Counters
Totalisers



Display	Mechanical				LCD
Supply voltage	24 VDC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Manual	Without	Manual	Without	Manual (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
References	XBKT50000U10M	XBKT60000U00M	XBKT60000U10M	XBKT80000U00M	XBKT81030U33E

(1) With electrical interlocking.

Hour counters



Display	Mechanical		LCD
Supply voltage	24 VAC	230 VAC	Battery
Number of digits / display	7 (99,999.99 h)	7 (99,999.99 h)	8 (999,999.99 h)
Supply frequency	50 Hz	50 Hz	Mode: 1/100 hour
Type of zero reset	Without	Without	Manual (1)
Front face dimensions, W x H	48 x 48 mm	48 x 48 mm	48 x 24 mm
References	XBKH70000004M	XBKH70000002M	XBKH81000033E

Zelio Count

Counters

Multifunction counters



Display			LCD		LED	
Number of digits displayed			6			
Counting frequency			5 kHz			
Type of reset			Manual, electric and automation			
Front face dimensions, W x H			48 x 48 mm			
Preselection number			1	2	1	2
References	Supply voltage	24 VDC	XBKP61130G30E	XBKP61230G30E	XBKP62130G30E	XBKP62230G30E
		115 VAC	XBKP61130G31E	XBKP61230G31E	–	–
		230 VAC	XBKP61130G32E	XBKP61230G32E	XBKP62130G32E	XBKP62230G32E

Zelio Time

Timing relays
Modular timers



Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–	–	–
Supply voltage	24 VDC - 24 ...240 VAC	24 VDC - 24 ...240 VAC		12 ... 240VAC/DC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...10 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RAMU	RE11RMMU (1)	RE11RMEMU (2)	RE11RMMW (1)

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.
(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.



Type of modular timer width 17.5 mm, relay output	Asymmetrical flashing	Pulse on energisation	Off delay	Timing on impulse
External control	–	–	–	–
Supply voltage	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RLMU	RE11RHMU	RE11RCMU	RE11RBMU



Type of modular timer width 17.5 mm, solid-state output	On-delay	Off-delay	Multifunction (3)
Supply voltage	24...240 VAC/DC	24...240 VAC	24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	solid-state	solid-state	solid-state
References	RE11LAMW	RE11LCBM	RE11LMBM

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.



Panel-mounted relays	Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply	24...240 VAC/DC			
Time range	0,02 s...300 h			
Output	2 relay 5 A			
Reference	RE48ATM12MW	RE48ACV12MW	RE48AMH13MW (6)	RE48AML12MW
Back panel mounting socket	RUZC2M	RUZC3M	RUZC2M	RUZC3M
Front panel mounting socket	RE48ASOC8SOLD	RE48ASOC11SOLD	RE48ASOC8SOLD	RE48ASOC11SOLD

(4) Timer on-delay / pulse on energization
(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher
(6) 1 selectable in instantaneous

Industrial timers



Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
External control	no	yes	no	yes	yes
Supply voltage	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24...240 VAC/DC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
References	RE7TL11BU	RE7TP13BU	RE7RB11MW	RE7RL13BU	RE7RM11BU

(1) 1 selectable in instantaneous mode.



Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
External control	yes	no	—	—
Supply voltage	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	1 C/O	1 C/O	2 C/O (4)
References	RE7CV11BU	RE7PE11BU	RE7ML11BU	RE7MY13BU

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

Miniature plug-in relays, relay output



Functions				
Timing ranges	7 switchable ranges	0.1 s...1 s - 1 s...10 s - 0.1 min...1 min - 1 min...10 min - 0.1 h...1 h - 1 h...10 h - 10 h...100 h		
Relay output		4 timed C/O contacts		2 timed C/O contacts
Rated current		3 AC 5 A		AC 5 A
Voltages	24 VDC	RE XL4TMBD		RE XL2TMBD
	24 VAC 50/60 Hz	RE XL4TMB7		RE XL2TMB7
	120 VAC 50/60 Hz	RE XL4TMF7		RE XL2TMF7
	230 VAC 50/60 Hz	RE XL4TMP7		RE XL2TMP7
Socket with mixed contact terminals	With screw clamp	RXZE2M114		RXZE2M114
	With connector	RXZE2M114M		RXZE2M114M

Zelio Logic

Smart relays

Compact, SR2



Compact smart relays	With display, a.c. power supply					
Supply voltage	24 VAC		100...240 VAC			
Number of inputs/outputs	12	20	10	12	20	20
Number of inputs	8	12	6	8	12	12
Discrete inputs						
Number of outputs	4 relay	8 relay	4 relay	4 relay	8 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	yes	no	yes
References	SR2B121B	SR2B201B	SR2A101FU (1)	SR2B121FU	SR2A201FU (1)	SR2B201FU

(1) Programming on smart relay in LADDER language only



Compact smart relays	With display, d.c. power supply					
Supply voltage	12 VDC		24 VDC			
Number of inputs/outputs	12	20	10	12	20	20
Number of inputs	8	12	6	8	12	12
Discrete inputs						
including 0-10 V analogue inputs	4	6	-	4	2	6
Number of outputs	4 relay	8 relay	4 relay	4	8 relay	8
Dimensions, W x D x H (mm)	71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	yes	no	yes
References	SR2B121JD	SR2B201JD	SR2A101BD (1)	SR2B121BD (2)	SR2A201BD (1)	SR2B201BD (2)

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by number 1 to order a smart relay with relay output or by 2 for a smart relay with transistor output (Example: SR2B121BD)



Compact smart relays	Without display and without buttons					
Supply voltage	100...240 VAC			24 VDC		
Number of discrete inputs/outputs	10	12	20	10	12	20
Number of inputs	6	8	12	6	8	12
Discrete inputs						
including 0-10 V analogue inputs	-	-	-	-	4	6
Number of outputs	4 relay	4 relay	8 relay	4 relay	4 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock	no	yes	yes	no	yes	yes
References	SR2D101FU (1)	SR2E121FU	SR2E201FU	SR2D101BD (1)	SR2E121BD (3)	SR2E201BD (3)

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a 24 VAC supply (no analogue inputs), delete the letter D from the end of the reference (SR2E121B and SR2E201B)

Modular, SR3



Modular smart relays*		With display						
Supply voltage		24 VAC		100...240 VAC		12 VDC	24 VDC	
Number of inputs/outputs		10	26	10	26	26	10	26
Number of inputs	Discrete inputs	6	16	6	16	16	6	16
	including 0-10 V analogue inputs	—	—	—	—	6	4	6
Number of outputs		4 relay	10 relay	4 relay	10 relay	10 relay	4	10
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6
Clock		yes	yes	yes	yes	yes	yes	yes
References		SR3B101B	SR3B261B	SR3B101FU	SR3B261FU	SR3B261JD	SR3B101BD (1)	SR3B261BD (1)

*The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module

(1) Replace the ● by number 1 to order a smart relay with **relay output** or by 2 for a smart relay with **transistor output** (Example: SR3B101BD)



Extension modules for Zelio Logic SR3B●●●●● (2)		Communication		Discrete Inputs/Outputs			Analogue Inputs/Outputs
Network		Modbus	Ethernet	—			—
Number of inputs/outputs		—	—	6	10	14	4
Number of inputs	Discrete	—	—	4	6	8	—
	Analogue (0...10 V, 0...20 mA, PT100)	—	—	—	—	—	2 (1 PT100 max.)
Number of outputs	Relay	—	—	2 relay	4 relay	6 relay	—
	Analogue (0...10 V)	—	—	—	—	—	2
Dimensions, W x D x H (mm)		35.5x59.5x107.6		35.5x59.5x107.6	72x59.5x107.6		35.5x59.5x107.6
References	24 VAC	—	—	SR3XT61B	SR3XT101B	SR3XT141B	—
	100...240 VAC	—	—	SR3XT61FU	SR3XT101FU	SR3XT141FU	—
	12 VDC	—	—	SR3XT61JD	SR3XT101JD	SR3XT141JD	—
	24 VDC	SR3MBU01BD	SR3NET01BD	SR3XT61BD	SR3XT101BD	SR3XT141BD	SR3XT43BD

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays

Zelio Soft 2 software and programming tools



Zelio Soft 2 software, connecting cables, wireless connecting, memory	Multilingual programming software	Connecting cables		Wireless connection	Back-up memory
Description	PC CD-ROM (Windows 98, NT, 2000, XP) (3)	Serial PC/Smart relay	USB PC/Smart relay	Bluetooth interface	EEPROM
References	SR2SFT01	SR2CBL01	SR2USB01	SR2BTC01	SR2MEM02

(3) CD-ROM including Zelio Soft 2 programming software, an application library, a self-training manual, installation instructions and a user's manual

Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	—
Description	—	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
Dimensions, W x D x H (mm)	72x59.5x107.6	120.7x35x80.5	111x 25.5x54.5	—
References	SR2COM01	SR2MOD01	SR2MOD02	SR2SFT02

(4) Must be used in conjunction with communication interface SR2COM01



Simplicity, ease of use



Type of base		Compact			
Number of digital i/O		10	16	24	40
Number of digital inputs (24 VDC)		6 sink/source	9 sink/source	14 sink/source	24 sink/source
Number of digital outputs		4 relay (2 A)	7 relay (2 A)	10 relay (2 A)	14 relay (2 A), 2 solid-state (1 A)
Type of connection		Screw terminals (non removable)			
Possible I/O expansion modules		–	–	4	7
Counting		3 x 5 kHz, 1 x 20 kHz			
PWM positioning		–			
Serial ports		1 x RS 485	1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation			
Ethernet port		–	–	–	RJ45 Ethernet
Dimensions, W x D x H		80 x 70 x 90 mm	80 x 70 x 90 mm	95 x 70 x 90 mm	157 x 70 x 90 mm
References	Supply voltage 100...240 VAC	TWDLCAA10DRF	TWDLCAA16DRF	TWDLCAA24DRF	TWDLCAE40DRF (1)
	Supply voltage 19.2...30 VDC	TWDLCA10DRF	TWDLCA16DRF	TWDLCA24DRF	TWDLCE40DRF (1)
	Real-time clock (option)	TWDXCPRTC			
	Display unit (option)	TWDXCPODC			
	Memory cartridge (option)	TWDXCPMFK32 (3)			
		TWDXCPMFK64 (4)			

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCA40DRF



Compactness, flexibility



Type of base		Modular		
Number of digital i/O		20		40
Number of digital inputs (24 VDC)		12 sink/source	12 sink/source	24 sink/source
Number of digital outputs		8 transistor, source (0.3 A)	6 relay (2 A) & 2 trans., source (0.3 A)	16 transistor, source (0.3 A)
Type of connection		HE10 connector	Removable screw terminals	HE10 connector
Possible I/O expansion modules		4	7	7
Supply voltage		24 VDC		
Counting		2 x 5 kHz, 2 x 20 kHz		
PLS/PWM positioning		2 x 7 kHz		
Serial ports		1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation		
Dimensions, W x D x H		35.4 x 70 x 90 mm	47.5 x 70 x 90 mm	47.5 x 70 x 90 mm
References		TWDLMDA20DTK (2)	TWDLMDA20DRT	TWDLMDA40DTK (2)
	Real-time clock (option)	TWDXCPRTC		
	Display unit (option)	TWDXCPODM		
	Memory cartridge (option)	TWDXCMPFK32 (3)	TWDXCMPFK64 (4)	

(2) Sink version transistor outputs also available: TWDLMDA20DUK and TWDLMDA40DUK

(3) Application backup, program transfer

(4) Memory expansion, application backup, program transfer

Programmable controllers

I/O modules

New



Type of module		Analogue inputs				
Number of inputs		2 I	2 I	4 I	8 I	8 I
Connection		Removable screw terminals				
Inputs	Range	Thermocouples type K, J, T	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2) θ °C	0...10 V (1) 4...20 mA (2)	PTC/NTC
	Resolution	12 bits (4096 points)			10 bits (1024 points)	
Measuring accuracy		0.2% of the full scale value				
Supply voltage		24 VDC				
Dimensions, W x D x H		23.5 x 70 x 90 mm				
References		TWDAMI2LT	TWDAMI2HT	TWDAMI4LT	TWDAMI8HT	TWDARI8HT

(1) Non differential

(2) Differential



New



Type of module		Analogue Outputs, Inputs/Outputs (mixed)				
Number of inputs and/or outputs		1 O	2 O	2 I / 1 O	2 I / 1 O	4 I / 2 O
Connection		Removable screw terminals				
Inputs	Range	–	–	0...10 V (1) 4...20 mA (2)	Thermocouple type K, J & T 3-wire Pt 100 thermal probe	0...10 V (1) 4...20 mA (2)
	Resolution	–	–	12 bits (4096 points)	12 bits (4096 points)	12 bits (4096 points)
Outputs	Range	0...10 V (1) 4...20 mA (2)	± 10 V	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)
	Resolution	12 bits	11 bits + sign	12 bits	12 bits	12 bits
Measuring accuracy		0.2% of the full scale value				
Supply voltage		24 VDC				
Dimensions, W X D x H		23.5 x 70 x 90 mm				
References		TWDAMO1HT	TWDAVO2HT	TWDAMM3HT	TWDALM3LT	TWDAMM6HT

(1) Non differential

(2) Differential



Type of module			Digital Inputs/Outputs					
Number of inputs and/or outputs			8	16	16	32	4 I / 4 O	16 I / 8 O
Connection			Removable screw terminals		HE10 connectors		Removable screw terminals	Spring terminals (non removable)
References	Inputs	24 VDC sink	TWDDDI8DT	—	—	—	—	—
		24 VDC sink/source	—	TWDDDI16DT	TWDDDI16DK	TWDDDI32DK	—	—
		120 V sink	TWDDAI8DT	—	—	—	—	—
	Outputs	Relay (2 A)	TWDDRA8RT	TWDDRA16RT	—	—	—	—
		Transistor, source (0.1 A)	TWDDDO8TT (3)	—	TWDDDO16TK (3)	TWDDDO32TK (3)	—	—
	Inputs, 24 VDC sink/source + Outputs, relay (2 A)		—	—	—	—	TWDDMM8DRT	TWDDMM24DRF

(3) Sink version transistor outputs also available: TWDDDO8UT, TWDDDO16UK and TWDDDO32UK



Type of module	Serial interface			Serial interface adaptor		
Physical layer (non isolated)	RS 232C	RS 485		RS 232C	RS 485	
Connection	Mini-DIN connector		Screw terminals	Mini-DIN connector		Screw terminals
Protocol	Modbus master/slave, ASCII, I/O relocation					
Twido base compatibility	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via integrated display module TWDXCPODM		
References	TWDNOZ232D	TWDNOZ485D	TWDNOZ485T	TWDNAC232D	TWDNAC485D	TWDNAC485T



Type of module	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module	AS-Interface master
Number of modules	1	1	–	–	2 (1)
Connection	SUB-D9	RJ45	RJ45	RJ45	Removable screw terminals
Twido base compatibility	20, 24 or 40 I/O base	All models	All models	All models	20, 24 or 40 I/O base
References	TWDNCO1M	499TWD01100	TWDXCAISO	TWDXCAT3RJ	TWDNOI10M3

(1) 2 modules max., 62 digital slaves max., 7 analogue slaves max., AS-Interface/M3, V 2.11 (profile S.7.4 not supported)

Programming software



Software, connecting cables, interfaces	TwidoSuite software V1.0 EN/FR	TwidoAdjust software	Connecting cables		Bluetooth® USB adaptor	Bluetooth® gateway
Application	PC with Windows 2000® or XP	Pocket PC 2003 or 2005	Twido/PC USB port	Twido/PC serial port	For PC not fitted with Bluetooth®	For Twido controller
References	TWDBTFU10EF(2)	TWDSMD1002V30M	TSXCUSB485	TSXPCX1031 (3)	VW3A8115	VW3A8114

(2) For other languages, replace the last 2 letters of the reference (EF) by the following letters: ES for English-Spanish, ET for English-Italian, ED for English-German or EC for English-Chinese (simplified).

(3) For Twido Extreme: order the reference VW3A8106

Programmable controllers

Bases

New



Robustness



Type of base		Twido Extreme
Number of I/O		41
Degree of protection		IP67
Temperature		-40...+110°C, storage -55...+155°C
Relative humidity		90% without condensation
Number of inputs	Digital	13 (short-circuit protected)
	Analogue	8 (including 1 input configurable to PWM)
	PWM	1
Number of outputs	Digital	16* (short-circuit protected)
	PWM or PLS	3
Supply voltage		12 or 24 VDC
Counting		1 x 10 kHz
Communication ports		RS 485, CAN J1939, CANopen master
Serial link protocols		Modbus RTU master/slave, ASCII
Dimensions, W x D x H		165.51 x 45.70 x 225 mm
References		TWDLCDCK1

* 16 outputs in 12 VDC. Limited to 8 outputs in 24 VDC.



Fixing and connection	Fixing kit	70-pin connector	Pre-wired 70-pin connector
Details	4 spacers, 8 washers, 8 shock mounts	80 pins, 80 blanking plugs, 1 cover	Pre-wired with 1.5 m long cable, free wires other end
Degree of protection	–	IP67	IP67
References	TWDXMTK4	TWDFCNK70	TWDFCWK70L015

Separate components	Crimping tool	RJ45 programming connector
Application	Crimping wires onto pins of 70-pin connector	Connecting Twido Extreme to a programming PC
References	TWDXMTCT	TWDNAK70P

Modicon TSX Micro Automation platform

Basic configurations



Type of processor		TSX 3705	TSX 3708	TSX 3710	
Power supply		110...240 VAC		24 VDC	
Number of slots	Standard	2 (1 available)	3 (1 available)	2 (1 available)	
	On extension	–	–	2	
Number of integrated discrete I/O modules		1 (16 I, 12 Q)	2 (32 I, 24 Q)	1 (16 I, 12 Q)	1 (16 I, 12 Q)
Number of integrated analog I/O channels		–	–	–	–
Type of integrated I/O		I: 24 VDC, Q: relay	I: 24 VDC, Q: relay	I: 24 VDC, Q: sol.st. 0.5 A	I: 24 VDC, Q: relay
Application-specific modules (counter, position control)		2 half-size		2 half-size	
Bus	AS-Interface cabling system	–		1 half-size	
	CANopen machine bus	–		–	
	Fipio fieldbus	–		–	
Networks	Modbus Plus, Fipway	–		–	
	Ethernet TCP/IP	–		1 external module	
Memory capacity	Integrated	11 K words		14 K words	
	With PCMCIA extension	–		–	
Execution time for one instruction	Boolean	0.25 µs		0.25 µs	
	Numerical	4.81 µs		4.81 µs	
Rack dimensions (WxDxH)		170,3 x 132,5 x 151 mm	230 x 132,5 x 151 mm	170,3 x 132,5 x 151 mm	
Reference	With screw terminals	TSX3705028DR1	TSX3708056DR1	TSX3710128DT1	TSX3710128DR1
	With HE 10 connector (1)	–	–	TSX3710128DTK1	–

(1) For use with Advantys Telefast ABE7 wiring system

(2) Basic configuration provided without I/O modules

Memory extension



Type of PCMCIA card for TSX 3721/22		Application		
Technology		SRAM	Flash EPROM	Backup
Memory size (3)	32 K words	TSXMRPP128K	TSXMFPP128K	TSXMFPP096K
	32 K words/128 K words	TSXMRPP348K	TSXMCPC224K	–
	64 K words	TSXMRPP224K	TSXMFPP224K	–
	64 K words/128 K words	TSXMRPP384K	TSXMCPC224K	–
	128 K words	TSXMRPC448K	TSXMFPP384K	–
	128 K words/128 K words	TSXMRPC768K	–	–

(3) The 1st value corresponds to the size of the application area, the second to the size of the area for data storage (recipes, production data, etc).



TSX 3710			TSX 3721		TSX 3722	
24 VDC	110...240 VAC		24 VDC	110...240 VAC	24 VDC	110...240 VAC
2 (1 available)			3 (3 available)		3 (3 available)	
2			2		2	
2 (32 I, 32 Q)	1 (16 I, 12 Q)	1 (16 I, 12 Q)	–		–	
–	–	–	–		1 (8 I, 1 Q)	
I: 24 VDC, Q: sol. st. 0.1 A	I: 115 VAC, Q: relay	I: 24 VDC, Q: relay	–		I: 0...10 V or 0/4...20 mA, Q: 0...10 V	
2 half-size			4 half-size		4 half-size (2 integrated channels)	
1 half-size			1 half-size		1 half-size	
–			1 PCMCIA card		1 PCMCIA card	
–			1 PCMCIA card		1 PCMCIA card	
–			1 PCMCIA card		1 PCMCIA card	
1 external module			1 external module		1 external module	
14 K words			20 K words		20 K words	
–			128 K words + 128 K words for file storage		128 K words + 128 K words for file storage	
0.25 µs			0.13 µs (0.19 µs with PCMCIA)		0.13 µs (0.19 µs with PCMCIA)	
4.81 µs			4.50 µs		4.50 µs	
170,3 x 132,5 x 151 mm			230 x 132,5 x 151 mm			
–	TSX3710028AR1	TSX3710028DR1	TSX3721101 (2)	TSX3721001 (2)	TSX3722101 (2)	TSX3722001 (2)
TSX3710164DTK1	–	–				

3

Mini extension rack



Type of rack	2 slots (4 positions)
For use with	TSX3710/21/22
Rack dimensions (WxDxH)	112,5 x 132,5 x 151 mm
Reference	TSXRKZ2

Process power supplies see chapter 6 "Power supply"

Modicon TSX Micro

Automation platform

Discrete I/O modules



Type of module		Discrete inputs			
Connection		By HE 10 connector (1)		By screw terminals supplied	
Module format		Half		Standard	Half
Number of channels		12		32	8
Input voltage	24 VDC positive logic	TSXDEZ12D2K		TSXDEZ32D2	–
	24 VDC positive/negative logic	–		TSXDEZ12D2	–
	100...120 VAC	–		–	TSXDEZ08A4
	200...240 VAC	–		–	TSXDEZ08A5

(1) For use with Advantys Telefast ABE7 wiring system



Type of module		Discrete outputs					
		Solid state				Relay	
Connection		By HE 10 conn. (1)		By screw terms. supplied			
Module format		Half		Standard	Half		
Number of protected channels		8		32	4	8	32
Protection of outputs		Yes		Yes	Yes	No	No
Output voltage/current	24 VDC/0.5 A	TSXDSZ08T2K	TSXDSZ08T2	TSXDSZ32T2	–	–	–
	24 VDC/2 A	–	–	–	TSXDSZ04T22	–	–
	24 VDC/1 A per channel	–	–	–	–	TSXDSZ08R5	–
	24...240 VAC/1 A per channel	–	–	–	–	–	TSXDSZ32R5

(1) For use with Advantys Telefast ABE7 wiring system



Type of module		Discrete I/O					
Connection		By HE 10 connector (1)			By screw terminals supplied		
Module format		Half	Standard				
Number of inputs		8	16	32	16	16	16
Number of outputs		8 solid state	12 solid state	32 solid state	12 solid state	12 solid state	12 solid state
Protection of outputs		Yes				No	
Voltage/current output	24 VDC/0.5 A	TSXDMZ16DTK	TSXDMZ28DTK	–	TSXDMZ28DT	–	–
	24 VDC/0.1 A	–	–	TSXDMZ64DTK	–	–	–
	100...120 VAC/50 VA	–	–	–	–	TSXDMZ28DR	TSXDMZ28AR

(1) For use with Advantys Telefast ABE7 wiring system

Analog I/O modules



Type of module	Analog inputs	
	High level with common point	High level isolated
Connection	By screw terminals supplied	
Number of channels	8	4
Resolution	11 bits + sign	12 bits
Input signal	± 10 V, 0...10 V	0...20 mA, 4...20 mA
Reference	TSXAEZ801	TSXAEZ802
		TSXAEZ414

(1) ± 10 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA, B, E, J, K, L, N, R, S, T, U, Pt 100, Ni 1000 (2 or 4-wire), thermal probe, thermocouple

3



Type de module	Analog outputs	
	With common point	
Connection	By screw terminals supplied	By screw terminals supplied
Number of channels	4	2
Resolution	11 bits + sign	11 bits + sign or 12 bits
Input signal	± 10 V, 0...10 V	± 10 V, 0...20 mA, 4...20 mA
Reference	TSXASZ401	TSXASZ200



Type of module	Analog I/O Integrated	Analog I/O High level with common point
Connection	By 15-way SUB-D connector not supplied	By screw terminals supplied
Number of inputs	8	4
Number of outputs	1	2
Resolution	8 bits	11 bits + sign or 12 bits
I/O signal	0...10 V, 0...20 mA, 4...20 mA	± 10 V, 0...10 V, 0...20 mA, 4...20 mA
Reference	TSX3722 (2)	TSXAMZ600

(2) References: see pages 3/16 and 3/17, TSX3722 basic configuration

Modicon TSX Micro

Automation platform

Integrated counter modules



Type of module	Counting on discrete I/O module	Integrated counting on TSX 3722
Type of inputs for	Sensors, limit switches Totem Pole incremental encoders	Sensors, limit switches Totem Pole incremental encoders
Frequency	500 Hz	10 kHz
Response time	8 ms	8 ms
Number of channels	2 (1)	2 (2)
Reference	TSX37 (3)	TSX3722 (3)

- (1) On the first 4 inputs of the 28, 32 or 64 discrete I/O modules
- (2) Plus 2 channels on the discrete I/O
- (3) References: see pages 3/12 and 3/13, TSX37 basic configuration

Counter/position control modules



Type of module	Counter			Positioning
Type of inputs for	2-wire PNP sensors 24 VDC Totem Pole incremental encoders 5 VDC RS 422, 10...30 VDC			SSI or parallel absolute encoder 5 VDC, 10...30 VDC
Frequency	40 kHz	40 kHz	500 kHz	200 or 1000 kHz
Response time	5 ms	5 ms		5 ms
Number of channels	1	2		1
Reference	TSXCTZ1A	TSXCTZ2A	TSXCTZ2AA	TSXCTZ1B

Communication modules



Type of module		Ethernet TCP/IP network For TSX 3710/21/22 PLCs	
Speed		10/100 MBps	10/100 MBps
Standard services		TCP/IP(Uni-TE, Modbus)	TCP/IP(Uni-TE, Modbus)
Transparent Ready	Class	B20	C20
	I/O Scanning	Yes	Yes
Web server	Standard services	Yes	Yes
	FactoryCast services	–	Yes with 8 MB of user Web pages and graphics editor
Reference		TSXETZ410	TSXETZ510

3



Type of module		AS-Interface cabling system	CANopen machine bus	Fipio fieldbus
Name and description		Half size in-rack	PCMCIA card	PCMCIA card
Speed		167 kBps	20 kBps...1 MBps dep. on distance	1 MBps
Reference		TSXSAZ10	TSXCPP110	TSXFPP10



Type of module		Serial links Uni-Telway, Modbus	
Name and description		Integrated port	Multiprotocol PCMCIA card
Speed		19.2 kBps	1.2...19.2 kBps
Reference	With interface RS 485	TSX37 (1)	TSXSACP114
	RS 232D	–	TSXSACP111
	20 mA CL	–	TSXSACP112

(1) References: see pages 3/12 and 3/13, TSX3705/08/10 PLCs with link integrated on TER terminal port, or TSX3721/22 PLCs with link integrated on AUX terminal port.



Type of module		Networks Modbus Plus	Fipway
Name and description		PCMCIA card	PCMCIA card
Speed		1 MBps	1 MBps
Reference		TSXMBP100	TSXFPP20

New



Type of processor			Standard BMX P34 1000	High-performance BMX P34 2010	BMX P34 2020	BMX P34 2030
Number of racks			1 (4, 6, 8 or 12 slots)			
Maximum configuration			Maximum 12 slots for processor and modules (excluding power supply module)			
Functions	Max. no. (1)	Discrete I/O	512	704		
		Analog I/O	66			
		Control channels	Programmable loops (via CONT-CTL process control EFB library)			
		Counter channels	20	36		
		Motion control	–	Independent axes on CANopen bus (via MFB library)	–	Independent axes on CANopen bus (via MFB library)
		Integrated connections	–		1 RJ45 port, 10/100 MBps, with Transparent Ready class B10 standard web server	
	Communication module	CANopen master bus	–	1 (9-way SUB-D)	–	1 (9-way SUB-D)
		Serial link	1 RJ45 port, Modbus master/slave RTU/ASCII or character mode (non isolated RS 232C/RS 485), 0.3...19.2 kBps			
		USB port	1 port, 12 MBps			
		Ethernet TCP/IP	1 RJ45 port, 10/100 MBps with: - Transparent Ready class B30 standard web server with BMX NOE 0100 module - Transparent Ready class C30 configuration web server with BMX NOE 0110 module			
Internal user	Total capacity		2048 Kb	4096 Kb		
RAM	Program, constants and symbols		1792 Kb	3584 Kb		
	Data		128 Kb	256 Kb		
Execution time for one instruction	Boolean		0.18 µs	0.12 µs		
	On words or fixed point arithmetic	Single-length words	0.38 µs	0.25 µs		
		Double-length words	0.26 µs	0.17 µs		
	On floating points		1.74 µs	1.16 µs		
No. of K instructions executed per ms	100% Boolean		5.4 Kinst/ms	8.1 Kinst/ms		
System overhead	65% Boolean and 35% fixed arithmetic		4.2 Kinst/ms	6.4 Kinst/ms		
	Master task		1.05 ms	0.70 ms		
References	Fast task		0.20 ms	0.13 ms		
			BMX P34 1000	BMX P34 2010	BMX P34 2020	BMX P34 2030

(1) Only affects in-rack modules. The remote I/O on the CANopen bus are not included in these maximum numbers.

Modicon M340

Automation platform

Memory cards



Type of card	8 MB memory card	8 MB memory card + files
Use	Supplied as standard with each processor. Used for: – Backup of program, constants, symbols and data – Activation of class B10 web server	As replacement for the memory card supplied as standard with each processor, used for: – Backup of program, constants, symbols and data – File storage, 16 MB – Activation of class B10 web server
Compatibility	BMX P34 1000/20.0	BMX P34 20.0
References	BMX RMS 008MP	BMX RMS 008MPF

3

Communication modules



Type of module	Ethernet TCP/IP network	
Speed	10/100 MBps	
Standard services	Modbus TCP/IP messaging	TCP/IP (Uni-TE, Modbus)
Conformity class	Transparent Ready class B30	Transparent Ready class C30
Communication service	I/O Scanning service	Yes
Transparent Ready	FDR service	Yes (client/server)
	SNMP network management service	Yes
	Global Data service	Yes
	SOAP/XML Web service	NoServer
	Passband management	Yes
References	BMX NOE 0100	BMX NOE 0110
Memory card	Compatibility	Ethernet module BMXNOE0100
	Use	Provides services conforming to Transparent Ready: Class BClass C 16 MB available for user web pages
References	BMX RWS B000M	BMX RWS C016M

USB connexion cordsets

Designation	Terminal port/USB cordsets	
Use	From	Mini B USB port on the Modicon M340 processor
	To	PC terminal type A USB port
Length	1.8 m	4.5 m
References	BMX XCA USB H018	BMX XCA USB H045

Modicon M340

Automation platform

Power supply modules



Type of module		Power supply modules			
Voltage		24 VDC isolated	24...48 VDC isolated	100...240 VAC	
Nominal input current		1...24 VDC	1.65...24 VDC, 0.83...48 VAC/DC	0.61...115 VAC	
Micro-break duration		≤ 1			
Integrated protection		Via internal fuse (not accessible)			
Max. useful power		17W	32 W	20 W	36 W
Max. dissipated power		8.5 W			
Removable connectors (set of 2)	supplied as standard	BMX XTS CPS10 (cage clamp)			
	to be ordered separately	BMX XTS CPS20 (spring-type)			
References		BMX CPS 2010	BMX CPS 3020	BMX CPS 2000	BMX CPS 3500

Racks



Designation	Racks			
Type of modules to be installed	BMX CPS power supply, BMX P34 processor, I/O modules and application-specific modules (counter, communication)			
No. of slots	4	6	8	12
References	BMX XBP 0400	BMX XBP 0600	BMX XBP 0800	BMX XBP 1200

Optional connection accessories

Shielding connection kit		For BMX EHC 0200/0800 modules			
		Consisting of a metal bar, 2 sub-bases for mounting on rack and a set of spring clamping rings			
Rack		BMX XBP 0400	BMX XBP 0600	BMX XBP 0800	BMX XBP 1200
References		BMX XSP 0400	BMX XSP 0600	BMX XSP 0800	BMX XSP 1200

Spring clamping rings (pack of 10)	Cables with cross-section	1.5...6 mm ²	5...11 mm ²
References		STB XSP 3010	STB XSP 3020

Protective covers (pack of 5)		
		For unoccupied slots on BMX XBP●●00 rack
References		BMX XEM 010

Modicon M340

Automation platform

Discrete I/O modules



Type of module			DC input modules				
Number of inputs			16	16	32	64	16
Connection			Screw or spring-type 20-way removable terminal block		1 connector 40-way	2 connectors 40-way	Screw or spring-type 20-way removable terminal block
Nominal input values	Voltage		24 V	48 V	24 V		
	Current		3.5 mA	2.5 mA	1 mA	3 mA	
	Logic		Positive (<i>sink</i>)				
Input limit values	At state 1	Voltage	≥11 V	≥34 V	≥11 V	≥15 V	Negative (<i>source</i>)
		Current	> 2 mA (for U ≥11 V)	> 2 mA (for U ≥34 V)	> 2 mA (for U ≥11 V)	> 1 mA (for U ≥5 V)	> 2 mA (for U ≥15 V)
	At state 0	Voltage	< 5 V				
		Current	≥1.5 mA	≥0.5 mA	≥1.5 mA	≥0.5 mA	
References			BMX DDI 1602	BMX DDI 1603	BMX DDI 3202K	BMX DDI 6402K	BMX DAI 1602



Type of module			AC input modules		
Number of inputs			16		
Connection			Screw or spring-type 20-way removable terminal block		
Nominal input values	Voltage		24 VAC	48 AC	100...120 VAC
	Current		3 mA		
	Frequency		50/60 Hz		
Input limit values	At state 1	Voltage	≥15 V	≥34 V	≥74 V
		Current	≥2 mA		≥2.5 mA
	At state 0	Voltage	≤5 V	≤10 V	≤20 V
		Current	≤1 mA		
References			BMX DAI 1602	BMX DAI 1603	BMX DAI 1604



Type of module		DC solid state output modules			
Number of inputs		16	16	32	64
Connection		Screw or spring-type 20-way removable terminal block		One 40-way connector	Two 40-way connectors
Nominal output values	Voltage	24 VDC			
	Current	0.5 V		0.1 V	
	Logic	Positive (<i>source</i>)	Negative (<i>sink</i>)	Positive (<i>source</i>)	
Output limit values	Voltage (ripple included)	19...30 (possible up to 34 V, limited to 1 hour in every 24 hours)			
	Current per channel	0.625 A			0.125 A
	Current per module				
Maximum dissipated power		4	2.26	3.6	6.85
References		BMX DDO 1602	BMX DDO 1612	BMX DDO 3202K	BMX DDO 6402K

Modicon M340

Automation platform

Discrete I/O modules



Type of module		Triac output modules	
Number of inputs		16	
Connection		Screw or spring-type 20-way removable terminal block	
Operating voltage	Nominal	100...240 VAC	
	Limit	85...288 VAC	
Currents	Maximum	0.6 per channel, 2.4 per common, 4.8 for all 4 commons.	
	Minimum	25 mA at 100 V a, 25 mA at 240 V a.	
Maximum inrush current		≤ 20/cycle	
Reference		BMX DAO1605	



Type of module		Relay output modules	
Number of inputs		8	16
Connection		Screw or spring-type 20-way removable terminal block	
Max. operating voltage	DC	10...34 VDC	24...125 VDC (resistive load)
	AC	10...264 VAC	200...264 VAC (Cosφ = 1)
Response time	Activation	< 10 ms	
	Deactivation	< 8 ms	< 12 ms
Dissipated power		2.7 W max	3 W
References		BMX DRA 0805	BMX DRA 1605



Type of module			24 VDC mixed I/O modules					
			Inputs		Solid state outputs	Inputs	Solid state outputs	
Number of I/O			8		8	16		16
Connection			Screw or spring-type 20-way removable terminal block				One 40-way connector	
Input limit values	At state 1	Voltage	≥11V				≥11V	
		Current	≥3 mA (for U ≥11)				≥2 mA (for U ≥11)	
	At state 0	Voltage	5 V				5 V	
		Current	≤1.5 mA				≤1.5 mA	
	Sensor power supply (ripple included)		19...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)					
	Output limit values	Voltage (ripple included)		19...30 (possible up to 30 V, limited to 1 hour in every 24 hours)				
Current		per channel	0.625 A				0.125 A	
		per module	5 A				3.2 A	
Maximum dissipated power			3.7 W				4 W	
References			BMX DDM 16022				BMX DDM 3202K	

Modicon M340

Automation platform

Discrete I/O modules



Type of module			Mixed input/relay output modules	
			24 VDC inputs	24 VDC or 24...240 VAC relay outputs
Number of I/O			8	8
Connection			Screw or spring-type 20-way removable terminal block	
Nominal values	Inputs	Voltage	24 VDC (positive logic)	
		Current	3.5 mA	
	Outputs	DC voltage		24 VDC
		DC		2 (resistive load)
		AC voltage		220 VAC, Cosφ = 1
		AC		2 A
Input limit values	At state 1	Voltage	≥11V	
		Current	≥2 mA (for U ≥ 11 V)	
	At state 0	Voltage	5 V	
		Current	≤1.5 mA	
	Sensor power supply (ripple included)		19...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)	
Maximum dissipated power			3.1 W	
Reference			BMX DDM 16025	

Connection accessories



20-way removable connection blocks			
For module with 20-way removable terminal block	Cage clamp	Screw clamp	Spring-type
References	BMX FTB 2000	BMX FTB 2010	BMX FTB 2020



Preformed cordsets for I/O modules with removable terminal block			
Preformed cordsets with one end with flying leads	One 20-way terminal block, one end with color-coded flying leads		
Length	3 m	5 m	10 m
References	BMX FTW 301	BMX FTW 501	BMX FTW 1001



Preformed cordsets for I/O modules with 40-way connectors					
Preformed cordsets		one end with flying leads		for Advantys Telefast ABE7 sub-bases	
No. of sheaths		1 x 20 wires (16 channels)	1 x 20 wires (32 channels)	1 x 20 wires (16 channels)	1 x 20 wires (32 channels)
Composition		One 40-way connector			
		1 end w. col-coded flying leads	2 ends w. col-coded flying leads	1 HE 10 connector	2 HE 10 connectors
Cross-section		0.324 mm2			
Reference	L = 0.5 m	—	—	BMX FCC 051	BMX FCC 053
	L = 1 m	—	—	BMX FCC 101	BMX FCC 103
	L = 2 m	—	—	BMX FCC 201	BMX FCC 203
	L = 3 m	BMX FCW 301	BMX FCW 303	BMX FCC 301	BMX FCC 303
	L = 5 m	BMX FCW 501	BMX FCW 503	BMX FCC 501	BMX FCC 503
	L = 10 m	BMX FCW 1001	BMX FCW 1003	BMX FCC 1001	BMX FCC 1003

Modicon M340

Automation platform

Analog I/O modules



Type of module	Analog input module		
Input type	Isolated high-level inputs	Isolated inputs, low-level voltage, resistors, temperature probes, thermocouples	
Number of channels	4	4	8
Nature of inputs	±10 V, 0...10 V, 0...5 V, 1...5 V, ±5 V	±40 mV, ±80 mV, ±160 mV, ±320 mV, ±640 mV, ±1.28 V	
Resolution	0.35 mV	15 mV + sign	
Reference	BMX AMI 0410	BMX ART 0414	BMX ART 0814



Type of module	Analog output module	
Output type	Isolated high-level outputs	
Number of channels	2	
Range	Voltage	± 10 V
	Current	0...20 mA and 4...20 mA
Resolution	15 bits + sign	
Reference	BMX AMO 0210	

Type of module		Mixed analog I/O module	
Channel type		Non-isolated high-level inputs	Non-isolated high-level outputs
Number of channels		4	2
Ranges		±10 V, 0...5 V, 0...10 V, 1...5 V, 0...20 mA, 4...20 mA	±10 V, 0...20 mA, 4...20 mA
Maximum conversion value	Voltage	± 11.25 V	± 11.25 V
	Current	0...30	0...24 mA
Resolution		14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference		BMX AMM 0600	

Counter modules



Type of module	Counter module		
	32 bits	16 bits	32 bits
Modularity	2 channels	8 channels	4 channels
No. of sensor inputs	6 per channel	2 per channel	3 per channel
No. of actuator outputs	2 per channel		
Module cycle time	1 ms	5 ms	
Applications	Upcounting, downcounting, measurement, frequency meter, frequency generator, axis following	Upcounting, downcounting, measurement, interfacing	
References	BMX EHC 0200	BMX EHC 0800	

Modicon M340

Automation platform

Connection accessories



20-way removable terminal blocks

For use with modules	BMX AMI 0410 - BMX AM0 0210 - BMX AMM 0600		
Composition	Cage clamp	Screw clamp	Spring-type
Reference	BMX FTB 2000	BMX FTB 2010	BMX FTB 2020



Preformed cordsets with one end with flying leads

For use with modules	BMX AMI 0410	BMX AM0 0210	BMX AMM 0600	BMX ART 0414	BMX ART 0814
Composition	One 20-way terminal block		1 end w. col-coded flying leads	One 40-way connector	1 end w. col-coded flying leads
Reference	L = 3 m	BMX FTW 301S		BMX FCW 301S	
	L = 5 m	BMX FTW 501S		BMX FCW 501S	

Advantys Telefast ABE 7 sub-bases

For use with modules	BMX AMI 0410	BMX ART 0414	BMX ART 0814
Composition	Distribution of isolated power supplies Delivers 4 protected isolated power supplies for 4...20 mA inputs. Direct connection of 4 inputs	Connection and provision of cold junction compensation for thermocouples Direct connection of 4 inputs	
Reference	ABE 7CPA410	ABE 7CPA412	



Preformed cordsets for Advantys Telefast ABE 7 sub-bases

For use with modules	BMX AMI 0410	BMX ART 0414	BMX ART 0814
Composition	One 20-way removable terminal block and one 25-way SUB-D connector for ABE 7CPA410 sub-base	One 40-way connector and one 25-way SUB-D connector for ABE 7CPA412 sub-base	
Reference	L = 1.5 m	BMX FCA150	BMX FCA152
	L = 3 m	BMX FCA300	BMX FCA302
	L = 5 m	BMX FCA500	BMX FCA502

Pack of connectors

For BMX EHC 0200 modules	Two 16-way connectors and one 10-way connector
Reference	BMX XTS HSC 20



20-way removable terminal blocks

For BMX EHC 0800 modules	Cage clamp	Screw clamp	Spring-type
References	BMX FTB 2000	BMX FTB 2010	BMX FTB 2020

Modicon Premium Automation platform

Processors under Unity Pro software



Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No / Yes	30 loops / Yes	45 loops / Yes
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1	1	1
	INTERBUS, Profibus DP fieldbus	–	1	3
Networks (Ethernet, Modbus Plus, Fipway)		1	2	3
Memory capacity	Without PCMCIA extension	96 Kb data/prog.	160/192 Kb data/prog. (1)	192/208 Kb data/prog. (1)
	With PCMCIA extension	96 Kb data/224 Kb prog.	160/192 Kb data (1)/768 Kb prog.	192/208 Kb data (1)/1,75 MB prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57104M (6)	TSXP57204M (6)	TSXP57304M (6)
	Integrated Ethernet	TSXP571634M (2) (6)	TSXP572634M (6)	TSXP573634M (6)
	Integrated CANopen	–	–	–
	Integrated Fipio	TSXP57154M (6)	TSXP57254M (6)	TSXP57354M (6)

Processors under PL7 software



Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No	30 loops	45 loops
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1 (with TSXP57103M)	1	1
	INTERBUS, Profibus DP fieldbus	–	1	2
Networks (Ethernet, Modbus Plus, Fipway)		1	1	3
Memory capacity	Without PCMCIA extension	32 K words data/prog.	48 K words data/prog. (4)	64/80 K words data/prog. (4)
	With PCMCIA extension	32 K words data/64 K words prog.	32 K words data (4)/160 K words prog.	80/96 K words data (4)/384 K words prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57103M (6)	TSXP57203M (6)	TSXP57303AM (6)
	Integrated Ethernet	–	TSXP572623M (6)	TSXP573623AM (6)
	Integrated Fipio	TSXP57153M (6)	TSXP57253M (6)	TSXP57353AM (6)
	Integrated Ethernet and Fipio	–	TSXP572823M (6)	–

(1) The second value corresponds to the integrated memory capacity when the processor is equipped with a Fipio manager integrated link

(2) Processor with double format

(3) PC format card on PCI bus

(4) The second value corresponds to the processor with integrated Fipio bus manager link.

(5) with PL7 V4.4 min.

(6) For coated version add C at the end of the reference: example TSXP571634M becomes TSXP571634MC



TSX 5740 16 racks max.	TSX 5750 16 racks max.	TSX 5760	TSXH5724M	TSXH5744M
2040	2040	2048	1024	2048
256	512	512	80	256
60 loops / Yes	90 loops / Yes	90 loops / Yes	30 loops / Yes	60 loops / Yes
64	64	64	0	0
8	8	8	0	0
1	1	1	0	0
4	5	5	0	0
4	4	4	2	4
320 Kb data/prog.	1024 Kb data/prog.	2048 Kb data/prog.	192 Kb	440 Kb
440 Kb data/2 MB prog.	1024 Kb data/7 MB prog.	2048 Kb data/7 MB prog.	192 Kb data/768 Kb prog.	440 Kb data/2 MB prog.
0.06 µs	0.037 µs	0.037 µs	0.039 µs	0.039 µs
0.07 µs	0.045 µs	0.045 µs	0.054 µs	0.054 µs
–	–	–	TSXH5724M (6)	TSXH5744M (6)
TSXP574634M (6)	TSXP575634M (6)	TSXP576634M (6)		
–	–	–		
TSXP57454M (6)	TSXP57554M (6)	–		

3

Atrium slot-PLCs under Unity Pro software



TSX 5740 16 racks max.	PCI 5720 16 racks max.	PCI 5730 16 racks max.
2048	1024	1024
256	80	128
60 loops	30 loops / Yes	45 loops / Yes
64	24	32
8	4	8
1	1	1
2	1	3
4	3 (6)	4
96 K words data/prog.	160 Kb data/prog. (1)	208 Kb data/prog. (1)
176 K words data/992 K words prog. (5)	160 Kb data/768 Kb prog.	208 Kb data (1)/1,75 MB prog.
0.06 µs	0.19 µs	0.12 µs
0.08 µs	0.25 µs	0.17 µs
–	TSXPCI57204M (3)	–
–	–	–
TSXP57453AM (6)	–	–
TSXP574823AM (6)	–	TSXPCI57354M (3)

Modicon Premium Automation platform

Memory extensions for Unity Pro processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size	96 Kb	—	TSXMFPPB096K (3)	—
	128 Kb	TSXMRPP128K	TSXMFPP128K	—
	224 Kb	TSXMRPP224K / TSXMCPC224K	TSXMFPP224K	—
	384 Kb	TSXMRPP384K	TSXMFPP384K	—
	448 Kb	TSXMRPC448K (1)	—	—
	512 Kb	—	TSXMCPC512K (2) / TSXMFPP512K	—
	768 Kb	TSXMRPC768K (1)	—	—
	1 MB	TSXMRPC001M (1) (6)	TSXMFPP001M	—
	1.7 MB	TSXMRPC01M7	—	—
	2 MB	TSXMRPC002M (1)	TSXMCPC002M (2) / TSXMFPPC002M	—
	3 MB	TSXMRPC003M (1) (6)	—	—
	4 MB	—	TSXMFPP004M	TSXMRPF004M
	7 MB	TSXMRPC007M (1) (6)	—	—
	8 MB	—	—	TSXMRPF008M

(1) By configuration, the user can reserve part of the memory space for data storage (recipes, production data) on request.

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) Backup cartridge of the program when this one reside entirely in PLC internal memory.

Memory extensions for PL7 processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size (4)	32 K words	TSXMRPP128K	TSXMFPP128K	—
	64 K words	TSXMRPP224K	TSXMFPP224K	—
	64 K words/128 K words	TSXMRPP384K	TSXMCPC224K	—
	96 K words	—	TSXMFPPB096K	—
	128 K words	TSXMRPC448K	TSXMFPP384K	—
	128 K words/128 K words	TSXMRPC768K (5)	—	—
	256 K words	TSXMRPC001M (6)	—	—
	256 K words/640 K words	TSXMRPC01M7 (5)	—	—
	384 K words/640 K words	TSXMRPC002M	—	—
	512 K words	TSXMRPC003M (5) (6)	—	—
	992 K words/640 K words	TSXMRPC007M (6)	—	—
	2048 K words	—	—	TSXMRPF004M

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).

(5) These cards have an additional SRAM area for storing application object symbols.

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Power supply modules ⁽¹⁾



Type of power supply module for	Premium					Atrium (2)
Input voltage	24 VDC	100...240 VAC	100...120/200...240 VAC			24 VDC
Output voltage	5 VDC/24 VDC					5 VDC
Total useful power	26 W	50 W	26 W	50 W	77 W	26 W
Format	Standard	Double	Standard	Double	Double	–
Reference	TSXPSY1610M (4)	TSXPSY3610M (4)	TSXPSY2600M (4)	TSXPSY5500M (4)	TSXPSY8500M (4)	TSXPSI2010

(1) Process power supplies see chapter 6 “Power supply”

(2) Only for Atrium slot-PLCs under Unity

Racks



Type of rack			Non extendable	Extendable
For configuration			Mono-rack	Multi-rack (16 max.)
Dimensions WxDxP				
Reference	4 positions	188 x 160 x 151,5 mm (3)	–	TSXRKY4EX (4)
	6 positions	261,6 x 160 x 151,5 mm (3)	TSXRKY6 (4)	TSXRKY6EX (4)
	8 positions	335,3 x 160 x 151,5 mm (3)	TSXRKY8 (4)	TSXRKY8EX (4)
	12 positions	482,6 x 160 x 151,5 mm (3)	TSXRKY12 (4)	TSXRKY12EX (4)

(3) Hight of I/O modules : 151,5 mm with HE 10 or SUB-D connectors, 165 mm with screw terminals

(4) For coated version add C at the end of the reference: example TSXPSY1610M becomes TSXPSY1610MC

Connection accessories

Type		Bus X daisy chaining cable for extendable racks	Line terminators
		–	Set of 2
Reference		–	TSXTLYEX
	L = 1 m	TSXCBY010K	–
	L = 3 m	TSXCBY030K	–
	L = 5 m	TSXCBY050K	–
	L = 12 m	TSXCBY120K	–
	L = 18 m	TSXCBY180K	–
	L = 28 m	TSXCBY280K	–
	L = 38 m	TSXCBY380K	–
	L = 50 m	TSXCBY500K	–
	L = 72 m	TSXCBY720K	–
	L = 100 m	TSXCBY1000K	–

Modicon Premium

Automation platform

Discrete I/O modules



Type of module		Discrete inputs				
Connection		By screw terminals TSXBLY01 (1)		By HE 10 connector (2) high density		
Number of isolated channels		8	16	16 (3)	32	64
Input voltage	24 VDC	TSXDEY08D2 (5)	TSXDEY16D2 (5)	TSXDEY16FK (5)	TSXDEY32D2K (5)	TSXDEY64D2K (5)
	48 VDC	–	TSXDEY16D3 (5)	–	TSXDEY32D3K (5)	–
	24 VAC	–	TSXDEY16A2 (4) (5)	–	–	–
	48 VAC	–	TSXDEY16A3 (5)	–	–	–
	100...120 VAC	–	TSXDEY16A4 (5)	–	–	–
	200...240 VAC	–	TSXDEY16A5 (5)	–	–	–

- (1) Terminal block to be ordered separately
- (2) For use with Advantys Telefast ABE7 wiring system
- (3) Module with high-speed isolated inputs (filtering from 0.1 to 7.5 ms) able to activate the event-triggered task
- (4) Module also compatible with 24 VDC negative logic



Type of module		Discrete outputs							
		Solid state				Relay			Triac
Connection		By screw terminals TSXBLY01 (1)		By HE10 conn. (2)		By screw terminals TSXBLY01 (1)			
Number of protected channels		8	16	32	64	8	16	8	16
Output voltage/current 24 VDC/0,5 A		TSXDSY08T2 (5)	TSXDSY16T2 (5)	–	–	–	–	–	–
	24 VDC/2 A	TSXDSY08T2 (5)	–	–	–	–	–	–	–
	24 VDC/0.1 A	–	–	TSXDSY32T2K (5)	TSXDSY64T2K (5)	–	–	–	–
	48 VDC/1 A	TSXDSY08T31 (5)	–	–	–	–	–	–	–
	48 VDC/0.25 A	–	TSXDSY16T3 (5)	–	–	–	–	–	–
	24...48 VDC-24...240 VAC/5 A Th.c	–	–	–	–	TSXDSY08R5A (5)	–	–	–
	24...120 VAC/5 A Th.c	–	–	–	–	TSXDSY08R4D (5)	–	–	–
	24...120 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S4 (5)
	48...240 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S5
	48...240 VA /2 A	–	–	–	–	–	–	TSXDSY08S5	–
	24 VDC-24...240 VAC/3A	–	–	–	–	TSXDSY08R5 (5)	TSXDSY16R5 (5)	–	–

- (1) Terminal block to be ordered separately
- (2) For use with Advantys Telefast ABE7 wiring system



Type of module		Discrete I/O	
Connection		By HE 10 connector (2) high density	
Number of inputs		16 high-speed	
Number of protected outputs		12 solid state	12 reflex or timed
Output voltage/current	24 VDC/0.5 A	TSXDMY28FK (5)	TSXDMY28RFX (5)

- (2) For use with Advantys Telefast ABE7 wiring system
- (5) For coated version add C at the end of the reference: example TSXDEY08D2 becomes TSXDEY08D2C

Connection accessories: See www.schneider-electric.com

Analog I/O modules



Type of module		Analog input					
		High level with common point			High level isolated	Low level isolated	
Connection		By 25-way SUB-D connector					By terminal block (1)
Number of channels		4 high-speed	8	16	8	16	4
Resolution		16 bits	12 bits		16 bits	16 bits	16 bits
Isolation	Between channels	Common point	Common point	Common point	± 200 VDC	± 100 VDC	± 2830 Vrms
	Between channels and earth	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1780 Vrms
Reference	High level input (2)	TSXAEY420 (7)	TSXAEY800 (7)	TSYAEY1600 (7)	TSXAEY810 (7)	–	–
	Multi-range	–	–	–	–	TSXAEY1614 (3)(7)	TSXAEY414 (4) (7)

- (1) Screw terminals **TSXBLY01** to be ordered separately
- (2) ± 10 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA
- (3) ± 63 mV thermocouple (B, E, J, K, L, N, R, S, T, U)
- (4) ± 10 V, ± 5 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA, -13...+63 mV, 0...400 W, 0...3850 W, thermal probe, thermocouple



Type of module		Analog output	
		Isolated	With common point
Connection		By screw terminals TSXBLY01 (5)	By 25-way SUB-D connector
Number of channels		4	8
Resolution		11 bits + sign	13 bits + sign
Isolation	Between channels	~ 1500 Vrms	Common point
	Between channels and earth	~ 1500 Vrms	~ 1000 Vrms
Reference	Input signal (6)	TSXASY410 (7)	TSXASY800 (7)

- (5) Terminal block to be ordered separately
- (6) ± 10 V, 0...10 V, 0...20 mA, 4...20 mA.
- (7) For coated version add C at the end of the reference: example **TSXAEY420** becomes **TSXAEY420C**

Modicon Premium Automation platform

Counter modules



Type of module	Counter		Counter/measurement	Electronic cam
Type of inputs for	Sensors (2) Incremental encoders (3)		Sensors (2) Encoders (3)(4)	Incremental encoders (3) Absolute encoders (5)
Counting	40 kHz		500 kHz/200 kHz (5)	
Cycle time module	5 ms	10 ms	1 ms	–
Number of channels	2	4	2	128 cams
Number of axes	–	–	–	1
Reference	TSXCTY2A (1)	TSXCTY4A (1)	TSXCTY2C (1)	TSXCCY1128 (1)

(1) For coated version add **C** at the end of the reference: example TSXCTY2A becomes TSXCTY2AC

(2) For 2/3-wire PNP/NPN 24 VDC sensors

(3) For 5 VDC RS422, 10...30 VDC Totem Pole incremental encoders

(4) For SSI serial or parallel output absolute encoders

(5) For RS485 serial or parallel output absolute encoders

Motion control modules



Module type	For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)			
Control outputs	RS 422		+/- 10 V			
Compatible with drives	Lexium 05, Twin Line		Lexium 05 / 15 LP, MP and HP, Twin Line			
Functions	Linear axes	–	Limited	Limited or infinite	Limited or infinite(6)	
	Slave axes	–	With static ratio	With dynamic ratio	–	
Frequency for each axis	187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (7)			
Number of axes	1	2	2	4	2	3
Reference	TSXCFY11 (1)	TSXCFY21 (1)	TSXCAY21 (1)	TSXCAY41 (1)	TSXCAY22 (1)	TSXCAY42 (1)
					TSXCAY33 (1)	

(6) With linear interpolation on 2 or 3 axes

(7) SSI serial or with parallel outputs



Module type	Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs	SERCOS® network ring		
Compatible with ranges	Lexium 15 LP, MP and HP		
Functions	Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing	4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (8)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis	4 MB SERCOS® network ring		
Number of axes	8 (9)	8 (9)	16 (10)
Reference	TSXCSY84	TSXCSY85	TSXCSY164

(8) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.

(9) 8 real axes, 4 imaginary axes and 4 remote axes

(10) 16 axes (real axes, imaginary and remote axes)

Weighing modules



Type of module	ISP Plus supplied uncalibrated		supplied calibrated and  offer
Load cell inputs / outputs	50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit		
Reference	Without display unit	TSXISPY101 (1)	Please consult your Schneider-electric agency
	With display unit TSXXBTN410	TSXISPY121	Please consult your Schneider-electric agency

Connection accessories: See www.schneider-electric.com

Communication modules

Transparent
Ready



Type of module		Ethernet TCP/IP				
Speed		10 MBps	10/100 MBps			
Standard services		Ethway, TCP/IP (Uni-TE, Modbus)	TCP/IP (Uni-TE, Modbus)			
Transparent Ready	Classe	C10	B30	B30	C30	D10
	Global Data	–	Yes	Yes	Yes	–
	I/O Scanning	–	Yes	Yes	Yes	–
	TCP Open	Yes	–	–	Yes	–
Web server	Standard services	Yes	Yes	Yes	Yes	Yes
	FactoryCast services	Yes	–	–	Yes	–
	FactoryCast HMI services	–	–	–	–	Yes
Reference		TSXEY110WS (4)	TSXP57 (1)	TSXEY4103 (4)	TSXEY5103 (4)	TSXWY100 (4)

(1) References: see pages 3/18 and 3/19, Premium processors with integrated Ethernet TCP/IP port



Type of module		AS-Interface cabling system	CANopen machine bus	Fipio manager fieldbus	INTERBUS fieldbus	Profibus DP fieldbus
Name and description		In-rack	PCMCIA	Integrated port	In-rack	In-rack
Speed		167 kBps	20 K...1 MBps	1 MBps	0.5 MBps	9.6 K...12 MBps
Reference		TSXSAY1000 (4)	TSXCPP110 (4)	TSXP57 (2)	TSXIBY100 (4)	TSXPBY100

(2) References: see pages 3/18 and 3/19, Premium processors with integrated Fipio port



Type of module			Serial links Uni-Telway			Modbus		ASCII
Name and description			Integrated port	In-rack	PCMCIA	In-rack	PCMCIA	PCMCIA
Speed			19.2 kBps	19.2 kBps	1.2...19.2 kBps	19.2 kBps	1.2...19.2 kBps	1.2...19.2 kBps
Reference	With interface	RS 485	TSXP57 (1)	TSXSCY21601 (2) (4)	TSXSACP114 (4)	TSXSCY11601 (4)	TSXSACP114 (4)	TSXSACP114 (4)
		RS 232D	–	–	TSXSACP111 (4)	–	TSXSACP111 (4)	TSXSACP111 (4)
		20mA CL	–	–	TSXSACP112 (4)	–	TSXSACP112 (4)	TSXSACP112 (4)

(1) References: see pages 3/18 and 3/19, Premium processors with integrated Ethernet TCP/IP port

(2) Also designed for Modbus serial (channel 0).



Type of module		Other networks		
		Modbus Plus	Fipway	Fipio (agent function)
Name and description		PCMCIA card	PCMCIA card	PCMCIA card
Speed		1 MBps	1 MBps	1 MBps
Reference		TSXMBP100 (4)	TSXFPP20 (4)	TSXFPP10 (4)

(4) For coated version add C at the end of the reference: example TSXEY110WS becomes TSXEY110WSC

Connection accessories: See www.schneider-electric.com

Schneider
Electric

Other versions: please consult your Schneider Electric agency.

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Modicon Quantum

Automation platform

Processors under Unity Pro software



Type of processor		Simple applications	Simple and medium complexity applications
Max. number of discrete I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	
Max. number of analog I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	
Type of application-specific I/O		Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus	
Communication ports (2)	Integrated Modbus	2 RS 232/RS 485	2 RS 232
	Modbus Plus	1 integrated, 2 in local rack	1 integrated, 6 in local rack
	Ethernet TCP/IP	2 in local rack	6 in local rack
	Fieldbus	Profibus DP: 2 in local rack	Profibus DP: 6 in local rack
Memory capacity	Integrated	2 MB	2 MB
	With PCMCIA extension	–	–
	Data storage	–	–
Reference		140CPU31110 (4)	140CPU43412U (4)

Processors under Concept/ProWORX software



Type of processor		Simple applications	
Max. number of discrete I/O (1)	Local	1024 (27 slots max.)	
	Decentralized/distributed	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	
Max. number of analog I/O (1)	Local	Unlimited (27 slots max.)	
	Decentralized/distributed	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	
Type of application-specific I/O		Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus	
Communication ports (2)	Integrated Modbus	1 RS 232	
	Modbus Plus	1 integrated, 2 in local rack	
	Ethernet TCP/IP	2 in local rack	
	Fieldbus	INTERBUS/Profibus DP: 2 in local rack	
Memory capacity	Integrated	256 Kb	512 Kb
Reference	Concept/ProWORX	140CPU11302 (4)	140CPU11303 (4)

(1) The maximum values for the number of discrete or analog I/O are not cumulative

(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model

(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity Pro)

(4) For coated version add C at the end of the reference: example **T140CPU31110** becomes **140CPU31110C**



Complex applications			Hot Standby redundant applications	
Unlimited (26 slots max.)			Unlimited (26 slots max.)	Unlimited (13 slots max.)
31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)			31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	31744 inputs and 31744 outputs
Unlimited (27 slots max.)			Unlimited (27 slots max.)	Unlimited (13 slots max.)
1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)			1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	1984 inputs and 1984 outputs
Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus			–	–
1 RS 232/485			1 RS 232/485	1 RS 232/485
1 integrated, 6 in local rack			1 integrated, 6 in local rack	1 integrated
1 integrated, 6 in local rack			6 in local rack	1 integrated, 6 in local rack
Profibus DP: 6 in local rack			Profibus DP: 6 in local rack	–
2 MB		4 MB	2 MB	2 MB
7 MB		7 MB	7 MB	7 MB
8 MB		–	8 MB	–
140CPU65150 (4)	140CPU65160 (4)	140CPU65260 (4)	140CPU65160S	140CPU67160 (4)
			140CPU67160S	



Simple and medium complexity applications		Complex applications
1024 (27 slots max.)		
31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)		
Unlimited (27 slots max.)		
1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)		
Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus		
2 RS 232		
1 integrated, 6 in local rack		
6 in local rack		
INTERBUS/Profibus DP: 6 in local rack		
2 MB		4 MB
140CPU43412A (3) (4)		140CPU53414B (3) (4)

Modicon Quantum

Automation platform

Power supply modules ⁽¹⁾



Type of power supply module for			Quantum				
Input voltage			24 VDC	48...60 VDC	100...150 VDC	120...230 VAC	115/230 VAC
Output current			8 A/3 A (5)	8 A	8 A/3 A	8 A/3 A (1)	11 A
Reference	Type	Standalone (2)	140CPS21100 (6)	–	140CPS51100 (6)	140CPS11100 (6)	–
		Summable	140CPS21400 (6)	140CPS41400 (6)	–	–	140CPS11420 (6)
		Redundant	140CPS22400 (6)	140CPS42400 (6)	140CPS52400 (6)	140CPS12400 (6)	140CPS12420 (6)

(1) Process power supplies see chapter 6 “Power supply”

(2) The output current for the standalone power supply modules is 3 A

PCMCIA memory extensions



Type of PCMCIA card for Unity processors 140CPU65/67		Application		Additional data
Technology		SRAM	Flash EPROM	SRAM
Memory size	512 Kb/512 Kb (4)	–	TSXMCPC512K (3)	–
	1 MB (5)	TSXMRPC001M (6)	TSXMFPP001M	–
	2 MB (5)	TSXMRPC002M	TSXMFPP002M	–
	2 MB/1 MB (4)	–	TSXMCPC002M	–
	3 MB (5)	TSXMRPC003M (6)	–	–
	4 MB	–	TSXMFPP004M	TSXMRPF004M
	7 MB (5)	TSXMRPC007M (6)	–	–
	8 MB	–	–	TSXMRPF008M

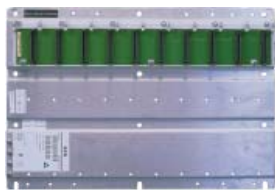
(3) These cards have an additional SRAM area for storing data (recipes, production data).

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc)

(5) By configuration the user can reserve part of the memory space for data storage (recipes, production data, etc)

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Racks



Type			Racks
Dimensions WxDxH			
References	2 slots	104x104x290 mm	140XBP00200 (2)
	3 slots	143x104x290 mm	140XBP00300 (2)
	4 slots	184x104x290 mm	140XBP00400 (2)
	6 slots	265x104x290 mm	140XBP00600 (2)
	10 slots	428x104x290 mm	140XBP01000 (2)
	16 slots	671x104x290 mm	140XBP01600 (2)
	Rack extension module		140XBE10000 (2)

- (1) Local extension module, to be placed in main rack and secondary rack.
- (2) For coated version add C at the end of the reference: example 140XBP00200 becomes 140XBP00200C

3

Connection accessories ⁽³⁾

Type		Cable for extension racks (main and secondary)
References	L = 1 m	140XCA71703
	L = 2 m	140XCA71706
	L = 3 m	140XCA71709

(3) Other accessories: See www.schneider-electric.com

Modicon Quantum Automation platform

Discrete I/O modules



Type of module (4)		Discrete inputs					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of isolated channels		16	4 groups of 8	3 groups of 8	2 groups of 8	6 groups of 16	8 groups of 2
Input voltage	5 VDC TTL (negative logic)	—	140DDI15310	—	—	—	—
	24 VDC	—	140DDI35300(1)	—	—	140DDI36400	—
	10...60 VDC	—	140DDI85300	—	—	—	140DDI84100
	20...30 VDC	—	140DSI35300(1)	—	—	—	—
	125 VDC	—	—	140DDI67300	—	—	—
	24 VAC	140DAI34000	140DAI35300	—	—	—	—
	48 VAC	140DAI44000	140DAI45300	—	—	—	—
	115 VAC	140DAI54000	140DAI55300	—	140DAI54300	—	—
	230 VAC	140DAI74000	140DAI75300	—	—	—	—

(1) For negative logic, replace 00 at the end of the reference with 10, for example 140DDI35300 becomes 140DDI35310.



Type of module (4)		Discrete outputs					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of protected channels		16	4 groups of 8	4 groups of 4	2 groups of 8	6 groups of 16	2 groups of 6
Output voltage/current	5 VDC TTL/0.075 A (2)	—	140DDO15310	—	—	—	—
	24 VDC/0.5 A	—	140DDO35301(1)	—	—	—	—
	10...30 VDC/0.5 A (3)	—	140DVO85300	—	—	—	—
	19.2...30 VDC/0.5 A	—	—	—	—	140DDO36400	—
	10...60 VDC/2 A	—	—	—	140DDO84300	—	—
	24...125 VDC/0.75 A	—	—	—	—	—	140DDO88500
	24...48 VAC/4 A	—	—	140DAO84220	—	—	—
	24...115 VAC/4 A	140DAO84010	—	—	—	—	—
	24...230 VAC/ 4-3 A	140DAO84000	140DAO85300	—	—	—	—
	100...230 VAC/4-3 A	—	—	140DAO84210	—	—	—

(1) For negative logic, replace 01 at the end of the reference with 10, for example 140DDO35301 becomes 140DDO35310.

(2) Negative logic

(3) Controlled outputs



Type of module (4)		Discrete I/O			Discrete outputs	
Connection		By screw terminals 140XTS00200 (to be ordered separately)			Relay	
Number of I/O		2 groups of 8/2 groups of 4			—/16 NO	—/8 NO/NC
Input voltage		24 VDC	125 VAC	125 VDC	—	—
Output voltage/current		30 VDC/15 A	125 VAC/4 A	125 VDC/4 A	150 VDC or 250 VAC/2 A	150 VDC or 250 VAC/5 A
Reference		140DDM39000	140DAM59000	140DDM69000	140DRA84000	140DRC83000

(4) For coated version add C at the end of the reference: example 140DDI15310 becomes 140DDI15310 C

Analog I/O modules



Type of module (3)	Analog inputs				
Connection	By screw terminals 140XTS00200 (to be ordered separately)				
Number of channels	8	16	8		
Input signal	4...20 mA 1...5 V	0...25/20 mA 4...20 mA	(1)	Thermal probe Pt, Ni	Thermocouple (2)
Resolution	12 bits	0...25000 points	16 bits	12 bits + sign	16 bits
Reference	140ACI03000	140ACI04000	140AVI03000	140ARI03010	140ATI03000

(1) 0...25 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...5 V.
(2) Type B, E, J, K, R, S, T, mV

3



Type of module (3)	Analog output		
Connection	By screw terminals 140XTS00200 (to be ordered separately)		
Number of channels	4	8	4
Input signal	4...20 mA	0...25/20 mA 4...20 mA	0...10 V, ± 10 V 0...5 V, ± 5 V
Resolution	12 bits	0...25000 points	12 bits
Reference	140ACO02000	140ACO13000	140AVO02000



Type of module (3)	Analog I/O
Connection	By screw terminals 140XTS00200 (to be ordered separately)
Number of inputs	4
Number of outputs	2
Input signal	0...20 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...5 V.
Resolution	Inputs 16 bits, outputs 12 bits
Reference	140AMM09000

(3) For coated version add C at the end of the reference: example 140ACI03000 becomes 140ACI03000C

Modicon Quantum

Automation platform

Intrinsically safe I/O modules



Type of module	I/O 				
	Discrete		Analog		
Connection	By screw terminal 140XTS33200 (to be ordered separately)				
Number of inputs	8	–	8	–	
Number of outputs	–	8	–	8	
Input signal	–	–	Thermal probe	0...25/20 mA	
			Thermocouple (1)	4...25 mA	
Resolution	–	–	12 bits + sign	0...25000 points	15 bits
Reference	140DII33000	140DIO33000	140AII33000	140AII33010	140AIO33000

(1) Type J, K, E, T, S, R, B, mV

Counter and special purpose modules



Type of module	High-speed counter		High-speed inputs with interrupt	Time-stamp system	
Type of inputs for	Incremental encoders		Discrete 24 VDC (2)	DCF 77 24 VDC (3)	Discrete 24...125 VDC
Counting frequency	100 kHz	500 kHz	–	–	–
Number of channels	5	2	16	1	32
Reference	140EHC10500	140EHC20200	140HLI34000	140DCF07700	140ERT85410 (4)

(2) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.

(3) For GPS or DCF time receiver

(4) one input complying with DCF77 standard

Safety I/O modules



Type of modules	Analog	Discrete	
Connection	Screw terminal		
Number of inputs	8 analog inputs	16 discrete inputs	–
Number of outputs	–	–	16 discrete outputs
Input signal	4...20mA	24VDC	–
Output voltage	–	–	24VDC
Resolution	16 bits	–	–
Certification	Functional Safety SIL2, UL, CE, CSA, Haz-loc		
Reference	140SAI94000S	140SDI95300S	140SDO95300S

Communication modules

Transparent
Ready



Type of module		Ethernet TCP/IP network			
Speed		10/100 MBps			
Standard services		TCP/IP (Modbus)			
Transparent Ready	Class	B30	B30	C30	D10
	Global Data	Yes	Yes	Yes	–
	I/O Scanning	Yes	Yes	Yes	–
	FDR server	Yes	Yes	Yes	–
	SNMP protocol	Yes	Yes	Yes	Yes
Web server	Standard services	Yes	Yes	Yes	Yes
	FactoryCast services	–	–	Yes	Yes
	FactoryCast HMI services	–	–	–	Yes
Reference		140CPU651 (1)	140NOE77101	140NOE77111	140NWM10000

(1) References: see pages 3/26 and 3/27, Quantum processors with integrated Ethernet TCP/IP



Type of module	Modbus Plus network	AS-Interface cabling system	INTERBUS fieldbus	Profibus DP Master V1 fieldbus (2)
Name and description	Integrated link	In-rack	In-rack	In-rack
Speed	1 MBps	167 kBps	0,5 MBps	to 12 MBps
Reference	140CPU (3)	140EIA92100	140NOA62200	PTQ PDP MV1

(2) from your paetner Prosoft, www.prosoft-technology.com

(3) References: see pages 3/26 and 3/27, Quantum processors with integrated Modbus Plus



Type of module	Serial link	
	Modbus	ASCII
Name and description	Integrated link	In-rack
Speed	19.2 kBps	19.2 kBps
Reference	140CPU (4) (5)	140ESI06210

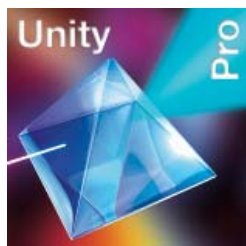
(4) References: see pages 3/26 and 3/27, Quantum processors with integrated Modbus

(5) RS 232/RS 485 on 140CPU651●● and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

To operate in a corrosive environment, Quantum modules can be ordered with a conformal coating applied to components of the product. Conformal coating will extend its life and enhance its environmental performance capabilities. To order conformal coating append a C to the standard catalog number. For example, 140CPS 11420 > 140CPS 114 20C

Automation systems — Unity software

For Modicon M340, Premium, Quantum and Atrium



Software type		Unity Pro Small version 3.0			
License type version 3.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUSFUCD30	UNYSPUSFGCD30	UNYSPUSFTCD30	–
	Update (1)	UNYSPUSZUCD30	UNYSPUSZGCD30	UNYSPUSZTCD30	–
Software type		Unity Pro Medium version 3.0			
License type version 3.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUMFUCD30	UNYSPUMFGCD30	UNYSPUMFTCD30	–
	Update (2)	UNYSPUMZUCD30	UNYSPUMZGCD30	UNYSPUMZTCD30	–
Software type		Unity Pro Large version 3.0			
License type version 3.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPULFUCD30	UNYSPULFGCD30	UNYSPULFTCD30	UNYSPULFFCD30
	Update (3)	UNYSPULZUCD30	UNYSPULZGCD30	UNYSPULZTCD30	UNYSPULZFCD30
Software type		Unity Pro Extra Large version 3.0			
License type version 3.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUEFUCD30	UNYSPUEFGCD30	UNYSPUEFTCD30	UNYSPUEFFCD30
	Update (4)	UNYSPUEZUCD30	UNYSPUEZGCD30	UNYSPUEZTCD30	UNYSPUEZFCD30

- (1) From Concept S, PL7 Micro, ProWORX NxT Lite and ProWORX 32 Lite
 (2) From Concept S/M, PL7 M/J, ProWORX NxT Lite and ProWORX 32 Lite
 (3) From Concept S /M, PL7 M/J/P, ProWORX NxT Lite and ProWORX 32 Lite
 (4) From all models Concept, PL7, ProWORX NxT and ProWORX 32

Unity Pro is common programming software for debugging and operation of Modicon M340, Premium, Quantum and Atrium programmable controller ranges. Unity Pro takes the recognized usage values of PL7 and Concept software and offers a complete set of new functions for improved productivity and opening to other software.

Five IEC61131-3 languages are supported as standard in Unity Pro with all debugging functions, either on the simulator or directly online with the programmable controller.

Thanks to symbolic variables independent of memory, structured data and user function blocks, application objects are a direct reflection of the automated process application components.

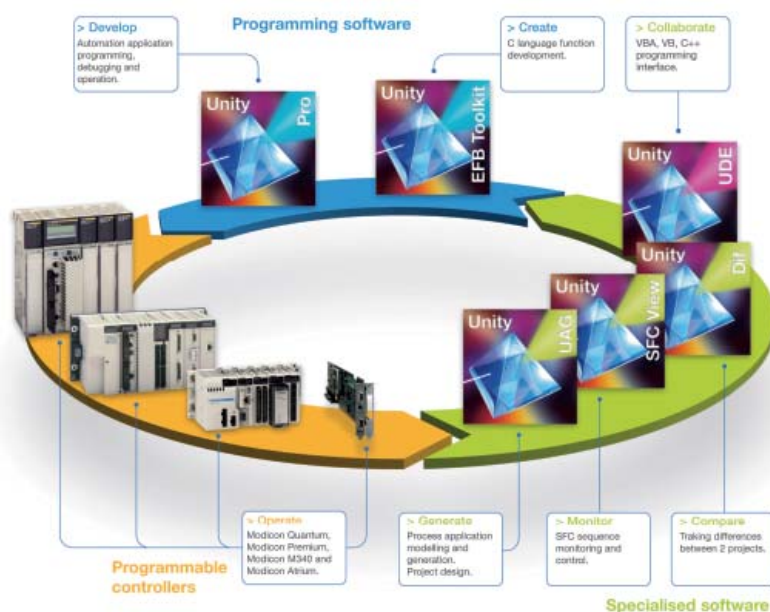
Unity Pro operator screens are user-configured in the application from graphic libraries. Operator accesses are simple and direct.

Unity V 3.0 integrates the PLCopen standard MFB (Motion Function Block) library, simplifying installation of motion controllers on CANopen machine buses: Altivar 31, Altivar 71, Lexium 05, Lexium 15 LP, MP and HP, IdA. Debugging and maintenance are simplified by animated graphic objects. For diagnostics, a window clearly and chronologically displays all system and application faults with timestamping at source.

The fault cause search navigation function enables precise location of the source of missing conditions.

XML format, the Web standard for data exchange, has been adopted as Unity application source format. By simple import/export, all or part of the application can be exchanged with other project software.

Finally, the converters integrated in Unity Pro automatically convert PL7 and Concept IEC 61131-3 standards and applications.



Unity software

Specialized software

Integrator system dedicated software

Software type		Unity Pro XL Alliance V3.0	
License type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Software pack	UNYSPUEFUAL30	UNYSPUEFTAL30
	Old generation upgrade (1)	UNYSPUEZUAL30	UNYSPUSZTCD30
	Unity update	UNYSPUQZUAL30	UNYSPUQZTAL30
Software type		PLC Suite Alliance V3.0	
License type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Pack (1)	UNYSPUQFUAL30	UNYSPUQFTAL30

(1) Including Unity Pro XL Alliance, Concept, PL7, ProWORX



Unity Pro application comparison software

Software type		Unity Dif
License type version 2.0		Single (1 workstation), French and English languages (software and documentation)
Reference	Software extension (1)	UNY SDU DFU CD20

(1) Requires version Unity Pro XL >/ V2.1



PLC application and Modicon M340 embedded software update

Software type		Unity Loader
License type version 1.0		Single (1 workstation)
Reference	Software pack (1)	UNY SMU ZUCD10

(1) This software is also included in all Unity Pro software packs



SFC View application diagnostic and monitoring software

Software type		Unity SFC View		
License type version 2.0		Single (1 workstation)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSDUMFUCD20	UNYSDUMFTCD20	UNYSDUMFFCD20



EF/EFB function development software in C language

Software type		Unity EFB Toolkit	
License type version 3.0		Single (1 workstation), English language (software and documentation)	
References	Software pack	UNYSPUFUCD30E	
	Renewal	UNYCSPSPUZBU	



Batch/process application design and generation software

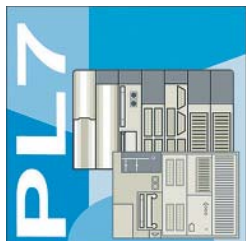
Software type		Unity UAG (Unity Application Generator)		
License type version 2.3		Single (1 workstation)	Team (> 10 workstations)	Site (> 10 workstations)
References	Software pack	UAGSEWLFUCD23	UAGSEWLYTCD23 (1)	UAGSEWLFFCD23

(1) Also includes Unity Pro XL Group (3 workstations) and Concept XL Group (3 workstations)



Specific Unity Pro solution design software pack

Software type		Unity UDE (Unity Developer's Edition)
License type		Single (1 workstation), English language (software and documentation)
Reference	Software pack	UNYUDEVFUCD21E



PL7 is the common programming, debugging and operating software for the TSX Micro and Premium ranges of PLCs as well as Atrium coprocessors (see pages 3/12, 3/18 and 3/26).

PL7 offers 4 IEC languages: Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC). You can use the most suitable language for each function in your application, making use of the multi-tasking structure of the processors.

For using application-specific functions, PL7 directly integrates the application-specific screens required for configuration and adjustment as well as supervisory and diagnostics activities.

Type of software		PL7 Micro for TSX Micro platform			
Type of license version 4.5		Single (1 station)	Single with SyCon V2.8	Group (3 stations)	Open Team (10 stations)
Reference	Software package	TLXCDPL7MP45	TLXCDPL7MPC45	TLXCD3PL7MP45	TLXOTPL7MP45M
	Update (1)	TLXRCDPL7MP45M	TLXRCDPL7MPC45M	TLXRCD3PL7MP45M	–
PL7 Junior for TSX Micro/Premium and Atrium coprocessor platforms					
Type of license version 4.5		Single (1 station)	Group (3 stations)		
Reference	Software package	TLXCDPL7JP45	TLXCD3PL7JP45		
	Update (1)	TLXRCDPL7JP45M	TLXRC3DPL7JP45M		
	Upgrade (2)	TLXUCDPL7JP45M	TLXUCD3PL7JP45M		
PL7 Pro for TSX Micro/Premium and Atrium coprocessor platforms					
Type of license version 4.5		Single (1 station)	Group (3 stations)	Open Team (10 stations)	Open Site
Reference	Software package	TLXCDPL7PP45	TLXCD3PL7PP45	TLXOTPL7PP45M	TLXOSPL7PP45M
	Update (1)	TLXRCDPL7PP45M	TLXRCD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDPL7PP45M	TLXUCD3PL7PP45M	–	–

(1) From the previous software version.

(2) From lower level, earlier version software.

Specialist tools

EF function development software in C language

Type of software		PL7 SDKC for EF function development software in C language
PL7 SDKC software extension		For PL7 Micro/Junior/Pro
Reference		TLXLSDKCPL741M

Development of applications in C language

Type of software		PL7 FUZ for processing process applications using fuzzy logic
PL7 FUZ software extension		For PL7 Micro/Junior/Pro, TSX Micro/Premium
Reference		TLXLPL7FUZ34M

Comparison of PL7 applications

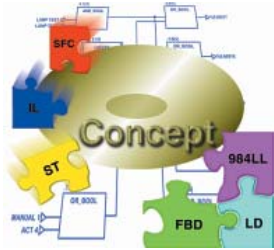
Type of software		PL7 DIF for comparison of applications
PL7 DIF software extension		For PL7 Pro, TSX Micro/Premium
Type of license		Single (1 station) Site (> 10 stations)
Reference		TLXCDPL7DIF42 TLXOSPL7DIF42

Availability of control systems based on Premium platforms

Type of software		Warm Standby redundant
Warm Standby software extension		For PL7 Junior/Pro
Type of license		Single (1 station)
Reference		TLXCDWSBYP40F / E

Programming software

For Modicon Quantum, Momentum



Concept is the IEC programming software for the Momentum and Quantum range of PLCs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming.

Uses familiar, standardized editors, bundled in a single application to create and integrate PLC control, communication and diagnostic logic.

Five IEC editors give users the freedom to choose the programming language that fits their application requirements: Function Block Diagram (FBD), Ladder Diagram (LD), Sequential Function Chart (SFC), Structured Text (ST) and Instruction List (IL).

Type of software		Concept for Quantum/Momentum platforms			
Type of license version 2.6		Single (1 station)	Group (3 stations)	10 users (10 stations)	Site
Software references	Concept S	372SPU47101V26	–	–	–
	Concept M	372SPU47201V26	–	–	–
	Concept XL	372SPU47401V26	372SPU47411V26	372SPU47421V26	372SPU47431V26
Update references	Concept S (3)	372ESS47101	–	–	–
	Concept M (3)	372ESS47201	–	–	–
	Concept XL (3)	372ESS47401	372ESS47403	372ISS4740310	372ISS4741000

(3) From an earlier software version.

Specialist tools

EF/EFB function development software in C language

Type of software		Concept EFB Toolkit	
Type of license		Version 2.6	Upgrade version 2.6
Reference	Software package	332SPU47001V26	372ESS47001

Concept service version limited to application loading

Type of software		Concept Application Loader
Type of license		Version 2.6
Reference	Software package	372SPU47701V26

Software for designing and generating batch/process applications

Type of software		Unity UAG (Unity Application Generator)	
Type of license version 3.0		Single (1 station)	Site
Reference	Medium Software package	UAGSEWMFUCD22	UAGSEWMFFCD22
	Large Software package	UAGSEWLFUCD22	UAGSEWLFFCD22

SFC View application diagnostic and monitoring software

Type of software		Concept SFC View		
Type of license version 3.0		Single (1 station)	Group (10 stations)	Site (100 stations)
Reference		372SFV16000V30	372SFV16020V30	372SFV16030V30

ProWORX for Modicon Quantum, Momentum

ProWORX 32 is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant's activity in real-time, all in a familiar Windows environment.

ProWORX 32 provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging.

The project emulator provides the ability to test projects prior to running them in the PLC run-time environment to ensure your system will run at peak efficiency.

Type of software		ProWORX for Quantum/Momentum platforms			
Type of license version 2.1		Single (1 station)	Group (3 stations)	Multi-user (10 stations)	Site
Software references	ProWORX 32 Server	372SPU78001PSEV	–	–	–
	ProWORX 32 Suite	372SPU78001PSSV	–	–	–
	ProWORX 32 Client, Full Dev.	372SPU78001PDEV	372SPU78001PSTH	372SPU78001PSTE	372SPU78001SITE
	ProWORX 32 Online	372SPU78101PONL	–	–	–
	ProWORX 32 Lite	372SPU71001PLDV	372SPU71001PLTH	372SPU71001PLTE	–
Upgrade to ProWORX 32references (4)		372SPU78401LPUP	372SPU78401LPTH	372SPU78401LPTE	–

(4) Only possible for customers, who are "up-to-date" with CSP (continuing support program)

ProWORX³²

Motion and Drives

Altistart, Altivar *High-simplicity soft starting and variable speed*



Starters
Altistart 01
● 0,37 to 75 kW



Drives
Altivar 11
● 0,18 to 2,2 kW



Drives
Altivar 31
● 0,18 to 15 kW



Starters
Altistart 48
● 4 to 1 200 kW



Drives
Altivar 21
● 0,75 to 75 kW



Drives
Altivar 61
● 0,37 to 800 kW



Drives
Altivar 71
● 0,37 to 630 kW

Lexium Pac *High-performance motion control*

Motion Controller



Lexium Controller
Up to 8 synchronized
real axes

Servodrives



Lexium 05
from 4 A to 25 A



Lexium 15
from 1,5 to 70 A

Servomotors



BSH from 0.5 to 90 Nm



BDH from 0.18 to 53 Nm

Contents

Soft starters and variable speed drives

- Altistart / Altivar selection guide 4/2 and 4/3
- Soft starters **Altistart 01** 4/4 and 4/5
- Soft starters **Altistart 48** 4/6 and 4/7
- Variable speed drives **Altivar 11** 4/8 and 4/9
- Variable speed drives **Altivar 21** 4/10 and 4/11
- Variable speed drives **Altivar 31** 4/12 and 4/13
- Variable speed drives **Altivar 61** 4/14 to 4/23
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Motion modules and servodrives

- Selection guide: Motion control 4/38 and 4/39
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- **Lexium 05** servodrives for BSH servomotors 4/47 to 4/51
- **Lexium 15** servodrives for BSH and BDH servomotors 4/52 to 4/59

Wide variety of control architectures:

- Fieldbus: FIPIO, CanOpen (native), Modbus Plus, Profibus DP
- Motion Bus: synchronised CANopen dedicated Motion Bus, Sercos®.

Selection guide

Types of machine

Simple machines



⇒ **Applications:**
Compressors, pumps, fans, conveyors, automatic doors, washing gantries, advanced systems, decentralised architectures...



Variable speed drives
Soft starters and soft start/soft stop units

Altistart 01

- **Compactness:** side by side mounting
- **Simplicity:** mounting, cabling and adjustments simplified
- **Efficiency:** increase your productivity and maximize the life of your machines, reduction of mechanical shocks, limitation of current peaks on starting.



⇒ **Applications:**
Conveyors, garage and lift doors, automatic parking barriers, check out counters, grinders, saws, drills, exercise equipment, scrolling displays, retractable hoods, dough mixers...



Altivar 11

- **Compactness:** side by side mounting
- **Simplicity:** settings simplified
- EMC filters integrated class B



⇒ **Applications:**
Pumps, fans, conveyors, material handling machines, packaging, conditioning machines, special machines, textile machines...



Altivar 31

- **Compactness:** side by side mounting
- EMC filters integrated class A
- Simplified start up with "plug and drive" function
- **Openness:** CANopen and modbus integrated

Starters/drives

Supply voltage ranges for 50/60 Hz line supply		Single phase 110...480 V Three phase 110...690 V	Single phase 100...120 V Single phase 200...240 V Three phase 200...230 V	Single phase 200...240 V Three phase 200...240 V Three phase 380...500 V Three phase 525...600 V
Motor power		0.37...75 kW	0.18...2.2 kW	0.18...15 kW
Drive	Output frequency	—	0.5...200 Hz	0.5...500 Hz
	Type of control Asynchronous motor	—	Sensorless flux vector control	—
	Synchronous motor	—	—	—
	Transient overtorque	—	150...170% of torque nominal motor	170...200% of the nominal motor torque
Functions				
Number of functions		1	26	50
Number of preset speeds		—	4	16
Number of I/O	Analog inputs	—	1	3
	Logic inputs	3	4	6
	Analog outputs	—	—	1
	Logic outputs	1	1	—
	Relay outputs	1	1	2
Communication	Integrated	—	—	Modbus and CANopen
	Available as an option	Combined with TeSys model U starter-controller	—	DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP
Cards (available as an option)		—	—	—
Standards and certifications		IEC/EN 60947-4/2 C-TICK, CSA, UL, CE, CCC	EN 50178, EN 61800-3 EN 55011 - EN 55022 class B and class A gr.1 NOM 117, CSA, UL, C-TICK N998, CE	IEC 61800-5-1, IEC 61800-5-2, EN 61800-3, EN 55011 - EN 55022: class A, class B with option CSA, UL, C-TICK N998, CE

Pumping and ventilation machines

Complex, high-power machines



⇒ Applications:

Compressors, pumps, fans and high inertia machines, conveyors.

⇒ Applications:

Pumps and fans in HVAC (1)

⇒ Applications macro-configurations

Pumps, Multipumps, fans, compressors

⇒ Applications macro-configurations

Hoisting, packaging, material handling, wood, textile, process machines...



Soft start/soft stop units



Variable speed drives
Building (HVAC)(1)



Variable speed drives
Industry



Variable speed drives

Altistart 48

- **Torque Control System:** pressure surges suppression and temperature rise limitation
- **Simplicity:** simplified start up
- **Protection of the motor** and the machine: thermal protection, detection of phase failure, locked rotor detection

Altivar 21

- **Compactness:** side by side mounting
- **Simplicity:** "plug and drive" function and "local remote" button
- EMC filters integrated
- Harmonics reduction THDI < 30%
- **Openess:** communication buses cards for building

Altivar 61

- Extended ranges
- Quick start up and easy diagnostics thanks to the multilingual graphic keypad
- **Openess:** to all communication buses
- for industry and building

Altivar 71

- Extended ranges
- Quick start up and easy diagnostics thanks to the multilingual graphic keypad
- **Openess:** to all communication buses
- for industry

Three phase 230...415 V
Three phase 208...690 V

Three phase 200...240 V
Three phase 380...480 V

Single phase 200...240 V
Three phase 200...240 V
Three phase 380...480 V

Single phase 200...240 V
Three phase 200...240 V
Three phase 380...480 V

4...1200 kW

0.75...75 kW

0.37...800 kW

0.37...630 kW

—

0.5...200 Hz

0.5...1600 Hz up to 37 kW
0.5...500 Hz from 45 to 800 kW

0.1...1600 Hz up to 37 kW
0.1...500 Hz from 45 to 630 kW

TCS
(Torque Control System)

kn² quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio

kn² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio

Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System

—

—

—

Vector control with or without speed feedback

—

Transient overload: 110% of the nominal drive current for 60 seconds

Transient overload: 120...130% of the nominal drive current for 60 seconds

200% of the nominal motor torque for 2 s
170% for 60 seconds

36

50

> 150

> 150

—

8

16

16

1 PTC probe

2

2...4

2...4

4

3

6...20

6...20

1

1

1...3

1...3

2

—

0...8

0...8

3

2

2...4

2...4

Modbus

Modbus

Modbus and CANopen

Modbus and CANopen

DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP

LonWorks, METASYS N2, APOGEE FLN, BACnet

Ethernet TCP/IP, Fipio, Modbus Plus, INTERBUS, Profibus DP, Modbus/Uni-Telway, DeviceNet, LonWorks, METASYS N2, APOGEE P1, BACnet

Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS

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I/O extension cards
"Controller Inside" programmable card, multi-pump cards

Encoder interface card
I/O extension cards
"Controller Inside" programmable card

IEC/EN 60947-4-2
EMC class A and B
DNV, C-TICK, GOST, CCIB, NOM, UL, CE, CCC, CSA

EN 50178, IEC/EN 61800-3
EN 55011, EN 55022:
class A, class B with option
CE, UL, C-TICK N998

IEC/EN 61800-5-1,
IEC/EN 61800-3 (environments 1 and 2, C1 to C3)
EN 55011, EN 55022,
IEC/EN 61000-4-2/4-3/4-4/4-5/4-6/4-11
CE, UL, CSA, DNV, C-TICK, NOM 117, GOST

(1) Heating Ventilation Air Conditioning

Dimensions (in mm)		width x height x depth
ATS01	N103FT/N106 FT	22,5 x 100 x 100,4
	N109FT/N112 FT/N125 FT	45 x 124 x 130,7
	N206●●/N209●● / N212●●	
	N222●●/N232●●	45 x 154 x 130,7



Type of starter						Soft starters	Soft start/soft stop units			
Motor power						0.37 to 11 kW	0.75 to 15 kW			
Degree of protection						IP20				
Peak current reduction						No (1 controlled phase)	Yes (2 controlled phases)			
Adjustable starting time						1...5 s	1...10 s			
Adjustable stopping time						No: freewheel stop	Yes: 1... 10 s.			
Adjustable starting torque						30...80% of DOL motor starting torque				
Logic inputs						–	3 logic inputs (start, stop and startup boost)			
Logic outputs						–	1 logic output			
Relay outputs						–	1 relay output			
Control supply voltage						110... 220 VAC ± 10%, 24 VDC ± 10%	Built into the starter			
Supply voltage						Single phase 110...230 V				
Motor power										
230 V						Nominal current				
kW						(IcL)				
0.37						3 A	ATS01N103FT			
0.75						6 A	ATS01N106FT			
1.1						9 A	ATS01N109FT			
1.5						12 A	ATS01N112FT			
2.2						25 A	ATS01N125FT			
Supply voltage							Three phase 110...480 V	Three phase 200...240 V	Three phase 380...415 V	Three phase 440...480 V
Motor power										
210 V	230 V		400 V	460 V	Nominal current					
HP	kW	HP	kW	HP	(IcL)					
–	0.37-0.55	0.5/–	1.1	0.5-1.5	3 A	ATS01N103FT	–	–	–	–
0.5	0.75-1.1	1-1.5	2.2-3	2-3	6 A	ATS01N106FT	ATS01N206LU	ATS01N206QN	ATS01N206RT	
1	1.5	2	4	5	9 A	ATS01N109FT	ATS01N209LU	ATS01N209QN	ATS01N209RT	
1.5	2.2	3	5.5	7.5	12 A	ATS01N112FT	ATS01N212LU	ATS01N212QN	ATS01N212RT	
–	4-5.5	5-7.5	7.5-11	10-15	22 A	–	ATS01N222LU	ATS01N222QN	ATS01N222RT	
2-3	3-4-5.5	5-7.5	7.5-9-11	10-15	25A	ATS01N125FT	–	–	–	
–	7,5	10	15	20	32 A	–	ATS01N232LU	ATS01N232QN	ATS01N232RT	

Starters



Dimensions (in mm)		width x height x depth
ATS01	N230●●/N244●●	180 x 146 x 126
	N272●●/N285●●	180 x 254.5 x 126

Type of starter							Soft start/soft stop units		
Motor power							15 to 75 kW		
Degree of protection							IP20 on front panel		
Peak current reduction							Yes		
Adjustable starting and stopping times							1... 25 s		
Adjustable starting torque							30.... 80% of DOL motor starting torque		
Logic inputs							2 logic inputs (run and stop)		
Relay outputs							1 relay output		
Control supply voltage							110 VDC ± 10%		Built into the starter
Supply voltage							Three phase 230...690 V		Three phase 400 V
Motor power									
230 V		400 V		460 V	690 V	Nominal current			
kW	HP	kW	HP	HP	kW	(IcL)			
7.5	10	15	15	20	30	32 A	ATS01N230LY	—	
11	15	22	25	30	37	44 A	ATS01N244LY	ATS01N244Q	
18.5	25	37	40	50	55	72 A	ATS01N272LY	ATS01N272Q	
22	30	45	50	60	75	85 A	ATS01N285LY	ATS01N285Q	

Starters with TeSys model U



Dimensions (in mm)		width x height x depth
ATSU01	N206LT/N209LT/N212LT	45 x 124 x 130,7
	N222LT/N232LT	45 x 154 x 130,7

Type of starter						Soft start/soft stop units			
Motor power						0.75 to 15 kW			
Degree of protection						IP20			
Peak current reduction						Yes			
Adjustable starting and stopping times						1...10 s			
Adjustable starting torque						30.... 80% of DOL motor starting torque			
Logic inputs						3 logic inputs (start, stop and startup boost)			
Logic outputs						1 logic output			
Relay outputs						1 relay output			
Control supply voltage						~ 24 V, 100mA, ± 10 %			
References						Soft start/soft stop units	TeSys model U starter-controller		Power connector
							Power base	Control unit (1)	between ATSU and TeSys model U
Supply voltage						Three phase 200...480 V			
Motor power									
230 V		400 V	460 V	Nominal current (IcL)					
kW	HP	kW	HP						
0,75	1	1,5	2	6 A		ATSU01N206LT	LUB12	LUC●05BL	VW3G4104
1,1	1,5	2,2/3	3	6 A		ATSU01N206LT	LUB12	LUC●12BL	
1,5	2	—	6	9 A		ATSU01N209LT	LUB12	LUC●12BL	VW3G4104
—	—	4	—	9 A		ATSU01N209LT	LUB12	LUC●12BL	
2,2	3	5,5	7,5	12 A		ATSU01N212LT	LUB12	LUC●12BL	VW3G4104
3	—	—	—	12 A		ATSU01N212LT	LUB32	LUC●18BL	
4	5	7,5	10	22 A		ATSU01N222LT	LUB32	LUC●18BL	VW3G4104
5,5	7,5	11	15	22 A		ATSU01N222LT	LUB32	LUC●32BL	
7,5	10	15	20	32 A		ATSU01N232LT	LUB32	LUC●32BL	VW3G4104

(1) To compose your reference, replace ● in the reference with: «A» for a standard control unit, «M» for a multifunction unit and «B» for an advanced unit.

Dimensions (in mm)		width x height x depth
ATS48 D17Q to D47Q	Size A:	160 x 275 x 190
D62Q to C11Q	Size B:	190 x 290 x 235
C14Q to C17Q	Size C:	200 x 340 x 265
C21Q to C32Q	Size D:	320 x 380 x 265
C41Q to C66Q	Size E:	400 x 670 x 300
C79Q to M12Q	Size F:	770 x 890 x 315



Supply voltage			Three phase 230...415 V (1)			
Type of application			Standard		Severe (2)	
Starter control supply voltage			220...415 V			
Protection	Degree of protection		IP20: ATS48D17● to ATS48C11● starters IP00: ATS48C14● to ATS48M12● starters			
	Motor thermal protection		Class 10		Class 20	
EMC	Class A		On all starters			
	Class B		On all starters up to 170 A			
Starting mode			Torque control (patented TCS: Torque Control System)			
I/O	Analog inputs		1 PTC probe			
	Logic inputs		4 logic inputs, 2 of which are configurable			
	Logic outputs		2 configurable logic outputs			
	Analog outputs		1 analog output			
	Relay outputs		3 relay outputs, 2 of which are configurable			
Dialogue			Integrated or remote display terminal, or PowerSuite software workshop (3)			
Communication (4)	Integrated		Modbus			
	Available as an option		DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP			
Motor power						
230 V	400 V	Nominal current				
kW	kW	(IcL)				
3	5.5	12 A	–		ATS48D17Q	Size A
4	7.5	17 A	ATS48D17Q	Size A	ATS48D22Q	Size A
5.5	11	22 A	ATS48D22Q	Size A	ATS48D32Q	Size A
7.5	15	32 A	ATS48D32Q	Size A	ATS48D38Q	Size A
9	18.5	38 A	ATS48D38Q	Size A	ATS48D47Q	Size A
11	22	47 A	ATS48D47Q	Size A	ATS48D62Q	Size B
15	30	62 A	ATS48D62Q	Size B	ATS48D75Q	Size B
18.5	37	75 A	ATS48D75Q	Size B	ATS48D88Q	Size B
22	45	88 A	ATS48D88Q	Size B	ATS48C11Q	Size B
30	55	110 A	ATS48C11Q	Size B	ATS48C14Q	Size C
37	75	140 A	ATS48C14Q	Size C	ATS48C17Q	Size C
45	90	170 A	ATS48C17Q	Size C	ATS48C21Q	Size D
55	110	210 A	ATS48C21Q	Size D	ATS48C25Q	Size D
75	132	250 A	ATS48C25Q	Size D	ATS48C32Q	Size D
90	160	320 A	ATS48C32Q	Size D	ATS48C41Q	Size E
110	220	410 A	ATS48C41Q	Size E	ATS48C48Q	Size E
132	250	480 A	ATS48C48Q	Size E	ATS48C59Q	Size E
160	315	590 A	ATS48C59Q	Size E	ATS48C66Q	Size E
–	355	660 A	ATS48C66Q	Size E	ATS48C79Q	Size F
220	400	790 A	ATS48C79Q	Size F	ATS48M10Q	Size F
250	500	1000 A	ATS48M10Q	Size F	ATS48M12Q	Size F
355	630	1200 A	ATS48M12Q	Size F	–	

(1) Possible to connect the starter in the motor delta connection

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

(3) (4) PowerSuite software and communication protocols, see page 4/30

Accessory



Accessory	Remote display terminal
Reference	VW3G48101

Soft start/soft stop units

Dimensions (in mm)		width x height x depth	
ATS48	D17Y to D47Y	Size A:	160 x 275 x 190
	D62Y to C11Y	Size B:	190 x 290 x 235
	C14Y to C17Y	Size C:	200 x 340 x 265
	C21Y to C32Y	Size D:	320 x 380 x 265
	C41Y to C66Y	Size E:	400 x 670 x 300
	C79Y to M12Y	Size F:	770 x 890 x 315



Supply voltage												Three phase 208...690 V (1)			
Type of application												Standard		Severe (2)	
Starter control supply voltage												110...230 V			
Characteristics												Identical to 230...415 V starters			
Motor power											Nominal				
208 V	230 V	460 V	575 V	230 V	400 V	440 V	500 V	525 V	660 V	690 V	current (IcL)				
HP				kW											
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–		ATS48D17Y	Size A
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	ATS48D17Y	Size A	ATS48D22Y	Size A
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	ATS48D22Y	Size A	ATS48D32Y	Size A
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	ATS48D32Y	Size A	ATS48D38Y	Size A
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	ATS48D38Y	Size A	ATS48D47Y	Size A
–	15	30	40	11	22	22	30	30	37	37	47 A	ATS48D47Y	Size A	ATS48D62Y	Size B
15	20	40	50	15	30	30	37	37	45	45	62 A	ATS48D62Y	Size B	ATS48D75Y	Size B
20	25	50	60	18.5	37	37	45	45	55	55	75 A	ATS48D75Y	Size B	ATS48D88Y	Size B
25	30	60	75	22	45	45	55	55	75	75	88 A	ATS48D88Y	Size B	ATS48C11Y	Size B
30	40	75	100	30	55	55	75	75	90	90	110 A	ATS48C11Y	Size B	ATS48C14Y	Size C
40	50	100	125	37	75	75	90	90	110	110	140 A	ATS48C14Y	Size C	ATS48C17Y	Size C
50	60	125	150	45	90	90	110	110	132	160	170 A	ATS48C17Y	Size C	ATS48C21Y	Size D
60	75	150	200	55	110	110	132	132	160	200	210 A	ATS48C21Y	Size D	ATS48C25Y	Size D
75	100	200	250	75	132	132	160	160	220	250	250 A	ATS48C25Y	Size D	ATS48C32Y	Size D
100	125	250	300	90	160	160	220	220	250	315	320 A	ATS48C32Y	Size D	ATS48C41Y	Size E
125	150	300	350	110	220	220	250	250	355	400	410 A	ATS48C41Y	Size E	ATS48C48Y	Size E
150	–	350	400	132	250	250	315	315	400	500	480 A	ATS48C48Y	Size E	ATS48C59Y	Size E
–	200	400	500	160	315	355	400	400	560	560	590 A	ATS48C59Y	Size E	ATS48C66Y	Size E
200	250	500	600	–	355	400	–	–	630	630	660 A	ATS48C66Y	Size E	ATS48C79Y	Size F
250	300	600	800	220	400	500	500	500	710	710	790 A	ATS48C79Y	Size F	ATS48M10Y	Size F
350	350	800	1000	250	500	630	630	630	900	900	1000 A	ATS48M10Y	Size F	ATS48M12Y	Size F
400	455	1000	1200	355	630	710	800	800	–	–	1200 A	ATS48M12Y	Size F	–	

(1) Starter connection in the motor delta connection: add "S316" at the end of the reference

Kits DNV for starters

Type of starters	ATS 48D62...48C17	ATS 48C21...48C32	ATS 48C41...48C66	ATS 48C79...48M12
Weight (kg)	0.6	0.68	3.4	4.4
References	VW3G48106	VW3G48107	VW3G48108	VW3G48109

Line chokes



Degree of protection			IP20	IP00	
References	Starter	ATS48	D17	D75 to C14	C41 to C48
	Choke		VZ1L015UM17T	VZ1L150U170T	VZ1L530U045T
	Type of starter	ATS48	D22	C17 to C25	C59 to M10
	Choke		VZ1L030U800T	VZ1L0250U100T	VZ1LM10U024T
	Type of starter	ATS48	D32 and D38	AC32	M12
	Choke		VZ1L040U600T	VZ1L325U075T	VZ1LM14U016T
	Type of starter	ATS48	D47 and D62	–	
	Choke		VZ1L070U350T		

Altivar 11

0.18...2.2 kW

Simple machines Drives on heatsinks



Dimensions (in mm)	width x height x depth (1)
Size 1	: 72 x 142 x 101/Size 2: 72 x 142 x 125
Size 3	: 72 x 142 x 138/Size 4: 117 x 142 x 156

Range			Europe	America		Asia		
Output frequency			0.5...200 Hz					
Type of control			Sensorless flux vector control					
Speed range			1 to 20					
Degree of protection			IP20					
I/O	Analog inputs		1 configurable analog input					
	Logic inputs		4 assignable logic inputs					
	Outputs		1 PWM open collector output or assignable as logic output					
	Relay outputs		1 protected relay logic output					
Dialogue			Integrated display terminal or PowerSuite software workshop (2)					
EMC			Integrated class B filter		External filter available as an option		External filter available as an option	
Local controls (3)/Negative logic			No		No		Yes	
Standard NEC 208 V 1999			No		Yes		No	
Supply voltage			Single phase 100...120 V					
Motor power	kW/HP	0.18 / 0.25	–		ATV11HU05F1U	Size 1	ATV11HU05F1A	Size 1
		0.37 / 0.5	–		ATV11HU09F1U	Size 2	ATV11HU09F1A	Size 2
		0.75 / 1	–		ATV11HU18F1U	Size 4	ATV11HU18F1A	Size 4
Supply voltage			Single phase 200...240 V					
Motor power	kW/HP	0.18 / 0.25	ATV11HU05M2E	Size 1	ATV11HU05M2U	Size 1	ATV11HU05M2A	Size 1
		0.37 / 0.5	ATV11HU09M2E	Size 2	ATV11HU09M2U	Size 2	ATV11HU09M2A	Size 2
		0.55	ATV11HU12M2E	Size 3	–		–	
		0.75 / 1	ATV11HU18M2E	Size 3	ATV11HU18M2U	Size 3	ATV11HU18M2A	Size 3
		1.5 / 2	ATV11HU29M2E	Size 4	ATV11HU29M2U	Size 4	ATV11HU29M2A	Size 4
		2.2 / 3	ATV11HU41M2E	Size 4	ATV11HU41M2U	Size 4	ATV11HU41M2A	Size 4
Supply voltage			Three phase 200...230 V					
Motor power	kW/HP	0.18 / 0.25	–		ATV11HU05M3U	Size 1	ATV11HU05M3A	Size 1
		0.37 / 0.5	–		ATV11HU09M3U	Size 2	ATV11HU09M3A	Size 2
		0.75 / 1	–		ATV11HU18M3U	Size 3	ATV11HU18M3A	Size 3
		1.5 / 2	–		ATV11HU29M3U	Size 4	ATV11HU29M3A	Size 4
		2.2 / 3	–		ATV11HU41M3U	Size 4	ATV11HU41M3A	Size 4

(1) Asia range: Add 7 mm to depth (height of the potentiometer)

(2) PowerSuite software, see page 4/30

(3) Local controls: Run/Stop keys and potentiometer

Drives on base plate



Dimensions (in mm)	width x height x depth (1)
1 size:	72 x 142 x 101

Range			Europe	America	Asia
Supply voltage			Single phase 100...120 V		
Motor power	kW/HP	0.37 / 0.5	–	ATV11PU09F1U	ATV11PU09F1A
Supply voltage			Single phase 200...240 V		
Motor power	kW/HP	0.37 / 0.5	ATV11PU09M2E	ATV11PU09M2U	ATV11PU09M2A
		0.55	ATV11PU12M2E	–	–
		0.75 / 1	ATV11PU18M2E	ATV11PU18M2U	ATV11PU18M2A
Supply voltage			Three phase 200...230 V		
Motor power	kW/HP	0.37 / 0.5	–	ATV11PU09M3U	ATV11PU09M3A
		0.75 / 1	–	ATV11PU18M3U	ATV11PU18M3A

(1) Asia range: Add 7 mm to depth (height of the potentiometer)

Additional EMC input filters



Supply voltage			Single phase 100...120 V	200...240 V	Three phase 200...230 V
Europe range	Drive	ATV11	–	HU05M2E to HU41M2E	–
	References	Filters	–	Integrated	–
America range	Drive	ATV11	HU05F1U, HU09F1U	HU05M2U to HU18M2U	HU05M3U to HU18M3U
	References	Filters	VW3A11401	VW3A11403	VW3A11401
	Drive	ATV11	HU18F1U	HU29M2U à HU41M2U	HU29M3U to HU41M3U
	References	Filters	VW3A11402	VW3A11404	VW3A11402
Asia range	Drive	ATV11	HU05F1A - HU09F1A	HU05M2A to HU18M2A	HU05M3A to HU18M3A
	References	Filters	VW3A11401	VW3A11403	VW3A11401
	Drive	ATV11	HU18F1A - HU18F1A	HU29M2A - HU41M2A	HU29M3A to HU41M3A
	References	Filters	VW3A11402	VW3A11402	VW3A11404

Accessories

4



Accessory			Mounting plates for Omega rail		Substitution plate	Speed reference potentiometer	Plate for EMC mounting
Description			Width 35 mm		For replacing ATV08	2.2 kΩ	
References	Drive	ATV11	HU05●●●	HU18F1●	HU05M2●	All ATV11 models	All ATV11 models
			HU09●●●	HU29●●●	●HU09M2●●		
			HU12M2●	HU41●●●	●U12M2E		
			HU18●●	—	●U18M2●		
Accessories			VW3A11851	VW3A11852	VW3A11811	SZ1RV1202	VW3A11831

Braking resistors and modules...other accessories: Please consult www.Schneider-electric.com.

Dimensions (in mm)		width x height x depth	
IP20		IP54	
S1A	: 107 x 143 x 150	S1	: 215 x 297 x 192
S2A	: 142 x 184 x 150	S2	: 230 x 340 x 208
S3A	: 180 x 232 x 170	S3	: 290 x 560 x 315
S4A	: 245 x 329,5 x 190	S4	: 310 x 665 x 315
S5A	: 240 x 420 x 210	S5	: 284 x 720 x 315
S6A	: 320 x 630 x 290	S5	: 284 x 880 x 343
S7A	: 240 x 550 x 266	S5	: 362 x 1000 x 364
S8A	: 320 x 630 x 290		



Drive			IP20		IP54					
Supply voltage			200...240 V		380...480 V					
Degree of protection			IP21 and IP41 on the upper part			IP54 drive available in two manufacturing variants, ATV21W...N4 class A or ATV21W...N4C class B				
Output frequency			0.5...200 Hz							
Type of control			kn² quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio							
Speed range			1 to 10							
I/O	Analog inputs		1 switch-configurable current or voltage analog input, and 1 voltage analog input configurable as a PTC probe input							
	Logic inputs		3 programmable logic inputs							
	Analog outputs		1 switch-configurable current or voltage analog output							
	Relay outputs		2 relay logic outputs							
Dialogue			Integrated display terminal with local controls (2) or remote display terminal or PC software (see page 4/11)							
Communication (see page 4/11)	Integrated		Modbus RTU							
	Available as an option		HVAC protocols: LonWorks, METASYS N2, APOGEE FLN, BACnet							
EMC	Class A		External filter in option	Integrated class A filter	Integrated class A filter	–				
	Class B		External filter in option	External filter in option	–	Integrated class B filter				
Motor power	kW/HP	0,75 / 1	ATV21H075M3X	S1A	ATV21H075N4	S1A	ATV21W075N4	S1	ATV21W075N4C	S1
		1,5 / 2	ATV21HU15M3X	S1A	ATV21HU15N4	S1A	ATV21WU15N4	S1	ATV21WU15N4C	S1
		2,2 / 3	ATV21HU22M3X	S1A	ATV21HU22N4	S1A	ATV21WU22N4	S1	ATV21WU22N4C	S1
		3 / –	ATV21HU30M3X	S2A	ATV21HU30N4	S2A	ATV21WU30N4	S2	ATV21WU30N4C	S2
		4 / 5	ATV21HU40M3X	S2A	ATV21HU40N4	S2A	ATV21WU40N4	S2	ATV21WU40N4C	S2
		5,5 / 7,5	ATV21HU55M3X	S3A	ATV21HU55N4	S2A	ATV21WU55N4	S2	ATV21WU55N4C	S2
		7,5 / 10	ATV21HU75M3X	S3A	ATV21HU75N4	S3A	ATV21WU75N4	S2	ATV21WU75N4C	S2
		11 / 15	ATV21HD11M3X	S4A	ATV21HD11N4	S3A	ATV21WD11N4	S3	ATV21WD11N4C	S3
		15 / 20	ATV21HD15M3X	S4A	ATV21HD15N4	S4A	ATV21WD15N4	S3	ATV21WD15N4C	S3
		18,5 / 25	ATV21HD18M3X	S4A	ATV21HD18N4	S4A	ATV21WD18N4	S4	ATV21WD18N4C	S4
		22 / 30	ATV21HD22M3X	S5A	ATV21HD22N4	S5A	ATV21WD22N4	S5	ATV21WD22N4C	S5
		30 / 40	ATV21HD30M3X	S6A	ATV21HD30N4	S5A	ATV21WD30N4	S5	ATV21WD30N4C	S5
		37 / 50	–		ATV21HD37N4	S7A	ATV21WD37N4	S6	ATV21WD37N4C	S6
		45 / 60	–		ATV21HD45N4	S7A	ATV21WD45N4	S6	ATV21WD45N4C	S6
		55 / 75	–		ATV21HD55N4	S8A	ATV21WD55N4	S7	ATV21WD55N4C	S7
		75 / 100	–		ATV21HD75N4	S8A	ATV21WD75N4	S7	ATV21WD75N4C	S7

(1) Heating Ventilation Air Conditioning

(2) Drive with local controls, Run/Stop, Loc/Rem. keys

Remote display terminal



Description	
The Altivar 21 drive can be connected to a remote display terminal. The display terminal can be mounted on the door of an enclosure with IP54 protection on the front panel. Max. operating temperature: 40°C Supplied with: – 1 cable with 2 RJ45 connectors, length 3.6 m – Seal and screws for IP54 mounting on an enclosure door	
Reference	
VW3A21101	

Additional EMC input filters



Supply voltage			Three phase 200...240 V			380...480 V		
Maximum length of shielded cable m (1)				Class A	Class B		Class A	Class B
References	Type of drive	ATV21	H075M3X to HU22M3X	20 m	20 m	H075N4 to HU22N4	20 m	20 m
	Filters		VW3A31404			VW3A31404		
	Type of drive	ATV21	HU30M3X and HU40M3X	20 m	20 m	HU30N4 to HU55N4	20 m	20 m
	Filters		VW3A31406			VW3A31406		
	Type of drive	ATV21	HU55M3X and HU75M3X	20 m	–	HU75N4 and HD11N4	20 m	20 m
	Filters		VW3A31407			VW3A31407		
	Type of drive	ATV21	HD11M3X to HD18M3X	20 m	–	HD15N4 and HD18N4	20 m	20 m
	Filters		VW3A31408			VW3A31409		
	Type of drive	ATV21	HD22M3X	100 m	–	HD22N4 and HD30N4	100 m	–
	Filters		VW3A4406			VW3A4406		
	Type of drive	ATV21	HD30M3X	20 m	–	HD37N4 à HD45N4	100 m	100 m
	Filters		VW3A4408			VW3A4407		
	Type of drive	ATV21	–			HD55N4 à HD75N4	100 m	100 m
	Filters					VW3A4408		

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 6 to 16 kHz

Communication cards

Type		LonWorks	METASYS N2	APOGEE FLN	BACnet
Structure	Connector				
	Topology	TP/FT-10 (free topology)	–	–	–
	Transmission speed	78 Kbps	–	–	–
Diagnostics	With LEDs	1 LED on the card: "Service"	1 LED on the card: "COM" (network traffic)		
	Using the graphic display terminal	Command word received/reference received			
Description file		xif file supplied on CD-ROM	–	–	–
Reference		VW3A21312	VW3A21313	VW3A21314	VW3A21315

Connection accessories

Modbus bus	Splitter box	Cables (L = 1 m)	T-junction boxes (L = 1 m)	Line terminator
Description	10 RJ45 connectors and 1 screw terminal	Equipped with 2 RJ45 connectors	T-junction boxes (with integrated cable)	Adaptation for RJ45 connector
Reference	LU9GC3	VW3A8306R10	VW3A8306TF10	VW3A8306RC

PC software for Altivar 21 drives

Free software available on www.schneider-electric.com	
Description	It includes various functions such as: Preparing configurations, setup and maintenance (oscilloscope). It can operate in the following PC environments and configurations: Microsoft Windows® 98, Microsoft Windows® 2000, Microsoft Windows® XP, Pentium® 233 MHz or more, hard disk with 10 Mb available, 32 Mb RAM, 256 colour 640 x 480 pixels or higher definition monitor.
Connection kit reference	VW3A8106

Dimensions (in mm)	width x height x depth
Size 1: 72 x 145 x 120	/ Size 2: 72 x 145 x 130
Size 3: 72 x 145 x 140	/ Size 4: 72 x 145 x 145
Size 5: 105 x 143 x 130	/ Size 6: 107 x 143 x 150
Size 7: 142 x 184 x 150	/ Size 8: 180 x 232 x 170
Size 9: 245 x 330 x 190	



Supply voltage			Single phase 200...240 V		Three phase 200...240 V		380...500 V	
Output frequency			0.5...500 Hz					
Type of control			Sensorless flux vector control					
Speed range			1 to 50					
Degree of protection			IP31 and IP41 on upper part and IP21 on connection terminals					
I/O	Analog inputs		3 configurable analog inputs					
	Logic inputs		6 programmable logic inputs					
	Analog outputs		1 current analog output (assignable as logic output) and 1 voltage analog output					
	Relay outputs		2 relay logic outputs					
Dialogue			Integrated display terminal with or without local controls (1) or PowerSuite software workshop (see page 4/30)					
Communication (see page 4/30)	Integrated		Modbus and CANopen					
	Available as an option		DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP					
EMC	Class A		Integrated class A filter		External filter available as an option		Integrated class A filter	
	Class B		External filter available as an option					
Motor power	kW/HP	0.18/0.25	ATV31H018M2	Size 3	ATV31H018M3X	Size 1	–	
		0.37/0.5	ATV31H037M2	Size 3	ATV31H037M3X	Size 1	ATV31H037N4	Size 5
		0.55/0.75	ATV31H055M2	Size 4	ATV31H055M3X	Size 2	ATV31H055N4	Size 5
		0.75/1	ATV31H075M2	Size 4	ATV31H075M3X	Size 2	ATV31H075N4	Size 6
		1.1/1.5	ATV31HU11M2	Size 6	ATV31HU11M3X	Size 5	ATV31HU11N4	Size 6
		1.5/2	ATV31HU15M2	Size 6	ATV31HU15M3X	Size 5	ATV31HU15N4	Size 6
		2.2/3	ATV31HU22M2	Size 7	ATV31HU22M3X	Size 6	ATV31HU22N4	Size 7
		3/–	–	–	ATV31HU30M3X	Size 7	ATV31HU30N4	Size 7
		4/5	–	–	ATV31HU40M3X	Size 7	ATV31HU40N4	Size 7
		5.5/7.5	–	–	ATV31HU55M3X	Size 8	ATV31HU55N4	Size 8
		7.5/10	–	–	ATV31HU75M3X	Size 8	ATV31HU75N4	Size 8
		11/15	–	–	ATV31HD11M3X	Size 9	ATV31HD11N4	Size 9
		15/20	–	–	ATV31HD15M3X	Size 9	ATV31HD15N4	Size 9

(1) For drive with local controls (Run/Stop keys and potentiometer) add an "A" at the end of the reference.

To order a drive intended for spooling applications, add a «T» at the end of the reference.

Enclosed drives

Dimensions (in mm)	width x height x depth
Size 1: 210 x 240 x 163	/ Size 2: 215 x 297 x 192
Size 3: 230 x 340 x 208	/ Size 4: 320 x 512 x 2782
Size 5: 440 x 625 x 282	/



Supply voltage			Single phase 200...240 V		Three phase 380...500 V	
Degree of protection			IP55			
Description			Enclosure equipped with an ATV31 drive with external heatsink. Removable covers for adding 1 switch-disconnector or 1 circuit-breaker, 3 buttons and/or LEDs, 1 potentiometer			
Motor power	kW/HP	0.18/0.25	ATV31C018M2	Size 1	–	
		0.37/0.5	ATV31C037M2	Size 1	ATV31C037N4	Size 2
		0.55/0.75	ATV31C055M2	Size 1	ATV31C055N4	Size 2
		0.75/1	ATV31C075M2	Size 1	ATV31C075N4	Size 2
		1.1/1.5	ATV31CU11M2	Size 2	ATV31CU11N4	Size 2
		1.5/2	ATV31CU15M2	Size 2	ATV31CU15N4	Size 2
		2.2/3	ATV31CU22M2	Size 3	ATV31CU22N4	Size 3
		3/–	–	–	ATV31CU30N4	Size 3
		4/5	–	–	ATV31CU40N4	Size 3
		5.5/7.5	–	–	ATV31CU55N4 (2)	Size 4
		7.5/10	–	–	ATV31CU75N4 (2)	Size 4
		11/15	–	–	ATV31CD11N4 (2)	Size 5
		15/20	–	–	ATV31CD15N4 (2)	Size 5

Drive kit (Altivar 31 drive on metal support plate with EMC filter): Please consult your Schneider Electric sales office. (2) Drive in metal enclosure without cover.

Additional EMC input filters



Supply voltage			Single phase 200...240 V		Three phase 200...240 V	380...500 V	
Maximum length of shielded cable (1)	Class A		5 m	50 m	5 m	5 m	50 m
	Class B		–	20 m	–	–	20 m
References	Drive	ATV31	H018M2 to H075M2		H018M3X to H075M3X	H037N4 to HU15N4	
	Filter		Integrated		VW3A31402	Integrated	VW3A31404
	Drive	ATV31	HU11M2 to HU15M2		HU11M3X to HU22M3X	HU22N4 to HU40N4	
	Filters		Integrated		VW3A31403	Integrated	VW3A31406
	Drive	ATV31	HU22M2		HU30M3X - HU40M3X	HU55N4 - HU75 N4	
	Filters		Integrated		VW3A31405	Integrated	VW3A31407
	Drive	ATV31	–		HU55M3X - HU75M3X	HD11N4 - HD15N4	
	Filters		–		VW3A31407	Integrated	VW3A31409
	Drive	ATV31	–		HD11M3X - HD15M3X	–	
	Filters		–		VW3A31408	–	

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 2 to 16 kHz

4

Line chokes



Supply voltage			Single phase 200...240 V		Three phase 200...240 V	380...500 V	
References	Drive	ATV31	H018M2 to H037M2		H018M3X to H075M3X	H037N4 to HU15N4	
	Choke		VZ1 L004M010		VW3A4551	VW3A4551	
	Drive	ATV31	H055M2 to H075M2		HU11M3X and HU15M3X	HU22N4 to HU40N4	
	Choke		VZ1 L007UM50		VW3A4552	VW3A4552	
	Drive	ATV31	HU11M2 to HU22M2		HU22M3X and HU30M3X	HU55N4 and HU75N4	
	Choke		VZ1 L018UM20		VW3A4553	VW3A4553	
	Drive	ATV31	–		HU40M3X to HU75M3X	HD11N4 and HD15N4	
	Choke		VW3A4554		VW3A4554	–	
	Drive	ATV31	–		HD11M3X and HD15M3X	–	
	Choke		VW3A4555		–	–	

Braking resistors... accessories: Please consult your Schneider Electric sales office.

Dimensions (in mm) width x height x depth			
S2	: 130 x 230 x 175	S3	: 155 x 260 x 187
S4	: 175 x 295 x 187	S5A	: 210 x 295 x 213
S5B	: 230 x 400 x 213	S6	: 240 x 420 x 236
S7A	: 240 x 550 x 266	S7B	: 320 x 550 x 266
S8	: 320 x 630 x 290	S9	: 320 x 920 x 377
S10	: 360 x 1022 x 377	S11	: 340 x 1190 x 377
S12	: 440 x 1190 x 377	S13	: 595 x 1190 x 377
S14	: 890 x 1390 x 377	S15	: 1120 x 1390 x 377



Type of drive			Single phase		Three phase		Three phase	
Supply voltage			200...240 V (3)		200...240 V (3)		380...800 V	
Degree of protection			IP20 for unprotected drives and IP41 on the upper part					
Drive	Output frequency		0.5...1600 Hz up to 37 kW; 0.5...500 Hz from 45 to 800 kW					
	Type of control	Asynchronous motor	kn² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio					
		Synchronous motor	Vector control without speed feedback					
	Transient overtorque		120...130% of the nominal drive current for 60 seconds					
Speed range			1...100 in open loop mode					
Functions	Number of functions		> 150					
	Number of preset speeds		16					
	Number of I/O		Analog inputs 2...4/Logic inputs 6...20					
			Analog outputs 1...3/Logic outputs 0...8					
			Relay outputs 2...4					
		Safety input 1						
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see pages 4/17 and 4/30)					
Communication (see page 4/30)	Integrated	Modbus and CANopen						
	Available as an option	HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus						
Cards (available as an option)			Multi-pump cards, I/O extension cards, "Controller Inside" programmable card					
Reduction of current harmonics			DC choke integrated or supplied with the product (optional chokes and passive filters, see page 4/18)					
EMC	Class A		Integrated filter					
	Class B		External filter available as an option					
Motor power	kW / HP	0,37 / 0,5	ATV61H075M3	S2	–		–	
		0,75 / 1	ATV61HU15M3	S2	ATV61H075M3	S2	ATV61H075N4 (3)	S2
		1,5 / 2	ATV61HU22M3	S3	ATV61HU15M3	S2	ATV61HU15N4 (3)	S2
		2,2 / 3	ATV61HU30M3	S3	ATV61HU22M3	S3	ATV61HU22N4 (3)	S2
		3 / –	ATV61HU40M3 (1)	S3	ATV61HU30M3	S3	ATV61HU30●● (3) (4)	S3/S6 (5)
		4 / 5	ATV61HU55M3 (1)	S4	ATV61HU40M3	S3	ATV61HU40●● (3) (4)	S3/S6 (5)
		5,5 / 7,5	ATV61HU75M3 (1)	S5A	ATV61HU55M3	S4	ATV61HU55●● (3) (4)	S4/S6 (5)
		7,5 / 10	–	–	ATV61HU75M3	S5A	ATV61HU75●● (3) (4)	S4/S6 (5)
		11 / 15	–	–	ATV61HD11M3X(2)	S5B	ATV61HD11●● (3) (4)	S5A/ S6 (5)
		15 / 20	–	–	ATV61HD15M3X(2)	S5B	ATV61HD15●● (3) (4)	S5B/ S6 (5)
		18,5 / 25	–	–	ATV61HD18M3X(2)	S6	ATV61HD18●● (3) (4)	S5A/ S6 (5)
		22 / 30	–	–	ATV61HD22M3X(2)	S6	ATV61HD22●● (3) (4)	S6/S6 (5)
		30 / 40	–	–	ATV61HD30M3X(2)	S7B	ATV61HD30●● (3) (4)	S7A/S6 (5)
		37 / 50	–	–	ATV61HD37M3X(2)	S7B	ATV61HD37●● (3) (4)	S7A/S8 (5)
		45 / 60	–	–	ATV61HD45M3X(2)	S7B	ATV61HD45●● (3) (4)	S8/S8 (5)
		55 / 75	–	–	ATV61HD55M3X(2)	S9	ATV61HD55●● (3) (4)	S8/S8 (5)
		75 / 100	–	–	ATV61HD75M3X(2)	S9	ATV61HD75●● (3) (4)	S8/S8 (5)
		90 / 125	–	–	ATV61HD90M3X(2)	S10	ATV61HD90●● (4)	S9/S8 (5)
		110 / 150	–	–	–	–	ATV61HC11●● (4)	S9/S11 (5)
		132 / 200	–	–	–	–	ATV61HC13●● (4)	S10/S11 (5)
		160 / 250	–	–	–	–	ATV61HC16●● (4)	S11/S11 (5)
		200 / 300	–	–	–	–	ATV61HC20●● (4)	S12/S11 (5)
		220 / 350	–	–	–	–	ATV61HC22N4 (4)	S12
		250 / 400	–	–	–	–	ATV61HC25●● (4)	S13/S13 (5)
		280 / 450	–	–	–	–	ATV61HC28N4 (4)	S13/S13 (5)
		315 / 500	–	–	–	–	ATV61HC31●● (4)	S13/S13 (5)
		400 / 600	–	–	–	–	ATV61HC40●● (4)	S14/S13 (5)
		500 / 700	–	–	–	–	ATV61HC50●● (4)	S14/S15 (5)
		630 / 900	–	–	–	–	ATV61HC63●● (4)	S15/S15 (5)
		800 / 900	–	–	–	–	ATV61HC80●● (4)	S15/S15 (5)

(1) Must be used with a line choke, see page 4/18

(2) Drive supplied without EMC filter

(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add **S337** at the end of the reference.

E.g. ATV61H075N4**S337**. To order drive supplied without EMC filter, add **337** at the end of the reference. E.g. ATV61HD11M3X**337**

(4) In the reference replace the points with: **N4** for 480 V - **Y** for 690 V

(5) The code of dimensions located on the left of the slash is for 480 V drives, the code located on the right is for 690 V

IP54 drives



Dimensions (in mm) width x height x depth	
ATV61W...	ATV61E5C... in enclosure
SA2 : 235 x 490 x 272	A1 : 616 x 2000 x 600
SA3 : 235 x 490 x 286	A2 : 816 x 2000 x 600
SB : 255 x 525 x 286	A3 : 1016 x 2000 x 600
SC : 290 x 560 x 315	A3 : 1220 x 2000 x 600
SD : 310 x 665 x 315	A3 : 2024 x 2000 x 600
SE : 284 x 720 x 315	A4 : 1216 x 2000 x 600
SF : 284 x 880 x 343	A4 : 1820 x 2000 x 600
SG : 362 x 1000 x 364	A4 : 2224 x 2000 x 600

Type of drive			Three phase 380...480 V (3)			
Degree of protection			UL Type 12/IP54			
Drive	Output frequency		0.5...1600 Hz up to 37 kW; 0.5...500 Hz from 45 to 800 kW			
	Type of control	Asynchronous motor	kn² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		120...130% of the nominal drive current for 60 seconds			
Speed range			1...100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O		Analog inputs 2...4 / Logic inputs 6...20			
			Analog outputs 1...3 / Logic outputs 0...8			
			Relay outputs 2...4			
			Safety input 1			
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)			
Communication (see page 4/30)	Integrated		Modbus and CANopen			
	Available as an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE P1 Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS			
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Integrated DC choke (optional chokes and passive filters, see page 4/18)			
EMC	Class A		Integrated filter			
	Class B		Integrated filter			
Motor power	kW / HP	0,75 / 1	ATV61W075N4 (6)	TA2	ATV61W075N4C	TA2
		1,5 / 2	ATV61WU15N4 (6)	TA2	ATV61WU15N4C	TA2
		2,2 / 3	ATV61WU22N4 (6)	TA2	ATV61WU22N4C	TA2
		3 / –	ATV61WU30N4 (6)	TA3	ATV61WU30N4C	TA3
		4 / 5	ATV61WU40N4 (6)	TA3	ATV61WU40N4C	TA3
		5,5 / 7,5	ATV61WU55N4 (6)	TB	ATV61WU55N4C	TB
		7,5 / 10	ATV61WU75N4 (6)	TB	ATV61WU75N4C	TB
		11 / 15	ATV61WD11N4 (6)	TC	ATV61WD11N4C	TC
		15 / 20	ATV61WD15N4 (6)	TD	ATV61WD15N4C	TD
		18,5 / 25	ATV61WD18N4 (6)	TD	ATV61WD18N4C	TD
		22 / 30	ATV61WD22N4 (6)	TE	ATV61WD22N4C	TE
		30 / 40	ATV61WD30N4 (6)	TF	ATV61WD30N4C	TF
		37 / 50	ATV61WD37N4 (6)	TF	ATV61WD37N4C	TF
		45 / 60	ATV61WD45N4 (6)	TG	ATV61WD45N4C	TG
		55 / 75	ATV61WD55N4 (6)	TG	ATV61WD55N4C	TG
		75 / 100	ATV61WD75N4 (6)	TG	ATV61WD75N4C	TG
		90 / 125	ATV61WD90N4 (6)	TG	ATV61WD90N4C	TG

(6) For products with switch: replace **W** par **E5** in the reference : Example ATV61W075N4 becomes ATV61E5075N4.



Dimensions (in mm) width x height x depth	
ATV61EXC2C...	
A1 : 616 x 2000 x 600	A4 : 1216 x 2000 x 600
A2 : 816 x 2000 x 600	A4 : 1820 x 2000 x 600
A3 : 1016 x 2000 x 600	A4 : 2224 x 2000 x 600
A3 : 1220 x 2000 x 600	
A3 : 2024 x 2000 x 600	

Type of enclosure			Three phase 380...690 V (3)
Degree of protection			
Drive	Output frequency		0.5...1600 Hz up to 37 kW; 0.5...500 Hz from 45 to 800 kW
	Type of control	Asynchronous motor	kn ² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio
		Synchronous motor	Vector control without speed feedback
		Transient overtorque	
Speed range			1...100 in open loop mode
Functions	Number of functions		> 150
	Number of preset speeds		16
	Number of I/O		Analog inputs 2...4 / Logic inputs 6...20
			Analog outputs 1...3 / Logic outputs 0...8
			Relay outputs 2...4
			Safety input 1
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)
Communication (see page 4/30)	Integrated		Modbus and CANopen
	Available as an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE P1 Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS
Cards (available as an option)			Multi-pump cards, I/O extension cards, "Controller Inside" programmable card
Reduction of current harmonics			Integrated DC choke (optional chokes and passive filters, see page 4/18)
CEM	Class A		Integrated filter
Equipment			A wide range of catalog options can be added to the standard offer according to specific requirements. In addition to the range of add-on options, equipment can be customized to your exact specifications just speak to our specialist teams. - Water-cooled solution. - Integration of specific options

IP23			
Compact enclosure - Three-Phase 380...690 V			
kW / HP	110 / 150	ATV61EXC2C11●●	E1
	132 / 200	ATV61EXC2C13●●	E1
	160 / 250	ATV61EXC2C16●●	E1
	220 / 350	ATV61EXC2C22●● (1)	E1
	250 / 400	ATV61EXC2C25●●	E2
	315 / 500	ATV61EXC2C31●●	E2
	400 / 600	ATV61EXC2C40●●	E3
	500 / 700	ATV61EXC2C50●●	E3
	630 / 900	ATV61EXC2C63●●	E4
	800 / 900	ATV61EXC2C80●● (2)	E4

At the end of the reference, add:

- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.

(2) No reference for N4

(3) The standard offer Altivar 61 in ready-assembled enclosure comprises:

- An Altivar 61 ATV61H speed drive
- A switch and fast-acting fuses
- An IP65 remote graphic display terminal kit

Dimensions (in mm) width x height x depth		
ATV61E5C...		ATV61EX...
A1	: 616 x 2000 x 600	E1 : 600 X 2155 X 600
A2	: 816 x 2000 x 600	E2 : 800 X 2155 X 600
A3	: 1016 x 2000 x 600	E3 : 1000 X 2155 X 600
A3	: 1220 x 2000 x 600	E4 : 1200 X 2155 X 600
A3	: 2024 x 2000 x 600	E5 : 600 X 2260 X 600
A4	: 1216 x 2000 x 600	E6 : 800 X 2260 X 600
A4	: 1820 x 2000 x 600	E7 : 1000 X 2260 X 600
A4	: 2224 x 2000 x 600	E8 : 1200 X 2260 X 600
		E9 : 600 X 2355 X 600
		E10 : 800 X 2355 X 600
		E11 : 1400 X 2355 X 600
		E12 : 1600 X 2355 X 600

Solution in IP 23 / IP 54 ready-assembled enclosure



IP54

Compact enclosure - Three-Phase 380...690 V

kW / HP			
	110 / 150	ATV61EXC5C11••	E5
	132 / 200	ATV61EXC5C13••	E5
	160 / 250	ATV61EXC5C16••	E5
	220 / 350	ATV61EXC5C22•• (1)	E5
	250 / 400	ATV61EXC5C25••	E6
	315 / 500	ATV61EXC5C31••	E6
	400 / 600	ATV61EXC5C40••	E7
	500 / 700	ATV61EXC5C50••	E7
	630 / 900	ATV61EXC5C63••	E8
	800 / 900	ATV61EXC5C80 (2)	E8

IP54

Separate air cooling circuit - Three-Phase 380...690 V

kW / HP			
	110 / 150	ATV61EXS5C11..	E9
	132 / 200	ATV61EXS5C13••	E9
	160 / 250	ATV61EXS5C16••	E9
	220 / 350	ATV61EXS5C22•• (1)	E9
	250 / 400	ATV61EXS5C25••	E10
	315 / 500	ATV61EXS5C31••	E10
	400 / 600	ATV61EXS5C40••	E11
	500 / 700	ATV61EXS5C50••	E11
	630 / 900	ATV61EXS5C63••	E12
	800 / 900	ATV61EXS5C80 (2)	E12

IP54

Ready-assembled enclosure with braking transistor included in the drive

kW / HP			
	110 / 150	ATV61E5C11N4	A1
	132 / 200	ATV61E5C13N4	A1
	160 / 250	ATV61E5C16N4	A1
	220 / 350	ATV61E5C22N4	A1

IP54

Ready-assembled enclosure with braking unit included in the cabinet

kW / HP			
	250 / 400	ATV61E5C25N4F	A2
	315 / 500	ATV61E5C31N4F	A2

IP54

Ready-assembled enclosure without braking unit

kW / HP			
	250 / 400	ATV61E5C25N4	A2
	315 / 500	ATV61E5C31N4	A2
	400 / 600	ATV61E5C40N4	A3
	500 / 700	ATV61E5C50N4	A3
	630 / 900	ATV61E5C63N4	A4

At the end of the reference, add:

- N4 for 415 V

- N for 500 V

- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.

(2) No reference for N4



Type of card	I/O extension Logic	Extended
Description	1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0...20 mA differential current analog input 1 software-configurable voltage (0...10 VDC) or current (0...20 mA) analog input 2 software-configurable voltage (±10V, 0...10 VDC) or current (0...20 mA) analog outputs 1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
Reference	VW3A3201	VW3A3202

“Controller Inside” programmable card



Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop.
Reference	VW3A3501

Multi-pump cards



Type of card	Multi-pump
Description	Ensure the compatibility with Altivar 61 of the applications developed for Altivar 38. The card's 9 operating modes are: ■ OFF: no function is activated. This mode is used in particular during maintenance of the installation. ■ Single variable. ■ Multiple variable. ■ Single variable with changeover of auxiliary pumps. ■ Multiple variable with changeover of auxiliary pumps. ■ Single variable with limited operating time. ■ Multiple variable with limited operating time. ■ Single variable with changeover of auxiliary pumps and limited operating time. ■ Multiple variable with changeover of auxiliary pumps and limited operating time.
Reference	VW3A3502
Description	Can be used to support multi-pump applications. It is called also Water Solution In addition to the existing operating modes, it is possible to develop new applications: booster station, irrigation, etc.
Reference	VW3A3503

Dialogue accessories



Accessory	Remote graphic display terminal	Remote mounting kit (1)
Description	This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.	A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes: ■ All the mechanical fittings ■ Fixing accessories
References	VW3A1101	VW3A1102

(1) Use a VW3A1104R remote-mounting connection cable, to be ordered separately (please consult the "Soft starters and variable speed drives" catalogue)

Additional EMC input filters

4

The additional EMC input filters can be used to meet the requirements of the EMC "products" standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

Type of drive	Three phase 200...240 V 50/60 Hz			380...480 V 50/60 Hz	
		Class A	Class B	Class A	Class B
Maximum length of shielded cable					
ATV61H075M3, HU15M3	VW3A4401	100 m	50 m	–	–
ATV61HU22M3...HU40M3	VW3A4402	100 m	50 m	–	–
ATV61HU55M3	VW3A4403	100 m	50 m	–	–
ATV61HU75M3	VW3A4404	100 m	50 m	–	–
ATV61HD11M3X, HD15M3X	VW3A4405	200 m	50 m	–	–
ATV61HD18M3X, HD22M3X	VW3A4406	200 m	50 m	–	–
ATV61HD30M3X...HD45M3X	VW3A4408	200 m	50 m	–	–
ATV61HD55M3X, HD75M3X	VW3A4410	100 m	50 m	–	–
ATV61HD90M3X	VW3A4411	100 m	50 m	–	–
ATV61●075N4(C)...●U22N4(C)	–			VW3A4401	100 m 50 m
ATV61●U30N4(C), ●U40N4(C)	–			VW3A4402	100 m 50 m
ATV61●U55N4(C), ●U75N4(C)	–			VW3A4403	100 m 50 m
ATV61●D11N4(C)	–			VW3A4404	100 m 50 m
ATV61●D15N4(C), ●D18N4(C)	–			VW3A4405	300 m 100 m
ATV61●D22N4(C)	–			VW3A4406	300 m 100 m
ATV61●D30N4(C), ●D37N4(C)	–			VW3A4407	300 m 100 m
ATV61●D45N4(C)...●D75N4(C)	–			VW3A4408	300 m 100 m
ATV61●D90N4(C)...HC16N4, ATV61E5C11N4...E5C16N4	–			VW3A4410	300 m 50 m
ATV61HC22N4...HC31N4, ATV61E5C22N4...E5C31N4	–			VW3A4411	300 m 50 m
ATV61HC40N4, HC50N4, ATV61E5C40N4, E5C50N4	–			VW3A4412	300 m 50 m
ATV61HC63N4, ATV61E5C63N4	–			VW3A4413	300 m 50 m

● Applies to the following drives: ATV61H...N4, ATV61H...N4C, ATV61W...N4, ATV61W...N4C

A line choke can be used to provide improved protection against overvoltages on the line supply and to reduce harmonic distortion of the current produced by the drive.

Type of drive Supply voltage	Single phase 200...240 V 50/60 Hz	Three phase 200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV61HU40M3	VW3A58501	–	–
ATV61HU55M3, HU75M3	VW3A58502	–	–
ATV61H075M3	–	VW3A4551	–
ATV61HU15M3, HU22M3	–	VW3A4552	–
ATV61HU30M3	–	VW3A4553	–
ATV61HU40M3, HU55M3	–	VW3A4554	–
ATV61HU75M3, HD11M3X	–	VW3A4555	–
ATV61HD15M3X	–	VW3A4556	–
ATV61HD18M3X...HD45M3X	–	VW3A4557	–
ATV61HD55M3XD, ATV61HD75M3XD	–	VW3A4561	–
ATV61HD90M3XD	–	VW3A4564	–
ATV61●075N4(C), ●U15N4(C)	–	–	VW3A4551
ATV61●U22N4(C)...●U40N4(C)	–	–	VW3A4552
ATV61●U55N4(C), ●U75N4(C)	–	–	VW3A4553
ATV61●D11N4(C), ●D15N4(C)	–	–	VW3A4554
ATV61●D18N4(C), ●D22N4(C)	–	–	VW3A4555
ATV61●D30N4(C)...●D55N4(C)	–	–	VW3A4556
ATV61●D75N4(C)	–	–	VW3A4557
ATV61HD90N4D	–	–	VW3A4558
ATV61HC11N4D, ATV61E5C11N4	–	–	VW3A4559
ATV61HC13N4D, ATV61E5C13N4	–	–	VW3A4560
ATV61HC16N4D, ATV61E5C16N4	–	–	VW3A4568
ATV61HC22N4D, ATV61E5C22N4	Motor P 200 kW	–	VW3A4561
	Motor P 220 kW	–	VW3A4569
ATV61HC25N4D, HC50N4D, ATV61E5C25N4, E5C50N4	–	–	VW3A4569
ATV61HC31N4D, HC63N4D, ATV61E5C31N4, E5C63N4	–	–	VW3A4564
ATV61HC40N4D, ATV61E5C40N4	–	–	VW3A4565

DC chokes are used to reduce current harmonics in order to comply with standard 61000-3-2 for drives in which the line current is more than 16 A and less than 75 A.

Reduction of current harmonics

Optional DC chokes ⁽¹⁾

Type of drive Supply voltage	Three phase 200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV61H075M3	VW3A4503	–
ATV61HU15M3	VW3A4505	–
ATV61HU22M3	VW3A4506	–
ATV61HU30M3	VW3A4507	–
ATV61HU40M3, HU55M3	VW3A4508	–
ATV61HU75M3	VW3A4509	–
ATV61HD11M3X, HD15M3X	VW3A4510	–
ATV61HD18M3X, HD22M3X	VW3A4511	–
ATV61HD30M3X...HD45M3X	VW3A4512	–
ATV61●075N4(C)	–	VW3A4501
ATV61●U15N4(C)	–	VW3A4502
ATV61●U22N4(C), ●U30N4(C)	–	VW3A4503
ATV61●U40N4(C)	–	VW3A4504
ATV61●U55N4(C)	–	VW3A4505
ATV61●U75N4(C)	–	VW3A4506
ATV61●D11N4(C)	–	VW3A4507
ATV61●D15N4(C), ●D18N4(C)	–	VW3A4508
ATV61●D22N4(C)...●D37N4(C)	–	VW3A4510
ATV61●D45N4(C)...●D75N4(C)	–	VW3A4 511

● Applies to the following drives: ATV61H...N4, ATV61H...N4C, ATV61W...N4, ATV61W...N4C

(1) For ATV61HD55M3X, HD75M3X and ATV61HD90N4... HC50N4 drives, the choke is supplied as standard with the drive.

Passive filters

A passive filter is used to reduce current harmonics with total harmonic distortion factors of less than 16% or 10%. These factors may be less than 10%, or 5% if used with a DC choke.

Type of drive	Three phase 400 V 50/60 Hz		Three phase 460 V 50/60 Hz	
	THDI 16% (1)	THDI 10% (2)	THDI 16% (1)	THDI 10% (2)
ATV61●075N4(C), ●U15N4(C), ●U22N4(C), ●U30N4(C)	VW3A4601	VW3A4621	VW3A4641	VW3A4661
ATV61●U40N4(C), ●U55N4(C)	VW3A4602	VW3A4622	VW3A4642	VW3A4662
ATV61●U75N4(C), ●D11N4(C)	VW3A4603	VW3A4623	VW3A4643	VW3A4663
ATV61●D15N4(C)	VW3A4604	VW3A4624	VW3A4644	VW3A4664
ATV61●D18N4(C)	VW3A4605	VW3A4625	VW3A4645	VW3A4665
ATV61●D22N4(C)	VW3A4606	VW3A4626	VW3A4646	VW3A4666
ATV61●D30N4(C)	VW3A4607	VW3A4627	VW3A4647	VW3A4667
ATV61●D37N4(C)	VW3A4607	VW3A4627	VW3A4647	VW3A4667
ATV61●D45N4(C)	VW3A4608	VW3A4628	VW3A4648	VW3A4668
ATV61●D55N4(C)	VW3A4608	VW3A4628	VW3A4648	VW3A4668
ATV61●D75N4(C)	VW3A4609	VW3A4629	VW3A4649	VW3A4669
ATV61●D90N4(C)	VW3A4609	VW3A4629	VW3A4649	VW3A4669
ATV61HC11N4, ATV61E5C11N4	VW3A4610	VW3A4630	VW3A4649	VW3A4669
ATV61HC13N4, ATV61E5C13N4	VW3A4611	VW3A4631	VW3A4656	VW3A4676
ATV61HC16N4, ATV61E5C16N4	VW3A4612	VW3A4632	VW3A4650	VW3A4670
ATV61HC22N4, ATV61E5C22N4	VW3A4613	VW3A4633	VW3A4651	VW3A4671
ATV61HC25N4, ATV61E5C25N4	VW3A4611	VW3A4631	VW3A4656	VW3A4676
ATV61HC31N4, HC40N4, ATV61E5C31N4, E5C63N4	VW3A4612	VW3A4632	VW3A4650	VW3A4670
ATV61HC40N4, ATV61E5C40N4	VW3A4619	VW3A4639	VW3A4657	VW3A4677
ATV61HC50N4, ATV61E5C50N4	VW3A4612	VW3A4632	VW3A4651	VW3A4671
ATV61HC63N4, ATV61E5C63N4	VW3A4613	VW3A4633	VW3A4657	VW3A4677

● Applies to the following drives: ATV61H...N4, ATV61H...N4C, ATV61W...N4, ATV61W...N4C

(1) By adding a DC choke, we get: THD ≤ 10%

(2) By adding a DC choke, we get: THD ≤ 15%

These reduced current harmonics are obtained on condition that the THDu is < 20% and the RSCE > 66%.

Sinusoidal filters

Sinusoidal filters allow Altivar 61 drives to operate with longer motor cables (up to 1000 m).

Type of drive	Three phase	
	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV61H075M3, HU15M3 (2)	VW3A5201	–
ATV61HU22M3, HU30M3	VW3A5202	–
ATV61HU40M3...HU75M3	VW3A5203	–
ATV61HD11M3X, HD15M3X	VW3A5204	–
ATV61HD18M3X, HD22M3X	VW3A5205	–
ATV61HD30M3X...HD45M3X	VW3A5206	–
ATV61HD55M3X, HD75M3X	VW3A5208	–
ATV61HD90M3X	VW3A5209	–
ATV61●U15N4(C)...HU40N4(C) (2)	–	VW3A5201
ATV61●U55N4(C)	–	VW3A5202
ATV61●U75N4(C)...●D15N4(C)	–	VW3A5203
ATV61●D18N4(C)...●D30N4(C)	–	VW3A5204
ATV61●D37N4(C), ●D45N4(C)	–	VW3A5205
ATV61●D55N4(C), ●D75N4(C)	–	VW3A5206
ATV61●D90N4(C), HC11N4, ATV61E5C11N4	–	VW3A5207
ATV61HC13N4, HC16N4, ATV61E5C13N4, E5C16N4	–	VW3A5208
ATV61HC22N4, ATV61E5C22N4	–	VW3A5209
ATV61HC25N4, HC31N4, ATV61E5C25N4, E5C31N4	–	VW3A5210
ATV61HC40N4, ATV61E5C40N4	–	VW3A5210
Motor P 355 kW	–	VW3A5211
Motor P 400 kW	–	VW3A5211
ATV61HC50N4, HC63N4, ATV61E5C50N4, E5C63N4	–	VW3A5211

● Applies to the following drives: ATV61H...N4, ATV61H...N4C, ATV61W...N4, ATV61W...N4C

(2) For ATV61H075M3, HU15M3 and ATV61HU15N4 drives, it is advisable to use a lower power motor with a sinusoidal filter



Above a certain motor cable length, it is advisable to insert a motor choke between the drive and the motor. This maximum length depends on the drive rating and the type of motor cable.

Type of drive	Max. motor cable length		Three phase	
	Shielded	Unshielded	200...240 V 50/60Hz	380...480 V 50/60 Hz
ATV61H075M3...HU22M3	150 m	300 m	VW3A5101	–
ATV61HU30M3...HU75M3	200 m	260 m	VW3A5102	–
	300 m	300 m	VW3A5103	–
ATV61HD11M3X...HD22M3X	150 m	300 m	VW3A5103	–
ATV61HD30M3X...HD45M3X	150 m	300 m	VW3A5104	–
ATV61HD55M3X, HD75M3X	150 m	300 m	VW3A5105	–
ATV61HD90M3X	250 m	300 m	VW3A5106	–
ATV61●075N4(C)...●U40N4(C)	75 m	90 m	–	VW3A5101
	85 m	95 m	–	VW3A5102
	160 m	200 m	–	VW3A5103
ATV61●U55N4(C)...●D18N4(C)	85 m	95 m	–	VW3A5102
	160 m	200 m	–	VW3A5103
	200 m	300 m	–	VW3A5104 (1)
ATV61●D22N4(C)...●D30N4(C)	140 m	170 m	–	VW3A5103
	150 m	300 m	–	VW3A5104 (1)
ATV61●D37N4(C)	97 m	166 m	–	VW3A5103
	200 m	300 m	–	VW3A5104 (1)
ATV61●D45N4(C)...●D75N4(C)	150 m	300 m	–	VW3A5104 (1)
ATV61●D90N4(C)	200 m	300 m	–	VW3A5104 (1)
ATV61HC11N4, HC13N4, ATV61E5C11N4,E5C13N4	150 m	250 m	–	VW3A5105 (1)
ATV61HC16N4, ATV61E5C16N4	250 m	300 m	–	VW3A5106 (1)
ATV61HC22N4, ATV61E5C22N4	250 m	300 m	–	VW3A5106 (1)
ATV61HC25N4, ATV61E5C25N4	200 m	250 m	–	VW3A5107 (1)
ATV61HC31N4, ATV61E5C31N4	200 m	250 m	–	VW3A5107 (1)
ATV61HC40N4, ATV61E5C40N4	Motor P 355 kW	200 m	–	VW3A5107 (1)
	Motor P 400 kW	250 m	–	VW3A5108 (1)
ATV61HC50N4, ATV61E5C50N4	250 m	300 m	–	VW3A5108 (1)
ATV61HC63N4, ATV61E5C63N4	250 m	300 m	–	VW3A5108 (1)

● Applies to the following drives: ATV61H...N4, ATV61H...N4C, ATV61W...N4, ATV61W...N4C

(1) 3 single phase chokes are included with the drive.

KIT Altivar 61 IP54 enclosure pre-assembled

Type of drives	Kit
ATV61HC11N4	VW3A9541
ATV61HC13N4	VW3A9542
ATV61HC16N4	VW3A9543
ATV61HC22N4	VW3A9544
ATV61HC25N4	VW3A9545
ATV61HC31N4	
ATV61HC25N4 With braking unit VW3A7101	VW3A9546
ATV61HC31N4 With braking unit VW3A7101	
ATV61HC40N4 Without braking unit	VW3A9547
ATV61HC50N4	
ATV61HC63N4	VW3A9548
Braking unit VW3A7102	VW3A9549
Additional empty enclosed 600 mm	VW3A9550
Additional empty enclosed 800 mm	VW3A9551

Resistance braking units (integrated in ATV61 drives up to 220 kW)

ATV61H●●●M3, ATV61H●●●M3X and ATV61H075N4...HC22N4, ATV61W●●●N4 and ATV61W●●●N4C drives have a built-in braking transistor.

The braking resistor enables the Altivar 61 drive to operate while braking to a standstill or during slowdown braking, by dissipating the braking energy.

Supply voltage	Three phase 380...480 V 50/60 Hz	
Type of drive	ATV61HC25N4, HC31N4	ATV61HC40N4, HC50N4, HC63N4
Continuous power/Max (kW)	200/420	400/750
Reference	VW3A7101	VW3A7102

Braking resistors



The network braking unit can be used to restore the following to the line supply:

- The energy from the motor
- The energy from the motors controlled by several drives connected on the same DC bus

Type of drive	Three phase	
Supply voltage	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV61H075M3	VW3A7701	—
ATV61HU15M3, HU22M3	VW3A7702	—
ATV61HU30M3, HU40M3	VW3A7703	—
ATV61HU55M3, HU75M3	VW3A7704	—
ATV61HD11M3X	VW3A7705	—
ATV61HD15M3X	VW3A7706	—
ATV61HD18M3X, HD22M3X	VW3A7707	—
ATV61HD30M3X	VW3A7708	—
ATV61HD37M3X, HD45M3X	VW3A7709	—
ATV61HD55M3X, HD75M3X	VW3A7713	—
ATV61HD90M3X	VW3A7714	—
ATV61H075N4...HU40N4, ATV61W075N4...WU55N4, ATV61W075N4C...WU55N4C	—	VW3A7701
ATV61HU55N4, HU75N4, ATV61WU75N4, WD11N4, ATV61WU75N4C, WD11N4C	—	VW3A7702
ATV61HD11N4, HD15N4, ATV61WD15N4, WD18N4, ATV61WD15N4C, WD18N4C	—	VW3A7703
ATV61HD18N4...HD30N4, ATV61WD22N4...WD37N4, ATV61WD22N4C...WD37N4C	—	VW3A7704
ATV61HD37N4, ATV61WD45N4, WD45N4C	—	VW3A7705
ATV61WD55N4...WD90N4, ATV61WD55N4C...WD90N4C	—	VW3A7706
ATV61HD45N4...HD75N4	—	VW3A7707
ATV61HD90N4, HC11N4, ATV61E5C11N4	—	VW3A7710
ATV61HC13N4, HC16N4, ATV61E5C13N4, E5C16N4	—	VW3A7711
ATV61HC22N4, ATV61E5C22N4	—	VW3A7712
ATV61HC25N4, ATV61E5C25N4	—	VW3A7715
ATV61HC31N4, ATV61E5C31N4	—	VW3A7716
ATV61HC40N4, HC50N4, ATV61E5C40N4, E5C50N4	—	VW3A7717
ATV61HC63N4, ATV61E5C63N4	—	VW3A7718

Dimensions (in mm) width x height x depth	
S2 : 130 x 230 x 175	S3 : 155 x 260 x 187
S4 : 175 x 295 x 187	S5A : 210 x 295 x 213
S5B : 230 x 400 x 213	S6 : 240 x 420 x 236
S7A : 240 x 550 x 266	S7B : 320 x 550 x 266
S8 : 320 x 630 x 290	S9 : 320 x 920 x 377
S10 : 360 x 1022 x 377	S11 : 340 x 1190 x 377
S12 : 440 x 1190 x 377	S13 : 595 x 1190 x 377
S14 : 890 x 1390 x 377	S15 : 1120 x 1390 x 377



Type of drive			Single phase		Three phase		Three phase		Three phase on base plate		
Supply voltage			200...240 V (3) (4)		200...240 V (3) (4)		380...480 V		380...480 V (3)		
Degree of protection			IP20 for unprotected drives and IP41 on the upper part								
Drive	Output frequency		0.1...1600 Hz up to 37 kW, 0.1...500 Hz from 45 to 500 kW								
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System								
		Synchronous motor	Vector control without speed feedback and with speed feedback (...383)								
	Transient overtorque			220% of nominal motor torque for 2 seconds, and 170% for 60 seconds							
Speed range			1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode								
Functions	Number of functions		> 150								
	Number of preset speeds		16								
	Number of I/O	Analog inputs		2...4							
		Logic inputs		6...20							
		Analog outputs		1...3							
		Logic outputs		0...8							
		Relay outputs		2...4							
		Safety input		1							
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see pages 4/25 and 4/30)								
Communication (see page 4/30)	Integrated		Modbus and CANopen								
	Available as an option		Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS								
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card								
Reduction of current harmonics			DC choke integrated or supplied with the product, (optional chokes and passive filters, see page 4/26)								
EMC	Class A		Integrated filter								
	Class B		External filter available as an option								
Motor Power	kW / HP	0,37 / 0,5	ATV71H075M3	T2	ATV71H037M3	T2	–		–		
		0,75 / 1	ATV71HU15M3	T2	ATV71H075M3	T2	ATV71H075N4 (3) (4)	T2	ATV71P075N4Z	T2	
		1,5 / 2	ATV71HU22M3	T3	ATV71HU15M3	T2	ATV71HU15N4 (3) (4)	T2	ATV71PU15N4Z	T2	
		2,2 / 3	ATV71HU30M3	T3	ATV71HU22M3	T3	ATV71HU22●● (3) (4) (5)	T2/T6	ATV71PU22N4Z	T2	
		3 / –	ATV71HU40M3 (1)	T3	ATV71HU30M3	T3	ATV71HU30●● (3) (4) (5)	T3/T6	ATV71PU30N4Z	T3	
		4 / 5	ATV71HU55M3 (1)	T4	ATV71HU40M3	T3	ATV71HU40●● (3) (4) (5)	T3/T6	ATV71PU40N4Z	T3	
		5,5 / 7,5	ATV71HU75M3 (1)	T5A	ATV71HU55M3	T4	ATV71HU55●● (3) (4) (5)	T4/T6	ATV71PU55N4Z	T4	
		7,5 / 10	–		ATV71HU75M3	T5A	ATV71HU75●● (3) (4) (5)	T4/T6	ATV71PU75N4Z	T4	
		11 / 15	–		ATV71HD11M3X (2)	T5B	ATV71HD11●● (3) (4) (5)	T5A/T6	–		
		15 / 20	–		ATV71HD15M3X (2)	T5B	ATV71HD15●● (3) (4) (5)	T5B/T6	–		
		18,5 / 25	–		ATV71HD18M3X (2)	T6	ATV71HD18●● (3) (4) (5)	T5B/T6	–		
		22 / 30	–		ATV71HD22M3X (2)	T6	ATV71HD22●● (3) (4) (5)	T6/T6	–		
		30 / 40	–		ATV71HD30M3X (2)	T7B	ATV71HD30●● (3) (4) (5)	T7A/T6	–		
		37 / 50	–		ATV71HD37M3X (2)	T7B	ATV71HD37●● (3) (4) (5)	T7A/T8	–		
		45 / 60	–		ATV71HD45M3X (2)	T7B	ATV71HD45●● (3) (4) (5)	T8/T8	–		
		55 / 75	–		ATV71HD55M3X (2)	T9	ATV71HD55●● (3) (4) (5)	T8/T8	–		
		75 / 100	–		ATV71HD75M3X (2)	T10	ATV71HD75●● (3) (4) (5)	T8/T8	–		
		90 / 125	–		–		ATV71HD90●●	T9/T8	–		
		110 / 150	–		–		ATV71HC11●●	T10/T11	–		
		132 / 200	–		–		ATV71HC13●●	T11/T11	–		
		160 / 250	–		–		ATV71HC16●●	T12/T11	–		
		200 / 300	–		–		ATV71HC20●●	T13/T13	–		
		220 / 350	–		–		ATV71HC25●●	T13/T13	–		
		280 / 450	–		–		ATV71HC28N4	T13	–		
		315 / 500	–		–		ATV71HC31●●	T14/T13	–		
		355 / –	–		–		ATV71HC40●●	T14/T15	–		
		500 / 700	–		–		ATV71HC50●●	T15/T15	–		
		630 / 900	–		–		ATV71HC63Y	T15	–		

(1) Must be used with a line choke, see page 4/26.

(2) Drive supplied without EMC filter.

(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add **S337** at the end of the reference. E.g. ATV71H075N4**S337**. To order drive supplied without EMC filter, add **337** at the end of the reference. E.g. ATV71HD11M3X**337**.

(4) To order a drive for synchronous motor with speed feedback, add **383** at the end of the reference. E.g. ATV71H075N4**383**.

(5) In the reference replace the points with: **N4** for 480 V - **Y** for 690 V.

NB : The first code of dimensions located before the slash is for 480 V speed drives. The code located after the slash is for 690 V speed drives.

Dimensions (in mm) width x height x depth	
ATV71W..., ATV71E5... to 75 kW	ATV71E5C... in enclosure
SA2 : 235 x 490 x 272	A1 : 616 x 2000 x 600
SA3 : 235 x 490 x 286	A2 : 816 x 2000 x 600
SB : 255 x 525 x 286	A3 : 1016 x 2000 x 600
SC : 290 x 560 x 315	A3 : 1220 x 2000 x 600
SD : 310 x 665 x 315	A3 : 2024 x 2000 x 600
SE : 284 x 720 x 315	A4 : 1216 x 2000 x 600
SF : 284 x 880 x 343	A4 : 1820 x 2000 x 600
SG : 362 x 1000 x 364	A4 : 2224 x 2000 x 600

IP54 drives



Type of drive			Three phase 380...480 V				
			(3)		with switch		
Degree of protection			UL Type 12/IP54				
Drive	Output frequency		0.1...1600 Hz up to 37 kW, 0.1...500 Hz from 45 to 500 kW				
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System				
		Synchronous motor	Vector control without speed feedback				
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds				
Speed range			1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode				
Functions	Number of functions		> 150				
	Number of preset speeds		16				
	Number of I/O	Analog inputs	2...4				
		Logic inputs	6...20				
		Analog outputs	1...3				
		Logic outputs	0...8				
		Relay outputs	2...4				
		Safety input	1				
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)				
Communication (see page 4/30)	Integrated		Modbus and CANopen				
	Available as an option		Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS				
Cards (available as an option)			Encoder interface cards, I/O extension cards, "Controller Inside" programmable card				
Reduction of current harmonics			Optional chokes and passive filters (see page 4/26)				
EMC	Class A		Integrated filter				
	Class B		External filter available as an option				
Motor power	kW/HP	0,75 / 1	ATV71W075N4		SA2	ATV71E5075N4	SA2
		1,5 / 2	ATV71WU15N4		SA2	ATV71E5U15N4	SA2
		2,2 / 3	ATV71WU22N4		SA2	ATV71E5U22N4	SA2
		3 / –	ATV71WU30N4		SA3	ATV71E5U30N4	SA3
		4 / 5	ATV71WU40N4		SA3	ATV71E5U40N4	SA3
		5,5 / 7,5	ATV71WU55N4		SB	ATV71E5U55N4	SB
		7,5 / 10	ATV71WU75N4		SB	ATV71E5U75N4	SB
		11 / 15	ATV71WD11N4		SC	ATV71E5D11N4	SC
		15 / 20	ATV71WD15N4		SD	ATV71E5D15N4	SD
		18,5 / 25	ATV71WD18N4		SD	ATV71E5D18N4	SD
		22 / 30	ATV71WD22N4		SD	ATV71E5D22N4	SD
		30 / 40	ATV71WD30N4		SF	ATV71E5D30N4	SF
		37 / 50	ATV71WD37N4		SF	ATV71E5D37N4	SF
		45 / 60	ATV71WD45N4		SG	ATV71E5D45N4	SG
		55 / 75	ATV71WD55N4		SG	ATV71E5D55N4	SG
		75 / 100	ATV71WD75N4		SG	ATV71E5D75N4	SG



Dimensions (in mm) width x height x depth

ATV71EXC2C...

E1 : 600 X 2155 X 600 E3 : 1000 X 2155 X 600

E2 : 800 X 2155 X 600 E4 : 1200 X 2155 X 600

Type of enclosure			Three phase 380...480 V (2)
Degree of protection			
Drive	Output frequency		0.1...1600 Hz up to 37 kW, 0.1...500 Hz from 45 to 500 kW
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System
		Synchronous motor	Vector control without speed feedback
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds
Speed range			1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode
Functions	Number of functions		> 150
	Number of preset speeds		16
	Number of I/O	Analog inputs	2...4
		Logic inputs	6...20
		Analog outputs	1...3
		Logic outputs	0...8
		Relay outputs	2...4
		Safety input	1
Dialogue			Remote graphic display terminal or PowerSuite software workshop (see page 4/30)
Communication (see page 4/30)	Integrated	Modbus and CANopen	
	Available as an option	Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS	
Cards (available as an option)			Encoder interface cards, I/O extension cards, "Controller Inside" programmable card
Reduction of current harmonics			Optional chokes and passive filters (see page 4/26)
EMC	Class A		Integrated filter
	Class B		External filter available as an option
Equipment			A wide range of catalog options can be added to the standard offer according to specific requirements. In addition to the range of add-on options, equipment can be customized to your exact specifications just speak to our specialist teams. - Water-cooled solution. - Integration of specific options.

IP23				
Compact enclosure - Three-Phase 380...690 V				
	kW / HP			
	110 / 150	ATV71EXC2C11●●		E1
	132 / 200	ATV71EXC2C13●●		E1
	160 / 250	ATV71EXC2C16●●		E1
	220 / 350	ATV71EXC2C22●● (1)		E1
	250 / 400	ATV71EXC2C25●●		E2
	315 / 500	ATV71EXC2C31●●		E2
	400 / 600	ATV71EXC2C40●●		E3
	500 / 700	ATV71EXC2C50●●		E3
	630 / 900	ATV71EXC2C63●●		E4

At the end of the reference, add:

- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.

(2) The standard offer Altivar 71 in ready-assembled enclosure comprises:

- An Altivar 71 ATV71H speed drive
- A switch and fast-acting fuses
- An IP65 remote graphic display terminal kit.

Solution in IP 23 / IP 54 ready-assembled enclosure



Dimensions (in mm) width x height x depth			
ATV71E5C...		ATV71EX...	
A1	: 616 x 2000 x 600	E5	: 600 X 2260 X 600
A2	: 816 x 2000 x 600	E6	: 800 X 2260 X 600
A3	: 1016 x 2000 x 600	E7	: 1000 X 2260 X 600
A3	: 1220 x 2000 x 600	E8	: 1200 X 2260 X 600
A3	: 2024 x 2000 x 600	E9	: 600 X 2355 X 600
A4	: 1216 x 2000 x 600	E10	: 800 X 2355 X 600
A4	: 1820 x 2000 x 600	E11	: 1400 X 2355 X 600
A4	: 2224 x 2000 x 600	E12	: 1600 X 2355 X 600

IP54

Compact enclosures 3-Phase 380...690 V

kW / HP			
110 / 150	132 / 200	ATV71EXC5C11..	E5
	160 / 250	ATV71EXC5C13..	E5
	220 / 350	ATV71EXC5C16..	E5
	250 / 400	ATV71EXC5C22.. (1)	E5
	315 / 500	ATV71EXC5C25..	E6
	400 / 600	ATV71EXC5C31..	E6
	500 / 700	ATV71EXC5C40..	E7
	630 / 900	ATV71EXC5C50..	E7
630 / 900		ATV71EXC5C63..	E8

IP54

Separate air cooling circuit - Three-Phase 380...690 V

kW / HP			
110 / 150	132 / 200	ATV71EXS5C11..	E9
	160 / 250	ATV71EXS5C13..	E9
	220 / 350	ATV71EXS5C16..	E9
	250 / 400	ATV71EXS5C22.. (1)	E9
	315 / 500	ATV71EXS5C25..	E10
	400 / 600	ATV71EXS5C31..	E10
	500 / 700	ATV71EXS5C40..	E11
	630 / 900	ATV71EXS5C50..	E11
630 / 900		ATV71EXS5C63..	E12

IP54

Ready-assembled enclosure with braking transistor included in the drive

kW / HP			
110 / 150	132 / 200	ATV71E5C11N4	A1
	160 / 250	ATV71E5C13N4	A1
	220 / 350	ATV71E5C16N4	A1
		ATV71E5C22N4	A1

IP54

Ready-assembled enclosure with braking unit included in the cabinet

kW / HP			
250 / 400		ATV71E5C25N4F	A2
	315 / 500	ATV71E5C31N4F	A2

IP54

Ready-assembled enclosure without braking unit

kW / HP			
250 / 400	315 / 500	ATV71E5C25N4	A2
	400 / 600	ATV71E5C31N4	A2
	500 / 700	ATV71E5C40N4	A3
		ATV71E5C50N4	A3
	630 / 900	ATV71E5C63N4	A4

At the end of the reference, add:

- N4 for 415 V
- N for 500 V
- Y for 690 V

(1) For Y and N ranges, replace C22 with C20.



Type of card	I/O extension	
	Logic	Extended
Description	1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 0...20 mA differential current analog input, 1 software-configurable voltage (0...10 VDC) or current (0...20 mA) analog input, 2 software-configurable voltage (±10V, 0...10 VDC) or current (0...20 mA) analog outputs, 1 relay logic output ("C/O" contact), 4 x 24 VDC positive or negative logic inputs, 2 x 24 VDC open collector positive or negative logic outputs, 1 input for PTC probes, 1 frequency control input.
Reference	VW3A3201	VW3A3202

“Controller Inside” programmable card



Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders. 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop
Reference	VW3A3501

Encoder interface cards



Type of card		Encoder interface with		
		Differential outputs (RS422)	Open collector outputs (NPN)	Push-pull outputs
Operating frequency		300 kHz		
References	5 V	VW3A3401	–	–
	12 V	–	VW3A3403	VW3A3405
	15 V	VW3A3402	VW3A3404	VW3A3406
	24 V	–	–	VW3A3407

Type of card	Resolver	Universal	Incremental with emulation
Speed feedback resolution	12 bits	13 bits	10 000
Supported encoder	2, 4, 6 or 8 poles resolver	«SinCos, SinCosHiperface Endat, SSI»	«Incremental RS 422 - 5 V ou 15 V»
References	VW3A3408	VW3A3409	VW3A3411

Dialogue accessories



Accessory	Remote graphic display terminal	Remote mounting kit (1)
Description	This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.	A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes: ■ All the mechanical fittings ■ Fixing accessories
References	VW3A1101	VW3A1102

(1) Use a VW3A1104R remote-mounting connection cable, to be ordered separately (please consult the “Soft starters and variable speed drives” catalogue)

Additional EMC input filters

The additional EMC input filters can be used to meet the requirements of the EMC “products” standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

Type of drive	Three phase 200...240 V 50/60 Hz			380...480 V 50/60 Hz		
		Class A	Class B		Class A	Class B
Maximum length of shielded cable						
ATV71H037M3...HU15M3	VW3A4401	100 m	50 m	—		
ATV71HU22M3...HU40M3	VW3A4402	100 m	50 m	—		
ATV71HU55M3	VW3A4403	100 m	50 m	—		
ATV71HU75M3	VW3A4404	100 m	50 m	—		
ATV71HD11M3X, HD15M3X	VW3A4405	100 m	50 m	—		
ATV71HD18M3X, HD22M3X	VW3A4406	100 m	50 m	—		
ATV71HD30M3X...HD45M3X	VW3A4408	100 m	50 m	—		
ATV71HD55M3X, HD75M3X	VW3A4410	100 m	50 m	—		
ATV71●075N4...●U22N4, ATV71P075N4Z...PU22N4Z	—			VW3A4401	100 m	50 m
ATV71●U30N4, ●U40N4, ATV71PU30N4Z, PU40N4Z	—			VW3A4402	100 m	50 m
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	—			VW3A4403	100 m	50 m
ATV71●D11N4	—			VW3A4404	100 m	50 m
ATV71●D15N4, ●D18N4	—			VW3A4405	300 m	100 m
ATV71●D22N4	—			VW3A4406	300 m	100 m
ATV71●D30N4, ●D37N4	—			VW3A4407	300 m	100 m
ATV71●D45N4...●D75N4	—			VW3A4408	300 m	100 m
ATV71HD90N4...HC13N4, ATV71E5D90N4...E5C13N4	—			VW3A4410	300 m	50 m
ATV71HC16N4...HC28N4, ATV71E5C16N4...E5C28N4	—			VW3A4411	300 m	50 m
ATV71HC31N4, HC40N4, ATV71E5C31N4, E5C40N4	—			VW3A4412	300 m	50 m
ATV71HC50N4, ATV71E5C50N4	—			VW3A4413	300 m	50 m

● Applies to the following drives: ATV71H...N4, ATV71W...N4

A line choke can be used to provide improved protection against overvoltages on the line supply and to reduce harmonic distortion of the current produced by the drive.

Type of drive	Three phase	
Supply voltage	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV71H037M3...H075M3	VW3A4551	–
ATV71HU15M3...HU22M3	VW3A4552	–
ATV71HU30M3	VW3A4553	–
ATV71HU40M3	VW3A4554	–
ATV71HU75M3, HD11M3X	VW3A4555	–
ATV71HD15M3X	VW3A4556	–
ATV71HD18M3X...HD45M3X	VW3A4557	–
ATV71HD55M3X	VW3A4562	–
ATV71HD75M3X	VW3A4563	–
ATV71●075N4, ●U15N4, ATV71P075N4Z, PU15N4Z	–	VW3A4551
ATV71●U22N4...●U40N4, ATV71PU22N4Z...PU40N4Z	–	VW3A4552
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	–	VW3A4553
ATV71●D11N4, ●D15N4	–	VW3A4554
ATV71●D18N4, ●D22N4	–	VW3A4555
ATV71●D30N4...●D55N4	–	VW3A4556
ATV71●D75N4	–	VW3A4557
ATV71HD90N4, ATV71E5D90N4	–	VW3A4558
ATV71HC11N4, ATV71E5C11N4	–	VW3A4559
ATV71HC13N4, ATV71E5C13N4	–	VW3A4560
ATV71HC16N4, ATV71E5C16N4	–	VW3A4561
ATV71HC20N4, ATV71E5C20N4	–	VW3A4562
ATV71HC25N4, ATV71E5C25N4	Motor P 220 kW	VW3A4562
	Motor P 250 kW	VW3A4563
ATV71HC28N4, HC31N4, ATV71E5C28N4, E5C31N4	–	VW3A4564
ATV71HC40N4, ATV71E5C40N4	Motor P 355 kW	VW3A4565
	Motor P 400 kW	VW3A4566
ATV71HC50N4, ATV71E5C50N4	–	VW3A4567

● Applies to the following drives: ATV71H...N4, ATV71W...N4

DC chokes are used to reduce current harmonics in order to comply with standard 61000-3-2 for drives in which the line current is more than 16 A and less than 75 A.

Reduction of current harmonics

Optional DC chokes ⁽¹⁾

Type of drive	Three phase	
Supply voltage	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV71H037M3	VW3A4501	–
ATV71H075M3	VW3A4503	–
ATV71HU15M3	VW3A4505	–
ATV71HU22M3	VW3A4506	–
ATV71HU30M3	VW3A4507	–
ATV71HU40M3, HU55M3	VW3A4508	–
ATV71HU75M3	VW3A4509	–
ATV71HD11M3X, HD15M3X	VW3A4510	–
ATV71HD18M3X, HD22M3X	VW3A4511	–
ATV71HD30M3X... HD45M3X	VW3A4512	–
ATV71●075N4, ATV71P075N4Z	–	VW3A4501
ATV71●U15N4, ATV71PU15N4Z	–	VW3A4502
ATV71●U22N4, ●U30N4, ATV71PU22N4Z, PU30N4Z	–	VW3A4503
ATV71●U40N4, ATV71PU40N4Z	–	VW3A4504
ATV71●U55N4, ATV71PU55N4Z	–	VW3A4505
ATV71●U75N4, ATV71PU75N4Z	–	VW3A4506
ATV71●D11N4	–	VW3A4507
ATV71●D15N4, ●D18N4	–	VW3A4508
ATV71●D22N4...●D37N4	–	VW3A4510
ATV71●D45N4...●D75N4	–	VW3A4511

(1) For ATV 71HD55M3X, HD75M3X and ATV 71HD90N4... HC50N4 drives, the choke is supplied as standard with the drive.

Passive filters

A passive filter is used to reduce current harmonics with total harmonic distortion factors of less than 16% or 10%. These factors may be less than 10% or 5% if used with a DC choke.

Type of drive	Three phase 400 V 50/60 Hz		Three phase 460 V 50/60 Hz	
	THDI 16% (1)	THDI 10% (2)	THDI 16% (1)	THDI 10% (2)
ATV71●075N4...●U30N4, ATV71P075N4Z...PU30N4Z	VW3A4601	VW3A4621	VW3A4 641	VW3A4 661
ATV71●U40N4, ●U55N4, ATV71PU40N4Z, PU55N4Z	VW3A4602	VW3A4622	VW3A4 642	VW3A4 662
ATV71●U75N4, ●D11N4, ATV71PU75N4Z	VW3A4603	VW3A4623	VW3A4 643	VW3A4 663
ATV71●D15N4	VW3A4604	VW3A4624	VW3A4 644	VW3A4 664
ATV71●D18N4, ●D22N4	VW3A4606	VW3A4626	VW3A4 645	VW3A4 665
ATV71●D30N4	VW3A4607	VW3A4627	VW3A4 646	VW3A4 666
ATV71●D37N4	VW3A4607	VW3A4627	VW3A4 647	VW3A4 667
ATV71●D45N4	VW3A4608	VW3A4628	VW3A4 647	VW3A4 668
ATV71●D55N4	VW3A4608	VW3A4628	VW3A4 648	VW3A4 668
ATV71●D75N4	VW3A4609	VW3A4629	VW3A4 648	VW3A4 668
ATV71HD90N4, ATV71E5D90N4	VW3A4609	VW3A4629	VW3A4 649	VW3A4 669
ATV71HC11N4, ATV71E5C11N4	VW3A4610	VW3A4630	VW3A4 649	VW3A4 669
ATV71HC13N4, ATV71E5C13N4	VW3A4611	VW3A4631	VW3A4 656	VW3A4 676
ATV71HC16N4, ATV71E5C16N4	VW3A4612	VW3A4632	VW3A4 650	VW3A4 670
ATV71HC20N4, HC25N4, ATV71E5C20N4, E5C25N4	VW3A4613	VW3A4633	VW3A4 651	VW3A4 671
ATV71HC25N4, ATV71E5C25N4	VW3A4611	VW3A4631	VW3A4 656	VW3A4 676
ATV71HC28N4, HC31N4, HC40N4, ATV71E5C28N4, E5C31N4, E5C40N4	VW3A4612	VW3A4632	VW3A4 650	VW3A4 670
ATV71HC40N4, ATV71E5C40N4	VW3A4619	VW3A4639	VW3A4 657	VW3A4 677
ATV71HC50N4, ATV71E5C50N4	VW3A4612	VW3A4632	VW3A4 651	VW3A4 671

● Applies to the following drives: ATV71H...N4, ATV71W...N4

(1) By adding a DC choke, we get: THD ≤ 10%

(2) By adding a DC choke, we get: THD ≤ 15%

These reduced current harmonics are obtained on condition that the THDu is < 20% and the RSCE > 66%.

Sinusoidal filters

Sinusoidal filters allow Altivar 71 drives to operate with longer motor cables (up to 1000 m).

Type of drive	Supply voltage	Three phase	
		200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV71H037M3...HU15M3 (2)		VW3A5201	–
ATV71HU22M3, HU30M3		VW3A5202	–
ATV71HU40M3... HU75M3		VW3A5203	–
ATV71HD11M3X, HD15M3X		VW3A5204	–
ATV71HD18M3X, HD22M3X		VW3A5205	–
ATV71HD30M3X... HD45M3X		VW3A5206	–
ATV71HD55M3X, HD75M3X		VW3A5208	–
ATV71●075N4...●U40N4, ATV71P075N4Z...PU40N4Z (2)		–	VW3A5201
ATV71●U55N4, ATV71PU55N4Z		–	VW3A5202
ATV71●U75N4...●D15N4, ATV71PU75N4Z		–	VW3A5203
ATV71●D18N4...●D30N4		–	VW3A5204
ATV71●D37N4, ●D45N4		–	VW3A5205
ATV71●D55N4, ●D75N4		–	VW3A5206
ATV71 HD90N4, HC11N4, ATV71E5D90N4, E5C11N4		–	VW3A5207
ATV71 HC13N4, HC16N4, ATV71E5C13N4, E5C16N4		–	VW3A5208
ATV71 HC20N4, ATV71E5C20N4		–	VW3A5209
ATV71 HC25N4, ATV71E5C25N4	Motor P 220 kW	–	VW3A5209
	Motor P 250 kW	–	VW3A5210
ATV71 HC28N4, HC31N4, ATV71E5C28N4, E5C31N4		–	VW3A5210
ATV71 HC40N4, ATV71E5C40N4	Motor P 355 kW	–	VW3A5210
	Motor P 400 kW	–	VW3A5211
ATV71 HC50N4, ATV71E5C50N4		–	VW3A5211

● Applies to the following drives: ATV71H...N4, ATV71W...N4

(2) For these drive references, it is advisable to use a lower category motor with a sinusoidal filter



Above a certain motor cable length, it is advisable to insert a motor choke between the drive and the motor. This maximum length depends on the drive rating and the type of motor cable.

Type of drive	Max. motor cable length		Three phase	
	Shielded	Unshielded	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV71H037M3...HU22M3	150 m	300 m	VW3A5101	–
ATV71HU30M3...HU75M3	200 m	260 m	VW3A5102	–
	300 m	300 m	VW3A5103	–
ATV71HD11M3X...HD22M3X	150 m	300 m	VW3A5103	–
ATV71HD30M3X...HD45M3X	150 m	300 m	VW3A5 04	–
ATV71HD55M3X, HD75M3X	150 m	300 m	VW3A5105	–
ATV71●075N4...●U40N4, ATV71P075N4Z...PU40N4Z	75 m	90 m	–	VW3A5101
	85 m	95 m	–	VW3A5102
	160 m	200 m	–	VW3A5103
ATV71●U55N4...●D18N4, ATV71PU55N4Z...PU75N4Z	85 m	95 m	–	VW3A5102
	160 m	200 m	–	VW3A5103
	200 m	300 m	–	VW3A5104
ATV71●D22N4...●D30N4	140 m	170 m	–	VW3A5103
	150 m	300 m	–	VW3A5104 (1)
ATV71●D37N4	97 m	166 m	–	VW3A5103
	200 m	300 m	–	VW3A5104 (1)
ATV71H●45N4...●D75N4	150 m	300 m	–	VW3A5104 (1)
ATV71HD90N4, ATV71E5D90N4	200 m	300 m	–	VW3A5104 (1)
ATV71HC11N4, HC13N4, ATV71E5C11N4, E5C13N4	150 m	250 m	–	VW3A5105 (1)
ATV71HC16N4...HC20N4, ATV71E5C16N4...E5C20N4	250 m	300 m	–	VW3A5106 (1)
ATV71HC25N4, ATV71E5C25N4	Motor P 220 kW	250 m	–	VW3A5106 (1)
	Motor P 250 kW	200 m	–	VW3A5107 (1)
ATV71HC28N4, HC31N4, ATV71E5C28N4, E5C31N4	200 m	250 m	–	VW3A5107 (1)
ATV71HC40N4, ATV71E5C40N4	Motor P 355 kW	200 m	–	VW3A5107 (1)
	Motor P 400 kW	250 m	–	VW3A5108 (1)
ATV71HC50N4, ATV71E5C50N4	250 m	300 m	–	VW3A5108 (1)

● Applies to the following drives: ATV71H...N4, ATV71W...N4

(1) 3 single phase chokes are included with the drive

KIT Altivar 71 IP54 enclosure pre-assembled

Type of drives	Kit
ATV71HD90N4	VW3A9541
ATV71HC11N4	VW3A9542
ATV71HC13N4	VW3A9543
ATV71HC16N4	VW3A9544
ATV71HC20N4	VW3A9545
ATV71HC25N4	VW3A9546
ATV71HC28N4	
ATV71HC20N4 With braking unit VW3A7101	
ATV71HC25N4 With braking unit VW3A7101	
ATV71HC28N4 With braking unit VW3A7101	VW3A9547
ATV71HC31N4 Without braking unit	
ATV71HC40N4	VW3A9548
ATV71HC50N4	VW3A9549
Braking unit VW3A7102	VW3A9550
Additional empty enclosed 600 mm	VW3A9551
Additional empty enclosed 800 mm	

Resistance braking units (integrated in ATV71 drives up to 160 kW)

ATV 71H●●●M3, ATV71H●●●M3X and ATV71H075N4...HC16N4 drives have a built-in braking transistor.
The braking resistor enables the Altivar 71 drive to operate while braking to a standstill or during slowdown braking, by dissipating the braking energy.

Supply voltage	Three phase 380...480 V	
Type of drive	ATV71HC20N4...HC28N4	ATV71HC31N4...HC50N4
Continuous power/Max (kw)	200/420	400/750
Reference	VW3A7101	VW3A7102

Braking resistors

Type of drive Supply voltage	Braking resistor 40 s cycle		Hoisting resistor 40 s cycle	
	200...240 V 50/60 Hz	380...480 V 50/60 Hz	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV71H037M3, H075M3	VW3A7701	—	VW3A7801	—
ATV71HU15M3, HU22M3	VW3A7702	—	VW3A7802	—
ATV71HU30M3, HU40M3	VW3A7703	—	VW3A7803	—
ATV71HU55M3, HU75M3	VW3A7704	—	VW3A7804	—
ATV71HD11M3X	VW3A7705	—	VW3A7805	—
ATV71HD15M3X	VW3A7706	—	VW3A7806	—
ATV71HD18M3X, HD22M3X	VW3A7707	—	VW3A7807	—
ATV71HD30M3X	VW3A7708	—	VW3A7808	—
ATV71HD37M3X, HD45M3X	VW3A7709	—	VW3A7809	—
ATV71HD55M3X	VW3A7713	—	VW3A7810	—
ATV71HD75M3X	VW3A7714	—	—	—
ATV71●075N4...●U40N4, ATV71P075N4Z...PU40N4Z	—	VW3A7701	—	VW3A7801
ATV71●U55N4, ●U75N4, ATV71PU55N4Z, PU75N4Z	—	VW3A7702	—	VW3A7802
ATV71●D11N4, ●D15N4	—	VW3A7703	—	VW3A7803
ATV71●D18N4...●D30N4	—	VW3A7704	—	VW3A7804
ATV71●D37N4	—	VW3A7705	—	VW3A7805
ATV71●D45N4...●D75N4	—	VW3A7707	—	VW3A7806
ATV71HD90N4, ATV71E5D90N4	—	VW3A7710	—	VW3A7811
ATV71HC11N4, HC13N4, ATV71E5C11N4, E5C13N4	—	VW3A7711	—	VW3A7812
ATV71HC16N4, ATV71E5C16N4	—	VW3A7712	—	VW3A7813
ATV71HC20N4, ATV71E5C20N4	—	VW3A7715	—	VW3A7814
ATV71HC25N4, HC28N4, ATV71E5C25N4, E5C28N4	—	VW3A7716	—	VW3A7815
ATV71HC31N4, HC40N4, ATV71E5C31N4, E5C40N4	—	VW3A7717	—	VW3A7816
ATV71HC50N4, ATV71E5C50N4	—	VW3A7718	—	VW3A7817

● Applies to the following drives: ATV71H...N4, ATV71W...N4

The network braking unit can be used to restore the following to the line supply:

- The energy from the motor
- The energy from the motors controlled by several drives connected on the same DC bus.

Network braking units

Line voltage		400 VAC	460 VAC
Braking power continuous (kw)	7	VW3A7201	—
	13	VW3A7202	—
	11	VW3A7203	—
	—	—	VW3A7231
	21,5	VW3A7204	VW3A7232
	26	VW3A7205	VW3A7233
	32	VW3A7206	VW3A7234
	38	VW3A7207/VW3A7208	VW3A7235/VW3A7236/VW3A7237/VW3A7238
	86	VW3A7209	VW3A7239
	120	VW3A7210	VW3A7240
	135	VW3A7211	—
	200	VW3A7212	—
	240	—	VW3A7241



Multilingual configuration software		For PC
Configuration of drives and starters		Altistart 48, Altivar (except Altivar 21) and TeSys model U
Environment		Microsoft Windows ®
Languages		English - French - German - Italian - Spanish
References	PowerSuite CD-ROM	VW3A8104
	PowerSuite update CD-ROM	VW3A8105
	Connection kit for serial port	VW3A8106

Accessories

Multilingual configuration software		Bluetooth® adaptor
Description	Modbus - Bluetooth®	USB - Bluetooth® for PC
References	VW3A8114 (1)	VW3A8115

(1) Can also be used to communicate between a Twido PLC and the TwidoSoft software workshop

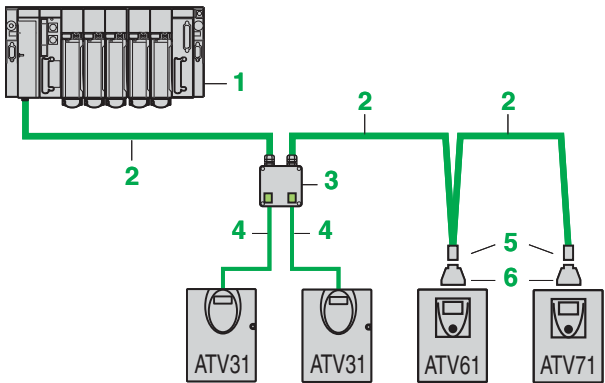
CANopen communication bus:
connection accessories



Drives	Tap junction VW3CANTAP2		CANopen adaptor	CANopen connector
	0.3 m cable	1 m cable		
ATV31	2 RJ45 connectors		–	–
ATV61 and ATV71	–		RJ 45 to 9-way male SUB-D	9-way female SUB-D output for 2 cables at 180°
References	VW3CANCARR03	VW3CANCARR1	VW3CANA71	VW3CANKCDF180T

CANopen cables

		CANopen LSZH	CANopen UL/IEC332-2	LSZH HD flexible CANopen
References	L = 50 m	TSXCANCA50	TSXCANCB50	TSXCANCD50
	L = 100 m	TSXCANCA100	TSXCANCB100	TSXCANCD100
	L = 300 m	TSXCANCA300	TSXCANCB300	TSXCANCD300



- 1 PLC
- 2 CANopen trunk cable TSXCANC●●
- 3 CANopen tap junction VW3CANTAP2
- 4 CANopen drop cable VW3CANCARR●●
- 5 CANopen connector VW3CANKCDF180T
- 6 CANopen adaptor VW3CANA71

Modbus communication bus: connection accessories

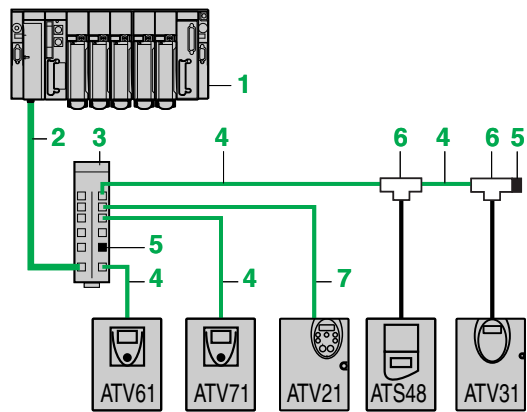


Starters/drives Altistart 48, Altivar 21, 31, 61, 71	Splitter box	Tap junction	Subscriber socket	Line terminators	
Description	10 connectors RJ45 and 1 screw terminal	3 screw terminals line terminator RC	2 SUB-D connectors 15-way female and 2 screw terminals RC line terminator	For connector RJ 45 R = 120 Ω, C = 1 nF	For screw terminals R = 120 Ω, C = 1 nF
References	LU9GC3	TSXSCA50	TSXSCA62	VW3A8306RC	VW3A8306DRC

Modbus connection

Starters/drives Altistart 48, Altivar 21, 31, 61, 71	Cables	Double shielded twisted pair cables RS 485		T-junction boxes
Description	2 connectors RJ 45	1 connector RJ45 and one stripped end	Supplied without connector	With integrated cable
References	L = 0.3 m	VW3A8306R03	–	VW3A8306TF03
	L = 1 m	VW3A8306R10	–	VW3A8306TF10
	L = 3 m	VW3A8306R30	VW3A8306D30	–
	L = 100 m	–	–	TSXCSA100
	L = 200 m	–	–	TSXCSA200
	L = 500 m	–	–	TSXCSA500

4



- Connection via splitter boxes and RJ 45 connectors
- 1 PLC
 - 2 Modbus cable depending on the type of PLC
 - 3 Modbus splitter box LU9GC3
 - 4 Modbus drop cables VW3A8306R●●
 - 5 Line terminators VW3A8306RC
 - 6 Modbus T-junction boxes VW3A8306TF●● (with cable)
 - 7 Modbus drop cable VW3A58306R●●

Altivar/Altistart

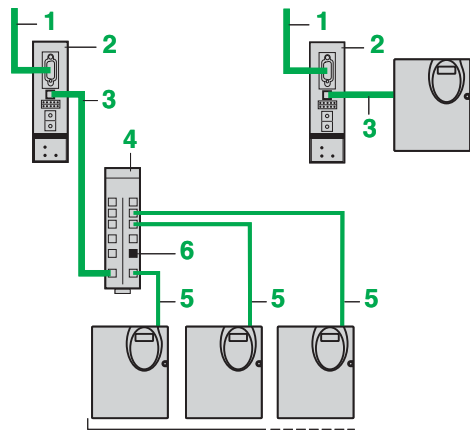
Dialogue and communication

Communication modules



Starters/drives		Ethernet/Modbus	DeviceNet/Modbus	Fipio/Modbus	ProfibusDP/Modbus	
Altistart 48/Altivar 31						
Parameter setting		—	—	—	Standard configurator	ABC configurator program
References	Bridge	TSXETG100	—	—	—	—
	Gateway	—	LUFP9	LUFP1	LA9P307	LUFP7
Cable references	L = 0.3 m	—	VW3A8306R03	VW3A8306R03	—	VW3A8306R03
	L = 1 m	—	VW3A8306R10	VW3A8306R10	VW3P07306R10	VW3A8306R10
	L = 3 m	VW3A8306D30	VW3A8306R30	VW3A8306R30	—	VW3A8306R30

4



- 1 To network
- 2 Communication modules
- 3 PLC cables VW3A8 306 Rpp, VW3 P07 306 R10
- 4 Modbus splitter box LU9 GC3
- 5 Modbus drop cables VW3A8 306 Rpp
- 6 Line terminator VW3A8 306 RC

Communication cards and modules

Transparent
Ready



Drives Altivar 61, Altivar 71	Modbus TCP	Modbus TCP Daisy Chain	Modbus/Uni-Telway	Fipio
Maximum number of drives controlled	–	–	–	–
Transmission speed	10/100 Mbit/s	10/100 Mbit/s	10/100 Mbit/s	1 Mbit/s
References	VW3A3310	VW3A3316	VW3A3310d	VW3A3311

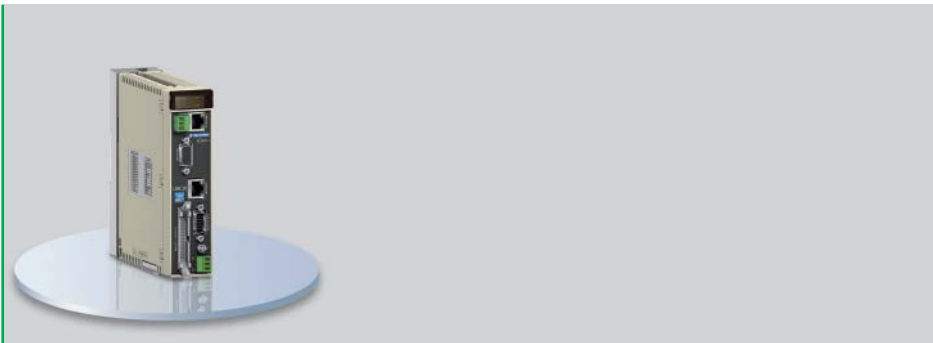
Drives Altivar 61, Altivar 71	Modbus Plus	Profibus DP	Profibus DPv1	INTERBUS
Maximum number of drives controlled	64	126	126	64
Transmission speed	1 Mbit/s	9600 bit/s...12 Mbit/s	9600 bit/s...12 Mbit/s	1 Mbit/s
References	VW3A3302	VW3A3307	VW3A3307S371	VW3A3304

4

Drives Altivar 61, Altivar 71	CC-Link	Ethernet/IP	DeviceNet
Maximum number of drives controlled	64	–	63
Transmission speed	...10 Mbit/s	10/100 Mbit/s	125/250/500 Kbit/s
References	VW3A3317	VW3A3316	VW3A3309

Drives Altivar 61	LONWORKS	METASYS N2	APOGEE FLN	BACnet
Connector	1 removable 3-way screw terminal	1 removable 4-way screw terminal	1 removable 4-way screw terminal	1 removable 4-way screw terminal
Transmission speed	78 Kbps	–	–	–
References	VW3A3312	VW3A3313	VW3A3314	VW3A3315

For other connection accessories, please consult the "Soft starters and variable speed drives" catalogue.



LMC
Compact machines
■ Handling, assembly, inspection, on-the-fly-processes, etc.

Solutions		Motion controller-based solutions Standalone solutions
Standalone solution		Yes
Maximum number of axes		8
Control mode		Synchronized CANopen dedicated to Motion
Coordinated axes		Yes (PLCopen single-axis library)
Synchronized axes:		PLCopen multi-axis library
	* Slave axis (velocity)/Gearing	Yes
	* Slave axis (position)/Phasing	Yes
	* Cam profiles	Yes
	* Interpolation	Yes
	* Application function block	Rotary knife, Flying shear, Clamping, Grouping/Ungrouping
Configuration and programming software		Easy Motion, Motion Pro (Codesys)
Graphic display terminal		Yes
Standards		IEC 61131 PLCopen



CFY / CAY

Compact machines

■ Handling, assembly, etc.



CSY

Special machines

■ Handling, on-the-fly processes, etc.



Twido

Compact machines

■ Handling, etc.



M340

Compact and special machines

■ Assembly, handling, etc.

PLC-based solutions PLC modules		PLC-based solutions Standalone solutions	
No		Yes	
1 to 4	16	16	63
Analog/Pulse	SERCOS	CANopen	CANopen
Yes	Yes	Yes	Yes (PLCopen, MFB library)
Yes	Yes	No	No
Yes	Yes	No	Yes (with Lexium 15)
No	Yes	No	Yes (with Lexium 15)
No	Yes	No	No
Yes (with TSXCAY 33)	Yes	No	No
No	No	No	No
Unity/PL7	Unity/PL7	Twido Soft	Unity
No	No	No	No
IEC 61131	IEC 61131	IEC 61131	IEC 61131 PLCopen

Selection guide

Servodrives



⇒ Applications:

Motion Bus, single axis, simple master/slave, materials handling, automatic assembly, automated inspection, coil winding, cutting to length, packaging.



Lexium 05

- **Compactness:** side by side mounting, integrated EMC class A filters.
- **Simplicity:** simple setting-up, "Simply start" menu
- **Safety:** "Power removal" function
- **Openness:** CANopen or Profibus DP integrated
- **Intelligence:** 4 operating modes, including integrated point to point positioning.

⇒ Applications:

Motion Bus, single axis, simple master/slave, advance master/slave, coordinated axes, materials handling, automatic assembly, coil winding, cutting to length, tension control.



Lexium 15

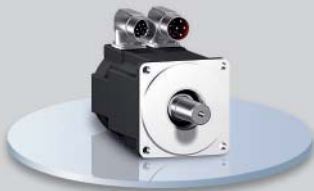
- **Compactness:** integrated EMC filters and braking resistors
- **Simplicity:** simple setting-up, "Simply start" menu
- **Safety:** "Power removal" function
- **Openness:** CANopen integrated
- Absolute positioning control
- **Intelligence:** Up to 200 programmable motion tasks, 8 operating modes, including integrated point to point positioning.

Supply voltage ranges, 50/60 Hz		Single-phase 100/120 V Single-phase 200/240 V 3-phase 200/240 V 3-phase 380/480 V	Single-phase 200/240 V 3-phase 200/240 V 3-phase 208/480 V
Input voltage		24 V, < to 1 A	24...28 or 20...30 V, 1 or 2.5 A
Output voltage		Maximum 3-phase voltage equal to line supply voltage	
Electrical isolation		Between power and control sections (inputs, outputs power supplies)	
Protection		"Power Removal" safety function	
Number of inputs/outputs:			
	Analog inputs/outputs	2/ –	2/2 MP/HP only
	Logic inputs/outputs	4/2	5/2
	Safety inputs	2	1
	Relay outputs	–	1
Drive characteristics:			
	Switching frequency	4 or 8 kHz	8 kHz
Control loop characteristics:			
	Torque, Speed, Position	62.5µs, 250µs, 250µs	62.5µs, 250µs, 250µs
Control signals			
	Resolver feedback	–	1
	Motor encoder feedback signals	1	1
	Pulse/direction, A/B encoder signals	1	1
	Simulated encoder output signals	1	1
Communication			
	integrated option	Motion Bus, CANopen, Profibus DP ou Modbus	Motion Bus, CANopen
		–	Profibus DP, Modbus Plus, FIPIO, Sercos, Ethernet
Option cards		–	Input/output extension card
Standards and certifications		IEC/EN 61800-5-1, IEC/EN 50178, IEC/EN 61800-3 environments 1 and 2 catégories C2 and C3 EN 55011 class A group 1 and 2, (73/23/CEE and 93/68/CEE) and CEM (89/336/CEE) UL, cUL, IEC 60721-3-3 class 3C1	EN 50178, EN 61800-3, environments 1 and 2, catégories C2 and C3, (73/23/CEE) and CEM (89/336/CEE) UL, cUL (Canada) IEC 60721-3-3 class 3C1 IEC 60721-3-3, class 3K3



BSH motors

- **Wide range**
- High dynamics
- **Compactness:** new salient pole based winding technology.
- Automatic motor identification and high precision positioning provided by SinCos Hiperface encoder



BDH motors

- **Wide range:** more than 68 types of motor.
- Excellent adaptability:
 - Degree of protection IP54 or IP67
 - With or without brake
 - Straight or right-angled connectors
 - Smooth shaft or with key
- **Compactness:** new salient pole based winding technology.
- Absolute positioning control provided by SinCos Hiperface encoder

Flange size (mm)	55, 70, 100, 140, 205	40, 58, 70, 84, 108, 138, 188
Nominal speed (rpm)	500 to 8000	500 to 8000
Nominal torque (Nm)	0.41 to 80	0.17 to 48
Maximum rotational speed (rpm)	3800 to 8000	6000 to 8000
Continuous stall torque (Nm)	0.5 to 90	0.18 to 53
Peak stall torque (Nm)	1.4 to 300	0.61 to 108
Type of mounting	IEC	IEC, NEMA
IP protection	IP40, IP65	IP54, IP67
Shaft end	Smooth With closed shaft key (IEC standard)	Smooth With closed shaft key (IEC standard) With open shaft key (NEMA standard)
Holding brake	Option Option	
Integrated sensor	Single turn SinCos Hiperface encoder Multiturn SinCos Hiperface encoder	Resolver Single turn SinCos Hiperface encoder Multiturn SinCos Hiperface encoder
Connector type	IP65 Straight Elbowed	IP65 Elbowed
Magnet type	Neodymium Iron Boron (NdFeB)	Neodymium Iron Boron (NdFeB)
Standards	Operating characteristics, robustness, safety, ..., conforming to IEC/EN 60034-1	
Certifications	European directives UL1004	European directives UL1004
Altitude	Altitude: 1000 m without derating, 2000 m with k = 0.86 (1), 3000 m with k = 0.8	1000 m without derating, 2000 m with k = 0.94 (1), 3000 m with k = 0.83
Operational temperature	Ambient operating temperature: - 20...40 °C conforming to DIN 50019R14. Maximum 55 °C with derating above 40 °C by 1% per additional °C	5...40 °C conforming to EN 50178 Climatic class 3K3. Maximum 50 °C with derating above 40 °C by 1% per additional °C
Relative humidity	Class F conforming to DIN 400 Climatic class 3K3	95% without condensation conforming to EN 50178
Nominal life of bearings	L _{10h} = 20 000 hours	L _{10h} = 20000 hours

(1) k: Derating factor

Axis cards

Motion control
Modules for Modicon Premium platform



Module type		For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)				
Control outputs		RS 422		+/- 10 V				
Compatible with servodrives		Lexium 05		Lexium 05/15				
Functions	Linear axes	–		Limited	Limited or infinite		Limited or infinite (1)	
	Slave axes	–		With static ratio	With dynamic ratio		–	
Frequency for each axis		187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (SSI serial or parallel output)				
Number of axes		1	2	2	4	2	4	3
Reference		TSXCFY11	TSXCFY21	TSXCAY21	TSXCAY41	TSXCAY22	TSXCAY42	TSXCAY33

(1) With linear interpolation on 2 or 3 axes

4



Module type		Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs		SERCOS® network ring		
Compatible with servodrives		Lexium 15		
Functions		Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing		4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (2)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis		4 Mb SERCOS® network ring		
Number of axes		8 (3)	8 (3)	16 (4)
Reference		TSXCSY84	TSXCSY85	TSXCSY164

- (2) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.
- (3) 8 real axes, 4 imaginary axes and 4 remote axes
- (4) 16 axes (real axes, imaginary and remote axes)

Connection accessories for
Modicon Premium modules

Type		Fiber optic cables For Lexium 15 MDHA1...N00/A00 drives
Connection		Pre-equipped cable with SMA connectors
Reference	L = 0.3 m	990MCO00001
	L = 0.9 m	990MCO00003
	L = 1.5 m	990MCO00005
	L = 4.5 m	990MCO00015
	L = 16.5 m	990MCO00055
	L = 22.5 m	990MCO00075
	L = 37.5 m	990MCO00125

Lexium Controller

Motion control

Motion controller



Controller type		Optimized	Standard	Extended	
Drives synchronisation	Up to 4 axes	2 ms			
Motion bus	Up to 8 axes	4 ms			
Drives interpolated position loop		250 µs			
Internal memory	RAM	2 Mbytes			
	Flash Eeprom	2 Mbytes			
	Non volatile RAM	64 kbytes			
Application expertise	Application functions (AFB)	yes			
	PLCopen single axis control	yes			
	PLCopen multi axis control	yes			
	2D interpolation	yes			
Number of logical inputs		8	8	8	8
Number of logical outputs		4	8	8	8
Communication	Modbus	yes	yes	yes	yes
	CANopen automation	–	yes	yes	yes
	Ethernet TCP/IP	–	yes	yes	yes
	Profibus DP V1	–	–	yes	–
	Device Net	–	–	–	yes
Reference		LMC10	LMC20	LMC20A1307	LMC20A1309

4

Graphic terminal



A remote graphic terminal combined with the Lexium Controller is offered as an option with Lexium PAC :

	■ Backup and recovery of application data ■ Manual mode wiring test ■ Adjustment and diagnostics of Lexium Controller and servodrive ■ Maintenance
Reference	VW3M1701

Remote graphic display terminal accessories

Remote cables		Equipped with 2 RJ45 connectors
Reference	L = 1 m	VW3 A1 104 R10
	L = 3 m	VW3 A1 104 R30
	L = 5 m	VW3 A1 104 R50

Female/female RJ45 adapter	
Reference	VW3 A1 105

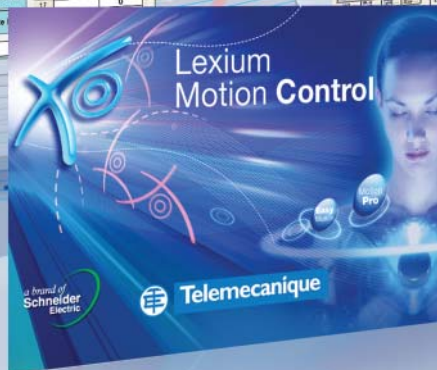
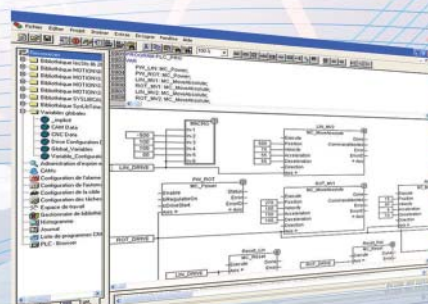
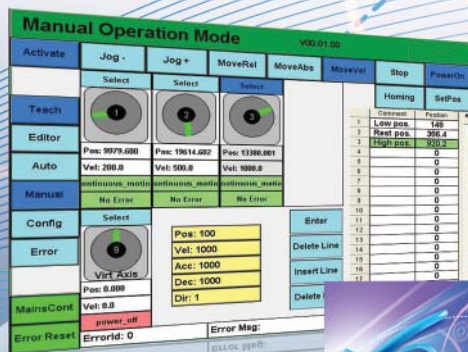
Lexium Controller _____ Motion control Softwares solutions

Software solution included in Lexium Controller



Easy Motion... for configuring the motion control functions

- Configuration of the axis
- Servodrive and Lexium Controller adjustment and diagnostics
- Creation of a position register by teaching
- Axis operating modes and manual control management
- Edit positioning tasks
- Edit cam profiles
- Application backup and recovery



Motion Pro... for configuring and programming the motion control functions

- Retains the benefits of Easy Motion for motion control
- The entire application, automation functions and motion control are realized using a programming editor IEC 61131 compliant
- Machine signature recording
- Program code protection

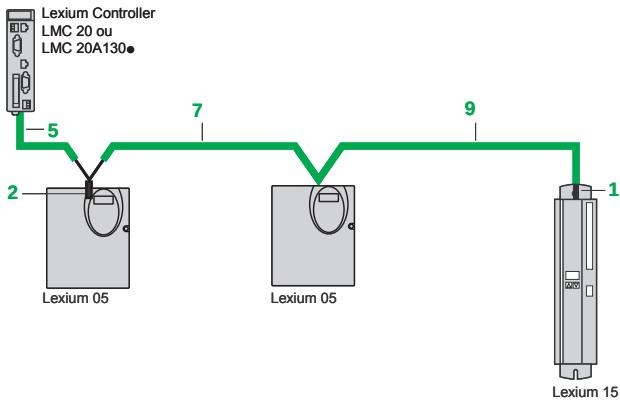


Architectures

Motion control

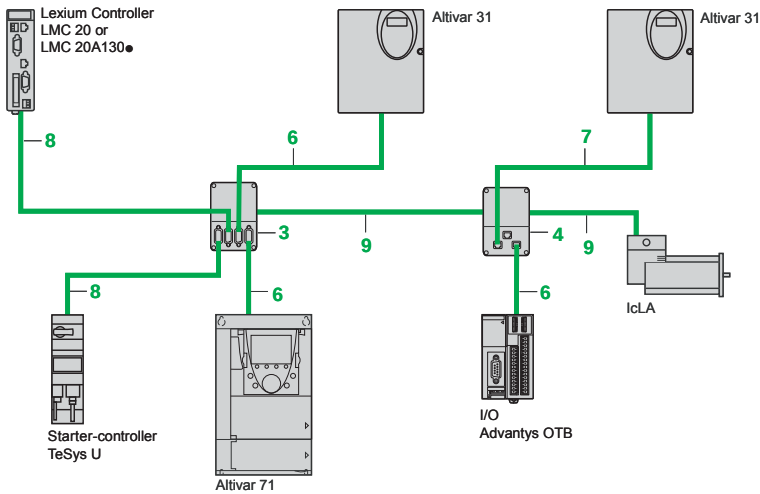
CANopen dedicated to Automation and CANopen dedicated to Motion - Connection accessories

Examples of connection to the CANopen bus dedicated to Motion with the Lexium Controller

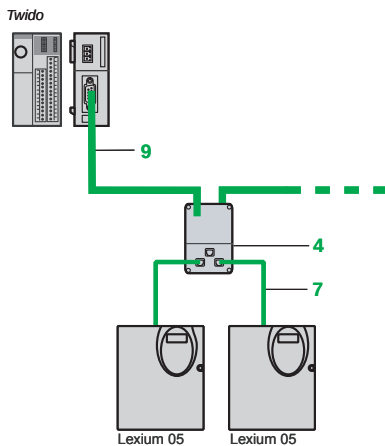


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Example of connection to the CANopen bus dedicated to Automation with the Lexium Controller



Example of connection to the CANopen bus with Twido and Lexium 05



Architectures

Motion control

CANopen dedicated to Automation and CANopen dedicated to Motion - Connection accessories



TSX CAN TDM4



VW3 CAN TAP2

Connectors and junction boxes		
Designation	No.	Reference
9-way female SUB-D connector/screw terminals	1	VW3 M3 802
Daisy chain tap with 3 RJ45 connectors and 0.3 m cable	2	TCS CTN023F13M03
IP 20 CANopen junction boxes	3	TSX CAN TDM4
4 SUB-D and line terminator		
IP 20 CANopen junction boxes	4	VW3 CAN TAP2
2 RJ45 and line terminator		

(1) Product not to be used on Motion bus

4

Cordsets			
Designation	No.	Length (m)	Reference
9-way female SUB-D with line terminator/RJ45 cordset	5	1	VW3 M3 805R010
		0.5	TCS CCN4F3M05T
9-way female SUB-D/RJ45 cordsets	6	1	TCS CCN4F3M1T
		3	TCS CCN4F3M3T
		0.3	VW3 CAN CARR 03
RJ45/RJ45 cordsets	7	1	VW3 CAN CARR 1
		0.3	TSX CAN CADD 03
9-way female SUB-D/9-way female SUB-D cordsets	8	1	TSX CAN CADD 1
		3	TSX CAN CADD 3
		5	TSX CAN CADD 5



Connection cables			
Designation	No.	Length (m)	Reference
IP 20 CANopen cables Halogen-free	9	50	TSX CAN CA 50
		100	TSX CAN CA 100
		300	TSX CAN CA 300
UL Certified		50	TSX CAN CB 50
		100	TSX CAN CB 100
		300	TSX CAN CB 300
Harsh environment		50	TSX CAN CD 50
		100	TSX CAN CD 100
		300	TSX CAN CD 300

Lexium 05

Motion control
Servodrives for BSH servomotors

Control and connectivity	
+ or - 10 V. Pulse / direction Motion Bus / CANopen	Profibus DP
Torque control, speed control, point to point, gearing, homing	



Servodrive type		Digital for servomotors		
		Size 1	Size 2	Size 3
Supply voltage		110...120 VAC single phase		
Output current (A)	Continuous (RMS)	4	8	15
	Maximum (RMS)	7	12	20
Power (kW)		0.4	0.65	0.85
Safety function		Integrated "Power Removal"		
Braking resistor		Integrated		
EMC filter		Integrated		
Reference (1)		LXM05●D10F1	LXM05●D17F1	LXM05●D28F1



4

Servodrive type		Digital for servomotors					
		Size 1	Size 2	Size 3	Size 1	Size 2	Size 3
Supply voltage		200...240 VAC single phase			200...240 VAC 3-phase		
Output current (A)	Continuous (RMS)	4	8	15	4	8	17
	Maximum (RMS)	7	12	20	7	12	30
Power (kW)		0.75	1.2	2.5	0.75	1.4	3.2
Safety function		Integrated "Power Removal"					
Braking resistor		Integrated					
EMC filter		Integrated			Not integrated		
Reference (1)		LXM05●D10M2	LXM05●D17M2	LXM05●D28M2	LXM05●D10M3X	LXM05●D17M3X	LXM05●D42M3X



Servodrive type		Digital for servomotors			
		Size 2	Size 2	Size 3	Size 4
Supply voltage		380...480 VAC 3-phase		380...480 VAC 3-phase	
Output current (A)	Continuous (RMS)	6	9	15	25
	Maximum (RMS)	10	16	24	40
Power (kW)		1.4	2	3	6
Safety function		Integrated "Power Removal"			
Braking resistor		Integrated			
EMC filter		Integrated			
Reference (1)		LXM05●D14N4	LXM05●D22N4	LXM05●D34N4	LXM05●D57N4

(1) To order a Lexium 05 servodrive with CANopen bus integrated, replace "●" by "A". Example LXM05●D14N4 become LXM05AD14N4.
To order a Lexium 05 servodrive with PROFIBUS DP bus integrated, replace "●" by "B". Example LXM05●D14N4 become LXM05BD14N4.



Multilingual configuration software		For PC
Configuration of drives and softstarters		Lexium 05 / Altivar / Altistart
Environment		Microsoft Windows ®
Languages		English - French - German - Italian - Spanish
Reference	PowerSuite CD-ROM	VW3A8106
	Connection kit	

Additional EMC input filters



Supply voltage			Single phase	3-phase
Maximum cable length		Category C3	40 m (100 m with a switching frequency of 8 kHz)	40 m (100 m with a switching frequency of 8 kHz)
		Category C2	20 m	20 m
Reference	Drives	Size 1	LXM05AD10F1, LXM05AD10M2	LXM05AD10M3X
	Filters		VW3A31401	VW3A31402
	Drives	Size 2	LXM05AD17F1, LXM05AD17M2	LXM05AD17M3X, LXM05AD14N4
	Filters		VW3A31403	VW3A31404
	Drives	Size 3	LXM05AD28F1, LXM05AD28M2	LXM05AD42M3X, LXM05AD22N4, LXM05AD34N4
	Filters		VW3A31405	VW3A31406
	Drives	Size 4		LXM05AD57N4
	Filters		–	VW3A31407

Line inductances



Supply voltage			Single phase		3-phase	
			110...120 V	200...240 V	200...240 V	380...480 V
References	Drives	Size 1	LXM05AD10F1	LXM05AD10M2	LXM05AD10M3X	
	Inductances		VZ1L007UM50	VZ1L007UM50	VW3A4551	–
	Drives	Size 2	LXM05AD17F1	LXM05AD17M2	LXM05AD17M3X	LXM05AD10N4, LXM05AD22N4
	Inductances		VZ1L018UM20	VZ1L018UM20	VW3A4552	VW3A4551
	Drives	Size 3	LXM05AD28F1	LXM05AD28M2	LXM05AD42M3X	LXM05AD34N4
	Inductances		VZ1L018UM20	VZ1L018UM20	VW3A4553	VW3A4552
	Drives	Size 4				LXM05AD57N4
	Inductances		–	–	–	VW3A4552

Lexium 05

Motion control
Holding brake controller



Controller type	Holding brake
Power supply	24 VDC
Maximum current	1.6 A
Maximum power	50 W
Degree of protection	IP20
Reference	VW3M3103

External braking resistors



4

Resistor type				External braking for Lexium 05 drives							
Resistance				10 Ω		27 Ω		72 Ω			
Power				400 W		100 W		200 W	400 W	100 W	
Reference (1)	cable lenght	L = 0.75 m	VW3	A7601R07	A7602R07	A7603R07	A7604R07	A7605R07	A7606R07	A7607R07	
		L = 2 m	VW3	A7601R20	A7602R20	A7603R20	A7604R20	A7605R20	A7606R20	A7607R20	
		L = 3 m	VW3	A7601R30	A7602R30	A7603R30	A7604R30	A7605R30	A7606R30	A7607R30	

(1) In order to select the braking resistor, you need to calculate the continuous and peak power to be dissipated in it. Please consult our Lexium 05 catalog

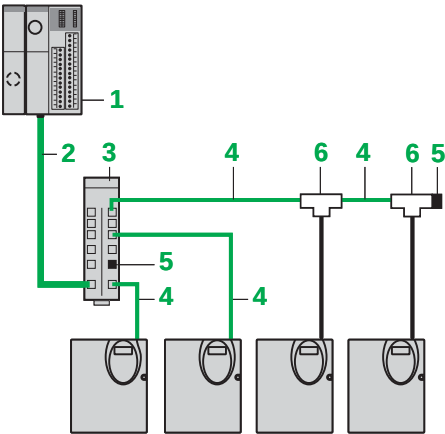
Lexium 05

Motion control
Modbus serial link
connection accessories



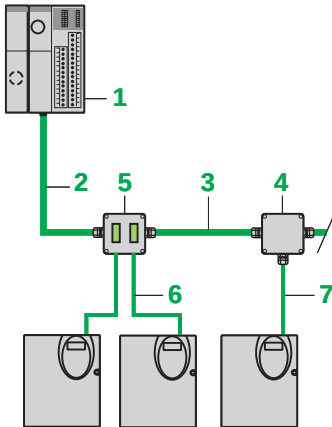
Drives			Lexium 05		
Connection type	Description		Splitter box with 10 RJ45 connectors and 1 screw terminal block	Junction box for drop cable VW3A8306D30	Subscriber socket for drop cable VW3A8306
	Reference		LU9GC3	TSXSCA50	TSXSCA62
Line terminators	For RJ 45 connector		R = 120 Ω, C = 1 nf		R = 150 Ω, C = 1 nf
	Reference		VW3A8306RC		VW3A8306R
	For screw terminals		R = 120 Ω, C = 1 nf		R = 150 Ω, C = 1 nf
	Reference		VW3A8306DRC		VW3A8306DR
T-junction boxes	With integrated cable	0.3 m	VW3A8306TF03		
	With integrated cable	1 m	VW3A8306TF10		
Cables	Description		2 RJ 45 connectors		
	Reference	0.3 m	VW3A8306R03		
		1 m	VW3A8306R10		
		3 m	VW3A8306R30		
RS 485 shielded twisted double pair cables	Description		1 RJ45 connector and one stripped end		
	Reference	3 m	VW3A8306D30		
	Description		Supplied without connector		
	Reference	100 m	TSXCSA100		
		200 m	TSXCSA200		
		500 m	TSXCSA500		

Connection with RJ45 splitter box and screw terminals



- 1 Controller Twido
- 2 Cable for controller Twido serial link
- 3 Modbus splitter box LU9 GC3
- 4 Modbus drop cables VW3 A8 306R●●
- 5 Line terminators VW3 A8 306RC
- 6 Modbus T-junction boxes VW3 A8 306TF●● (with cable)

Connection with junction box or subscriber sockets



- 1 Controller Twido
- 2 Cable for controller Twido serial link
- 3 Modbus cables TSX CSA●00
- 4 T-junction box TSX SCA 50
- 5 Subscriber socket TSX SCA 62
- 6 Modbus drop cables VW3 A8 306
- 7 Modbus drop cables VW3 A8 306 D30

Connection via screw terminals

In this case, a Modbus drop cable (VW3 A8 306D30) and line terminators (VW3 A8 306DRC) are used.



1.4 Nm This value corresponds to the peak torque at standstill that can be provided by the Lexium 05 servodrive/ BSH servomotor combination.

BSH servomotors

Reference	Torque at standstill
BSH 0551T	0.5 Nm
BSH 0552M	0.9 Nm
BSH 0552P	0.9 Nm
BSH 0552T	0.9 Nm
BSH 0553M	1.3 Nm
BSH 0553P	1.3 Nm
BSH 0553T	1.3 Nm
BSH 0701P	1.4 Nm
BSH 0701T	1.4 Nm
BSH 0702M	2.1 Nm
BSH 0702P	2.2 Nm
BSH 0702T	2.12 Nm
BSH 0703M	2.8 Nm
BSH 0703P	3.1 Nm
BSH 0703T	2.8 Nm
BSH 1001T	3.4 Nm
BSH 1002P	5.8 Nm
BSH 1003P	7.8 Nm

Lexium 05 servodrives

LXM 05 ServoMotors				LXM 05 ServoMotors			
	110/120 V single phase, with integrated EMC filter LXM 05●				200/240 V single phase, with integrated EMC filter LXM 05●		
Nominale speed	D10F1 0.4 kW	D17F1 0.65 kW	D28F1 1.4 kW	Nominale speed	D10M2 0.75 kW	D17M2 1.2 kW	D28M2 2.5 kW
3000 min ⁻¹	1.4 Nm			6000 min ⁻¹	1.4 Nm		
				1500 min ⁻¹	2.3 Nm		
				4000 min ⁻¹	2.7 Nm		
3000 min ⁻¹	1.77 Nm	2.7 Nm		6000 min ⁻¹	1.77 Nm		
				1500 min ⁻¹	4.2 Nm		
				4000 min ⁻¹	3.18 Nm		
3000 min ⁻¹		3.31 Nm		6000 min ⁻¹		3.31 Nm	
				3000 min ⁻¹	3.2 Nm		
2500 min ⁻¹	2.42 Nm			5000 min ⁻¹		3.19 Nm	
				1500 min ⁻¹	6.8 Nm		
				3000 min ⁻¹	5.37 Nm	7.55 Nm	
2500 min ⁻¹		4.14 Nm		6000 min ⁻¹		4.14 Nm	6.8 Nm
				1500 min ⁻¹	10 Nm		
				3000 min ⁻¹		7.28 Nm	10.3 Nm
2500 min ⁻¹			7.38 Nm	6000 min ⁻¹			7.38 Nm
2500 min ⁻¹			8.5 Nm	4000 min ⁻¹			8.5 Nm
				2000 min ⁻¹			18.3 Nm
				2000 min ⁻¹			22.79 Nm

Reference	Torque at standstill
BSH 0551T	0.5 Nm
BSH 0552M	0.9 Nm
BSH 0552P	0.9 Nm
BSH 0552T	0.9 Nm
BSH 0553M	1.3 Nm
BSH 0553P	1.3 Nm
BSH 0553T	1.3 Nm
BSH 0701M	1.4 Nm
BSH 0701P	1.4 Nm
BSH 0701T	1.4 Nm
BSH 0702M	2.1 Nm
BSH 0702P	2.2 Nm
BSH 0702T	2.12 Nm
BSH 0703M	2.8 Nm
BSH 0703P	3.1 Nm
BSH 0703T	2.8 Nm
BSH 1001M	3.4 Nm
BSH 1001P	3.3 Nm
BSH 1001T	3.4 Nm
BSH 1002M	5.5 Nm
BSH 1002P	5.8 Nm
BSH 1002T	5.52 Nm
BSH 1003M	7.8 Nm
BSH 1003P	8 Nm
BSH 1004P	10 Nm
BSH 1401P	11.1 Nm
BSH 1401T	11.1 Nm
BSH 1402M	19.5 Nm
BSH 1402P	19.5 Nm
BSH 1402T	14.73 Nm
BSH 1403M	27.8 Nm
BSH 1403P	27.8 Nm
BSH 1404M	33.4 Nm
BSH 1404P	33.4 Nm

	200/240 V three phase, without integrated EMC filter LXM 05●				380/480 V three phase, with integrated EMC filter LXM 05●			
Nominale speed	D10M3X 0.75 kW	D17M3X 1.4 kW	D42M3X 3.2 kW	Nominale speed	D14N4 1.4 kW	D22N4 2 kW	D34N4 3 kW	D57N4 6 kW
6000 min ⁻¹	1.4 Nm							
1500 min ⁻¹	2.3 Nm							
4000 min ⁻¹	2.7 Nm			6000 min ⁻¹	2.7 Nm			
6000 min ⁻¹	1.77 Nm							
1500 min ⁻¹	4.2 Nm							
4000 min ⁻¹	3.18 Nm			6000 min ⁻¹	3.87 Nm			
6000 min ⁻¹		3.31 Nm						
1500 min ⁻¹	3.2 Nm							
3000 min ⁻¹	3.2 Nm							
6000 min ⁻¹	2.41 Nm	3.19 Nm						
1500 min ⁻¹	6.8 Nm							
3000 min ⁻¹	5.37 Nm	7.55 Nm		6000 min ⁻¹	7.55 Nm			
4500 min ⁻¹			6.8 Nm					
1500 min ⁻¹	10 Nm			3000 min ⁻¹	10.3 Nm			
3000 min ⁻¹		7.28 Nm		6000 min ⁻¹		8.92 Nm		
6000 min ⁻¹			10.25 Nm					
				2000 min ⁻¹	8.5 Nm			
2000 min ⁻¹		9.45 Nm		4000 min ⁻¹		9.45 Nm		
4000 min ⁻¹			8.5 Nm					
				2000 min ⁻¹	16 Nm			
2000 min ⁻¹		12.35 Nm		4000 min ⁻¹		15.43 Nm		
4000 min ⁻¹			16 Nm					
				2000 min ⁻¹		27.8 Nm		
2000 min ⁻¹			28.3 Nm	4000 min ⁻¹			26.97 Nm	
1500 min ⁻¹			35.7 Nm	3000 min ⁻¹			22.53 Nm	30.41 Nm
			30.41 Nm	2500 min ⁻¹			26.2 Nm	
2500 min ⁻¹			27.1 Nm					
				1250 min ⁻¹			57.1 Nm	
1500 min ⁻¹			46.42 Nm	3000 min ⁻¹			38.6 Nm	57.42 Nm
2000 min ⁻¹			25.04 Nm					
				1500 min ⁻¹			76.66 Nm	88.17 Nm
				3000 min ⁻¹				57.24 Nm
				1500 min ⁻¹				126.45 Nm
				3000 min ⁻¹				60.04 Nm

- replaced by A for the CANopen/analog inputs version, replaced by B for the Profibus DP version.

Lexium 15

Motion control

Servodrives Lexium 15 for BSH and BDH servomotors



Servodrive type		Lexium 15 LP					
Supply voltage		3-phase 200...240 V, 50/60 Hz Available in 1-phase with derating			3-phase 208...480 V, 50/60 Hz		
Output current (A)	Continuous	3 A	6 A	10 A	1,5 A	3 A	6 A
	Maximum (discontinuous, 2 s)	13 A	21 A	28 A	6 A	10 A	17 A
Powers (kW)		1	2.1	3.4	1.1	2.1	4.3
Sécurité function		Power removal integrated					
Braking resistor		Integrated					
EMC filters class A		Integrated					
Line reactors		Integrated					
References		LXM15LD13M3	LXM15LD21M3	LXM15LD28M3	LXM15LU60N4	LXM15LD10N4	LXM15LD17N4

4



Servodrive type		Lexium 15 MP		
Supply voltage		3-phase 208...480 V, 50/60 Hz 200-240 V, 50/60 Hz		
Output current (A)	Continuous	10 A	14 A	20 A
	Maximum (discontinuous, 5 s)	28 A	40 A	56 A
Powers (kW)		5.7	7.9	11.4
Sécurité function		Power removal integrated		
Braking resistor		Integrated		
EMC filters class A		Integrated		
Line reactors		Integrated		
References		LXM15MD28N4	LXM15MD40N4	LXMMD56N4



Servodrive type		Lexium 15 HP	
Supply voltage		3-phase 208...480 V, 50/60 Hz	
Output current (A)	Continuous	40 A	70 A
	Maximum (discontinuous, 5 s)	80 A	140 A
Powers (kW)		22.3	42.5
Sécurité function		Power removal integrated	
Braking resistor		Option, requires in neutral mode TT and TN	
EMC filters class A		Option	
Line reactors		Option, requires in neutral mode TT and TN	
References		LXM15HC11N4X	LXM15HC20N4X

Lexium 15

Motion control
External braking resistor



Resistor type		External braking for Lexium 15 servodrives			
Continuous power PPr (W)		100	200	400	1000
Reference	5 Ω	–	–	–	VW3A7707
	10 Ω	–	–	VW3A7601R● (1)	VW3A7705
	27 Ω	VW3A7602R● (1)	VW3A7603R● (1)	VW3A7604R● (1)	–
	72 Ω	VW3A7605R● (1)	VW3A7606R● (1)	VW3A7607R● (1)	–
	100 Ω	VW3A7608R● (1)	–	–	–

(1) For a length of connection cable of 0,75 m replace ● by 07
2 m replace ● by 20
3 m replace ● by 30

Additional EMC input filters



Supply voltage	3-phase 208...480 VAC	
Type of Lexium 15 HP servodrive	LXM15HC11N4X	LXM15HC20N4X
Input rms current (A)	42	75
Maximum motor cable length	100 m	100 m
References	VW3M4101	VW3M4102

Line reactors



Supply voltage	3-phase 208...480 VAC	
Type of Lexium 15 HP servodrive	LXM15HC11N4X	LXM15HC20N4X
Input current (A)	60	75
References (1)	VW3M4301	VW3M4302

(1) Must be ordered with the drive, unless an isolation transformer is being used with IT connection

Motor reactor

Supply voltage	3-phase 208...480 VAC			
Type of Lexium 15 HP servodrive	LXM15LD13M3 LXM15LD21M3 LXM15L...N4	LXM15LD28M3 LXM15MD28N4	LXM15MD40N4	LXM15MD56N4
Input nominal current (A)	6	10	14	20
References	VW3M5301	VW3M5302	VW3M5303	VW3M5304

Lexium 15

Motion control
Servodrives control and connectivity

Control and connectivity	
+ or -10 V. Pulse / direction Motion Bus / CANopen	Profibus DP / FIPIO Modbus Plus / Ethernet Sercos
Torque control loop, speed control loop, position control loop, motion tasks, point to point, gearing, position registers, homing	

Accessories type	Backup key
Use	Saves the servodrive operating parameters and instantly reinitiates settings (without PC)
References	VW3 M8 701

Accessories type		Master / Slave cable	Cable for PC serial port
Connector type		2 SUB-D connectors female 9 pins	
References	L = 0.5 m	VW3 M8 501 R05	
	L = 2 m	VW3 M8 501 R20	
	L = 3 m	–	VW3 M8 501 R03
	L = 6 m	VW3 M8 501 R60	

Inputs/outputs extension card

Card type	Card AM0 INE 001V000
Number of logic inputs	10
Number of logic outputs	8

Communication bus connection
CANopen

Connection type		Integrated Connector	Card AM02CA001V000 Connector	Cable		
Connector type		1 SUB-D male 9 pins	2 SUB-D male 9 pins 1 SUB-D female 9 pins	–	–	–
Cable type		–	–	Halogen-free	UL certification	Harsh environments
References	L = 50 m	–	–	TSXCANCA50	TSXCANCB50	TSXCANCD50
	L = 100 m	–	–	TSXCANCA100	TSXCANCB100	TSXCANCD100
	L = 300 m	–	–	TSXCANCA300	TSXCANCB300	TSXCANCD300

FIPIO card



Connection type		Card AM0 FIP 001V000 Connector	Cable	
Connector type		SUB-D male 9 pins	–	–
Cable type		–	Standard environment	Harsh environments
References	L = 100 m	–	TSX FP CA 100	TSX FP CR 100
	L = 200 m	–	TSX FP CA 200	TSX FP CR 200
	L = 500 m	–	TSX FP CA 500	TSX FP CR 500

Modbus Plus card

Connection type		Card AM0 MBP 001V000	
		Connector	Cable
Connector type		SUB-D female 9 pins	–
References	L = 30.5 m	–	490 NAA 271 01
	L = 152.5 m	–	490 NAA 271 02
	L = 305 m	–	490 NAA 271 03
	L = 457 m	–	490 NAA 271 04
	L = 1525 m	–	490 NAA 271 06

Profibus DP card



Connection type		Card DP VW3 M3 306	
		Connector	Cable
Connector type		2 SUB-D female 9 pins	–
References	L = 100 m	–	TSX PBS CA 100
	L = 400 m	–	TSX PBS CA 400

Ethernet card

Connection type		Card AM0 ETH 001V000		
		Connector	Cable	
Connector type		2 RJ45 connectors	–	
Cable type		–	Straight twisted pair	Crossed twisted pair
References	L = 2 m	–	490 NTW 000 02	–
	L = 5 m	–	490 NTW 000 05	490 NTW 000 05
	L = 12 m	–	490 NTW 000 12	–
	L = 15 m	–	–	490 NTW 000 15
	L = 40 m	–	490 NTW 000 40	490 NTW 000 40
	L = 80 m	–	490 NTW 000 80	490 NTW 000 80

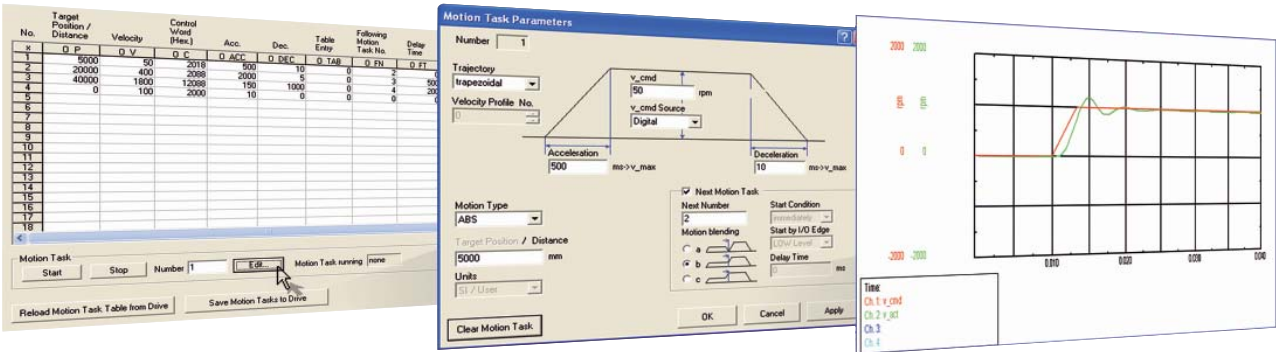
Sercos card



Connection type		Card AM0 SER 001V000	
		Connector	Cable
Connector type		SMA	–
Fiber optic references	L = 0.3 m	–	990 MCO 000 01
	L = 0.9 m	–	990 MCO 000 03
	L = 1.5 m	–	990 MCO 000 05
	L = 4.5 m	–	991 MCO 000 15
	L = 16.5 m	–	991 MCO 000 55
	L = 22.5 m	–	991 MCO 000 75
	L = 37.5 m	–	992 MCO 001 25

Lexium 15

Motion control
Unilink software



Unilink software for PC is a tool for configuring Lexium 15 servodrive operating parameters.

Its simple, easy-to-follow graphic interface helps to reduce setup costs.

It incorporates various functions for the setup phases, such as:

- Parameter setting
- Advanced adjustment of the various control loops
- Programming motion tasks
- Supervision

This software is available in two versions, for configuring Lexium 15 LP servodrives (Unilink L) and Lexium 15 MP/15 HP servodrives (Unilink MH).

It is supplied with the servodrive as standard.

Configuration and adjustment software	«Unilink» for PC
Drives configuration	Lexium 15
Environment	Microsoft Windows R
Language	English, French, German, Italian and Spanish
Contents	CD- Rom deliver with the product : Unilink software + documentation (1)

(1) All the documentation on www.schneider-electric.com



Servodrive type			Lexium 15 LP						Lexium 15 HP			Lexium 15 HP	
			With EMC filters integrated										
			200...240V/1-phase and 3-phase LXM15L			208...480 V 3-phase			208...480 V 3-phase LXM15M			208...480V/3-phase LXM15H	
BSH...	Mo (1)	Nmax (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4	C11N4X	C20N4X
0551 P	0.5	3000	1.4			1.4							
0551 T	0.5	7000	1.4										
0552 M	0.9	4000				2.25							
0552 P	0.9	4000	2.54										
0552 T	0.9	7000	2.7			2.26							
0553 M	1.3	4000				3.5							
0553 P	1.3	7500	4.2				3.87						
0701 P	1.41	3000	2.66	3.19		2.66							
0701 T	1.36	6000	3.19				2.91						
0702 M	2.12	3000				5.63							
0702 P	2.12	7000	5.63				4.85						
0702 T	2.12	6000		5.45			4.47						
0703 P	2.83	6500		9.28			7.71						
0703 T	2.83	5500			7.38								
1001 P	3.39	2500		7.68			6.19						
1001 T	3.39	4000			8.5								
1002 P	5.52	5000		14.79				12.13					
1002 T	5.52	4000			11.59								
1003 M	7.76	2000					23	22.95					
1003 P	7.76	4500			19.69				19.7	23.17			
1004 M	9.31	2000					29.9	29.87		33.83			
1004 P	9.31	4000							23.6	33.83			
1004 T	9.31	3500								21.04			
1401 M	11.4	1500							26				
1401 P	11.4	3000							23.3	23.33			
1401 T	11.4	2520								22.27	23.33		
1402 M	19.2	1500								47.5			
1402 P	19.2	3500								39.33	47.5		
1403 M	25.4	1500								71.67			
1403 P	25.4	3500									57.2		
1404 M	32.1	1500								82.32	95		
2051 M	36	1500								68.33	68.33	68.33	
2051 P	36	3000										82	
2052 M	65	1500										200	200
2052 P	65	2000										118.54	193.45
2053 M	90	1500										227.18	300
2053 P	90	2000											202.96

(1) Mo = Nominal torque in Nm

(2) N max = Maximum speed in rpm

1.4 = Value in Nm corresponding to the peak stall torque of servodrive-motor combination



Servodrive type			Lexium 15 LP						Lexium 15 MP		
			With EMC filters integrated								
			200...240V/1-phase and 3-phase			208...480V/3-phase			208...480V/3-phase		
			LXM15L						LXM15M		
BDH...	Mo (1)	Nmax (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4
0401 B	0.18	8000	0.61								
0402 C	0.31	8000	1.08								
0403 C	0.41	8000	1.46								
0582 C	0.84	7500				2.34					
0582 E	0.87	7000	2.42								
0583 C	1.13	6000				3.2					
0583 D	1.16	8000	3.84				3.42				
0583 F	1.18	8000		3.52							
0584 C	1.38	5000				3.94					
0584 D	1.41	8000	4.76				4.22				
0584 F	1.42	6500		4.68							
0701 C	1.15	5500				3.34					
0701 E	1.2	5500	3.24								
0702 C	2	3500				5.74					
0702 D	2.04	5500	7.05				6.18				
0702 H	2.1	6500		5.36							
0703 C	2.71	2500				7.83					
0703 E	2.79	4500	8.95				7.7				
0703 H	2.88	5000		7.35							
0841 C	1.95	3000				5.12					
0841 E	2.02	5500	5.33				4.64				
0841 H	2.06	6000		4.78							
0842 C	3.35	3500				9.37					
0842 E	3.42	6000	9.72				8.41				
0842 G	3.53	5500		9.56				7.99			
0842 J	3.56	5500			7.75				7.75		
0843 E	4.7	3000					11.7				
0843 G	4.8	5000		13.2				10.9			
0843 K	4.9	5000			9.66				9.66		
0844 E	5.76	2500					14.1				
0844 G	5.88	4500		16.1				13.3			
0844 J	6	3500			12.9				12.9		
1081 E	4.7	3000					10.9				
1081 G	4.75	5000		11.7				10.2			
1081 K	4.9	5000			9.22				9.22		
1082 E	8.34	2000					18.5				
1082 G	8.43	3000		21.5				18.9			
1082 K	8.6	6000			16.9				16.9		
1082 M	8.6	4000								16.7	
1083 G	11.4	2500						25.8			
1083 K	11.6	4500			22.9				22.9		
1083 M	11.4	3000								22.1	
1083 P	11.4	5000									22.2
1084 G	14.3	2000						31.7			
1084 K	14.4	2000			28.1				28.1		
1084 L	14.1	4500								29.5	
1084 N	14.1	4000									29.6
1382 G	11,9	2000						25.6			
1382 K	12,2	4500			30.1				30.1		

Lexium 15

Motion control

BDH servomotors for Lexium 15



Servodrive type			Lexium 15 LP						Lexium 15 MP		
			With EMC filters integrated								
			200...240V/1-phase and 3-phase			208...480V/3-phase			208...480V/3-phase		
			LXM15L						LXM15M		
BDH...	Mo (1)	Nmax (2)	D13M3	D21M3	D28M3	U60N4	D10N4	D17N4	D28N4	D40N4	D56N4
	1382 M	12.2	6000							22.8	
1382 P	12.3	4000									23.2
1383 G	16.5	1500						38.4			
1383 K	16.8	3500			31				31		
1383 M	17	4500								31.4	
1383 N	17	5500									34.8
1384 K	20.8	2500							41.2		
1384 L	21	3500								41.9	
1384 P	20.4	5000									40.2
1385 K	24.8	2000							46.8		
1385 M	25	3000								47.6	
1385 N	24.3	4000									50.2
1882 K	29.7	1500							59.4		
1882 M	30	2000								59.8	
1882 P	29.4	3000									58.4
1883 M	42	1500								80.7	
1883 P	41.6	2500									79.4
1884 L	53	1500								108	
1884 P	52.5	2000									106

(1) Mo = Nominal torque in Nm

(2) N max = Maximum speed in rpm

0.61 = Value in Nm corresponding to the peak stall torque of servodrive-motor combination

Lexium 05 &
Lexium 15

Motion control
BSH servomotors



To order a BSH motor, please use these references

Reference to be completed:		BSH	●●●	●	●	●	●	●	●	●	A
Flange size	55 mm	055									
	70 mm	070									
	100 mm	100									
	140 mm	140									
	205 mm	205									
Length (Number of magnet stacks)	1			1							
	2			2							
	3			3							
	4			4							
Winding type	Lowest speed				M						
	Medium speed				P						
	Highest speed				T						
Shaft (1)	w/o key (smooth) : IP40 (IP65)					0					
	with key : IP40 (IP65)					1					
	w/o key : IP65					2					
	with key IP65					3					
Encoder	Absolute SinCos, single turn (128 periods per revolution)						1				
	Absolute SinCos multi turn (4096 revolutions)						2				
Brake	w/o brake							A			
	with brake							F			
Connection System	Straight connector								1		
	right angle turnable connector								2		
Mounting	International standard mounting										A

BDH servomotors

To order a BDH motor, please use these references

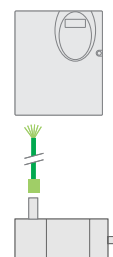
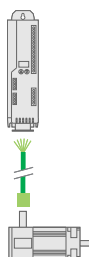
Reference to be completed:		BDH	●●●	●	●	●	●	●	●	●	●
Flange size	40 mm	040									
	58 mm	058									
	70 mm	070									
	84 mm	084									
	108 mm	108									
	138 mm	138									
	188 mm	188									
Length (Number of magnet stacks)	1			1							
	2			2							
	3			3							
	4			4							
	5			5							
Winding type					AaZ						
Shaft end	IP 54	Untapped				0					
		Keyed				1					
	IP 67	Untapped				2					
		Keyed				3					
Integrated sensor	Single turn, SinCos Hiperface® 4096 points/turn						1				
	Multiturn, SinCos Hiperface® 4096 points/turn, 4096 turns						2				
	2-pole resolver						5				
Holding brake	None							A			
	With							F			
Connection	Angled connectors that can be rotated through 90°										
Flange	International IEC standard								2		A
	NEMA										B

(1) Other possibilities to be detailed: see www.schneider-electric.com

Lexium 05 & Lexium 15

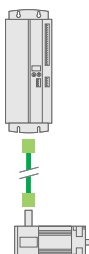
Motion control

Connecting cables



Cable type		Power cable fitted with 1 connector (servomotor side)				
Servomotor type	BSH	055●● / 070●● / 100●● 1401P / 1402M / 1402P / 1403M / 1404M		1401T / 1403P / 1404P	2051M 1402T	2051P
	BDH		040●●/058●●/070●●/ 084●●/108●E/108●G/ 108●K/138●G/138●K			
Servodrive type		LXM05 All type	LXM15 L.....	LXM05 D42M3X / D57N4	LXM05 D57N4	LXM15 HC..N4X
Composition		4x1.5 mm ² + 2x1 mm ²		4x2.5 mm ² + 2x1 mm ²	4x4 mm ² + 2x1 mm ²	
Reference	L = 3	VW3M5101R30	VW3M5101R30	VW3M5102R30	VW3M5103R30	
	L = 5	VW3M5101R50	VW3M5101R50	VW3M5102R50	VW3M5103R50	
	L = 10	VW3M5101R100	VW3M5101R100	VW3M5102R100	VW3M5103R100	
	L = 15	VW3M5101R150	VW3M5101R150	VW3M5102R150	VW3M5103R150	
	L = 20	VW3M5101R200	VW3M5101R200	VW3M5102R200	VW3M5103R200	
	L = 25	VW3M5101R250	VW3M5101R250	VW3M5102R250	VW3M5103R250	
	L = 50	VW3M5101R500	VW3M5101R500	VW3M5102R500	VW3M5103R500	
	L = 75	VW3M5101R750	—	VW3M5102R750	VW3M5103R750	

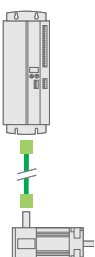
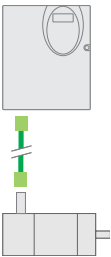
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Cable type		Power cable fitted with 2 connectors				
Servomotor type	BSH	1003P / 1004● / 1401M / 1401P / 1402M / 1402P / 1403M / 1404M	1401T / 1403P / 1404P	1402T / 2051M / 2051P		2052M / 2052P / 2053M / 2053P
	BDH	084●● / 108●K / 138●K / 188●K ;	108●L / 108●M / 138●L / 138●M / 188●L / 188●M		108●N / 108●P / 138●N / 138●P / 188●P	
Servodrive type		LXM15 MD..N4				LXM15 HC..N4X
Composition		4x1.5 mm ² + 2x1 mm ²	4x2.5 mm ² + 2x1 mm ²	4x4 mm ² + 2x1 mm ²	4x4 mm ² + 2x1 mm ²	4x10 mm ² + 2x1 mm ²
Reference	L = 3	VW3M5201R30	VW3M5202R30	VW3M5203R30	VW3M5213R30	—
	L = 5	VW3M5201R50	VW3M5202R50	VW3M5203R50	VW3M5213R50	—
	L = 10	VW3M5201R100	VW3M5202R100	VW3M5203R100	VW3M5213R100	VW3M5304R100
	L = 15	VW3M5201R150	VW3M5202R150	VW3M5203R150	VW3M5213R150	—
	L = 20	VW3M5201R200	VW3M5202R200	VW3M5203R200	VW3M5213R200	VW3M5304R200
	L = 25	VW3M5201R250	VW3M5202R250	VW3M5203R250	VW3M5213R250	—
	L = 50	VW3M5201R500	VW3M5202R500	VW3M5203R500	VW3M5213R500	VW3M5304R500
	L = 75	VW3M5201R750	VW3M5202R750	VW3M5203R750	VW3M5213R750	—
	L = 100	—	—	—	—	VW3M5304R1000

Lexium 05 &
Lexium 15

Motion control
Connecting cables



Cable type		Encoder cable SinCos Hiperface fitted with 2 connectors		Resolver cable fitted with 2 connectors
Servomotor type	BSH	All type	All type	All type
	BDH	–	All type	All type
Servodrive type		LXM05 All type	LXM15 All type	LXM15 All type
Composition		5x(2x2.5 mm ²) + 2x0.5 mm ²	5x(2x0.25 mm ²) + 2x0.5 mm ²	5x(2x0.25 mm ²) + 2x0.5 mm ²
Reference	L = 3	VW3M8101R30	VW3M8301R30	VW3M8401R30
	L = 5	VW3M8101R50	VW3M8301R50	VW3M8401R50
	L = 10	VW3M8101R100	VW3M8301R100	VW3M8401R100
	L = 15	VW3M8101R150	VW3M8301R150	VW3M8401R150
	L = 20	VW3M8101R200	VW3M8301R200	VW3M8401R200
	L = 25	VW3M8101R250	VW3M8301R250	VW3M8401R250
	L = 50	VW3M8101R500	VW3M8301R500	VW3M8401R500
	L = 75	VW3M8101R750	VW3M8301R750	VW3M8401R750

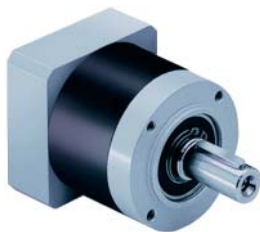
Connection elements

Connection type		Power cable			Control cable SinCos Hiperface
Servomotor type		All type			
Servodrive type		LXM05 All type			
Composition		4x1.5 mm ² + 2x1 mm ²	4x2.5 mm ² + 2x1 mm ²	4x4 mm ² + 2x1 mm ²	
Reference	L = 25	VW3 M5 301 R250	VW3 M5 302 R250	VW3 M5 303 R250	VW3 M8 221 R250
	L = 50	VW3 M5 301 R500	VW3 M5 302 R500	VW3 M5 303 R500	VW3 M8 221 R500
	L = 100	VW3 M5 301 R1000	VW3 M5 302 R1000	VW3 M5 303 R1000	VW3 M8 221 R1000

Connection type			Connector BSH end	LXM 05 end
Power connection	cross-section	1.5 mm²	VW3 M8 215	—
		2.5 mm²	VW3 M8 216	—
		4 mm²	VW3 M8 217	—
Control connection			VW3 M8 213	VW3 M8 214

Lexium 05 &
Lexium 15

Motion control
GBX planetary gearboxes



Schneider Electric has selected GBX gearboxes made by Neugart to be used in association with the BSH and BDH servomotor ranges.

As their association with BSH or BDH servomotors has been fully qualified and they are very easy to mount, the gearboxes are simple to put into operation and risk free.

Available in 5 sizes (GBX 40... GBX 160), the planetary gearboxes are offered in 12 gear ratios (3:1...40:1).

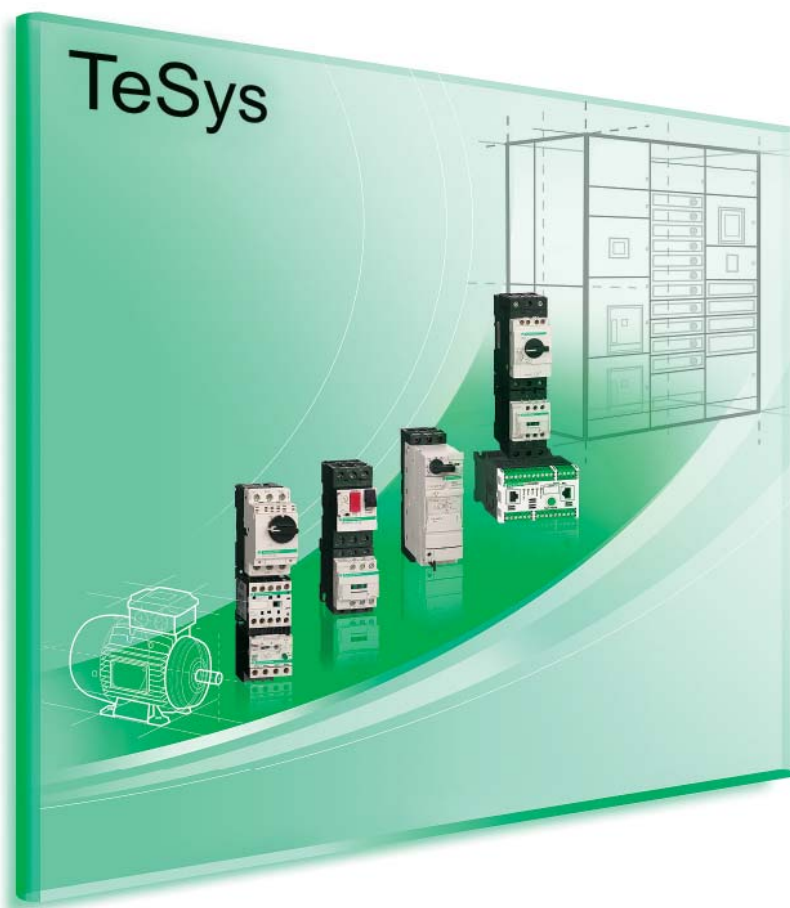
To order a GBX planetary gearbox, complete each reference with									
Reference to be completed:			GBX		●●●	●●●	●●●	●	●
Size (Junction box diameter)	40 mm				040				
	60 mm				060				
	80 mm				080				
	115 mm				120				
	160 mm				160				
Speed reduction ratio	3:1				003				
	4:1					004			
	5:1					005			
	8:1					008			
	9:1					009			
	12:1					012			
	15:1					015			
	16:1					016			
	20:1					020			
	25:1					025			
	32:1					032			
	40:1					040			
Servomotor	Associated BDH	Type	BDH 040				040		
			BDH 058				058		
			BDH 070				070		
			BDH 084				084		
			BDH 108				108		
			BDH 138				138		
	Associated BSH	Type	BSH 055				055		
			BSH 070				070		
			BSH 100				100		
			BSH 140				140		
			BSH 205				(1)		
		Model	BSH ou BDH ●●●1					1	
			BSH ou BDH ●●●2					2	
			BSH ou BDH ●●●3					3	
			BSH ou BDH ●●●4					4	
			BDH ●●●5					5	
	Servomotor adaptation		BDH						D
			BSH						F

(1) Consult your Schneider Electric agency

Motor control

TeSys range provide you more *simplicity, compactness, openness* and *flexibility*
... so many evolutions and new items to aid your productivity.

*Accurate and reliable
control of motors*



Increase your productivity, adopt our solutions which help to simplify setting-up.

Motor starters

- Ready-to-use component combinations, designed to work together in perfect harmony.
- Safe operation and level of coordination guaranteed by a major manufacturer.

Power circuit control

- A wide range of components.
- Solutions for a variety of power control applications: lighting, capacitor switching, heating, changeover contactor pairs, resistive loads, upstream protection.

Contents

New

TeSys Motor starters up to 65 A



The new
TeSys GV3
circuit-breakers,
LC1D 40/50/65
contactors,
LRD3
thermal relays
are equipped with the
new terminal block:

EverLink



Long lasting connection quality.
Schneider Electric
patented technology.

TeSys T Motor management system



TeSys protected

TeSys T is an advanced motor management and protection system. It is able to guard against all motor malfunctions: overload, current peak, excessive consumption, etc.

TeSys U Communication modules



With open communication across CANopen, Profibus DP, Modbus, AS-interface, Advantys STB, DeviceNet and Ethernet networks, **TeSys U** has openness in mind.

Motor control components

TeSys contactors 5/2 to 5/11

- Contactors, **TeSys K, D, F, B**
- Variable composition contactors, **TeSys CV**

TeSys protection components 5/12 to 5/33

- Thermal-magnetic circuit-breakers
- Magnetic circuit-breakers
- Fuse carriers, switch-disconnector-fuses
- Thermal overload relays
- Electronic thermal overload relays
- Electronic overload relays
- Starter-controller, **TeSys T**
- Multifunction protection relays
- Switch disconnectors **Mini Vario** and **Vario**

TeSys starters 5/34 to 5/41

- Combination motor starters
- Starter-controller, **TeSys U**
- Controller, **TeSys U**
- Enclosed motor starters

TeSys installation system 5/42 to 5/43

- For motor starter components with spring terminals, **TeSys Quickfit** technology

Components for power control applications 5/44 to 5/50

- Lighting, capacitor switching, heating, changeover contactor pairs

TeSys K

Contactors
0.06...5.5 kW



Connections				
screw clamp terminals				
Rated operational current	le max AC-3 (Ue ≤ 440V)	6 A	9 A	12 A
	le AC-1 (θ ≤ 40° C)	-	20 A	-
Rated operational power	220/240 V	1.5 kW	2.2 kW	3 kW
in category AC3	380/400 V...415/440 V	2.2 kW	4 kW	5.5 kW
	660/690 V...500 V	3 kW	4 kW	4 kW
Contactor type ^{(1)*}	~	LC1-K06••	LC1-K09••	LC1-K12••
	---	LP1-K06•• or LP4-K06••	LP1-K09 or LP4-K09••	LP1-K12 or LP4-K12••
Reversing contactor type *	~	LC2-K06	LC2-K09	LC2-K12
with mechanical interlock	---	LP2-K06 or LP5-K06	LP2-K09 or LP5-K09	LP2-K12 or LP5-K12
spring terminals				
Add the figure 3 before the voltage code. Example LC1-K0610•• becomes LC1-K06103••				
Faston connectors, 1 x 6.35 or 2 x 2.8				
Add the figure 7 before the voltage code. Example LC1-K0610•• becomes LC1-K06107••				
solder pins for printed circuit boards				
Add the figure 5 before the voltage code. Example LC1-K0610•• becomes LC1-K06105••				

(1) Basic reference, to be completed by adding 01 for N/C auxiliary contact, or 10 for N/O auxiliary contact.

* Basic reference to be completed by adding the coil voltage

Standard control circuit voltages																	
~ supply																	
Contactors LC1-K (0.8...1.15 Uc) (0.85...1.1UC)																	
Volts	12	20	24	36	42	48	110	115	120	127	200/208	220/230	230	230/240			
50/60 Hz	J7	Z7	B7	C7	D7	E7	F7	FE7	G7	FC7	L7	M7	P7	U7			
Volts	256	277	380/400		400	400/415		440	480	500	575	600	660/690				
50/60 Hz	W7	UE7	Q7		V7	N7		R7	T7	S7	SC7	X7	Y7				
Example of complete reference LC1-K0910P7																	
--- supply																	
Contactors LP1-K (0.8...1.15 Uc)																	
Volts	12	20	24	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	PD	QD	LD	MD	MPD	MUD	UD
Coil with integral suppression device available, add 3 to the code required. Example JD3																	
Low consumption																	
Contactors LP4-K (0.7...1.30 Uc), coil suppression as standard																	
Volts	12		20		24		48		72		110		120				
Code	JW3		ZW3		BW3		EW3		SW3		FW3		GW3				
Example of complete reference LC1-K0910BD																	



Auxiliary contact blocks

instantaneous, screw clamp connections

	■ for LC1, LP1-K, LP4			■ for LC1, LP1-K				
Composition	2N/O	- 2N/C	1N/O 1N/C	4N/O	3N/O 1N/C	2N/C 2N/C	1N/O 3N/C	- 4N/C
Reference	LA1-KN20	LA1-KN02	LA1-KN11	LA1-KN40	LA1-KN31	LA1-KN22	LA1-KN13	LA1-KN04

electronic time delay

Relay outputs, with common point changeover contact, $\sim$ or $\equiv$ 24...48, 2 A maximum

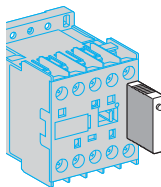
Control voltage 0.85...1.1Uc

Maximum switching capacity 250 VA or 150 W

Operating temperature -10...+ 60°C

Reset time: 1.5 s for 0.5 s after the time delay period

Type	On-delay							
Timing range	1...30 s							
Composition	1							
Voltage	$\sim$ or $\equiv$ 24...48 V			$\sim$ 110...240				
Reference	LA2-KT2E			LA2-KT2U				



Suppressor modules

For LC1, LP1-K

Type	Varistor ($\sim$ and $\equiv$)				Diode ($\equiv$) + zener		RC ($\sim$)
Voltage	12...24 V	32...48 V	50...129 V	130...250 V	12...24 V	32...48 V	220...250 V
Reference	LA4-KE1B	LA4-KE1E	LA4-KE1FC	LA4-KE1UG	LA4-KC1B	LA4-KC1E	LA4-KA1U

TeSys D

Contactors

0.06...75 kW



Connections							
screw clamp terminals or connectors							
Rated operational voltage		690 V					
Rated operational current	Ie max AC-3 (Ue ≤ 440V)	9 A	12 A	18 A	25 A	32 A	38 A
	Ie AC-1 (θ ≤ 60° C)	25 A		32 A	40 A	50 A	
Rated operational power in category AC3	220/240 V	2.2 kW	3 kW	4 kW	5.5 kW	7.5 kW	9 kW
	380/400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415/440 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	500 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	660/690 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	1000 V	–	–	–	–	–	–
	Contactor type *	LC1-D09	LC1-D12	LC1-D18	LC1-D25	LC1-D32	LC1-D38
	Reversing contactor type * with mechanical interlock	LC2-D09	LC2-D12	LC2-D18	LC2-D25	LC2-D32	LC2-D38
spring terminals ⁽¹⁾							
Add the figure 3 before the voltage code. Example LC1-D09P7 becomes LC1-093P7							
lug-clamps ⁽²⁾							
Add the figure 6 before the voltage code. Example LC1-D09P7 becomes LC1-096P7							
Faston connectors ⁽³⁾ 2 x 6.35 (power) and 1 x 6.35 (control) up to D12 only							
Add the figure 9 before the voltage code. Example LC1-D09P7 becomes LC1-099P7							
* Basic reference to be completed by adding the coil voltage							



(1)



(2)



(3)

Standard control circuit voltages													
~ supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
Contactors LC1-D09...D150 (coils D115 and D150 with integral suppression device fitted as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
Contactors LC1-D80...D115													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	-	E6	F6	-	M6	-	U6	Q6	-	-	R6	-
--- supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
Contactors LC1-D09...D65A (coils with integral suppression device fitted as standard)													
U 0.75...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
Contactors LC1-D80...D95													
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75...1.2 Uc	JW	BW	CW	EW	-	SW	FW	-	MW	-	-		
Contactors LC1-D115 and D150 (coils with integral suppression device fitted as standard)													
U 0.75...1.2 Uc	-	BD	-	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Contactors LC1-D09...D38 (coils with integral suppression device fitted as standard)													
Volts ---	5	12	20	24	48	110	120	250					
U 0.7...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					
Example of complete reference LC1-D09P7													

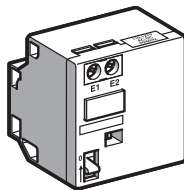


690 V			1 000 V on ~ supply, 690 V on ≡ supply			
40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A	80 A	125 A		200 A	
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW
22 kW	25 kW	30 kW	45 kW	45 kW	59 kW	80 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW
–	–	–	45 kW	45 kW	75 kW	90 kW
LC1-D40A	LC1-D50A	LC1-D65A	LC1-D80	LC1-D95	LC1-D115	LC1-D150
LC2-D40A	LC2-D50A	LC2-D65A	LC2-D80	LC2-D95	LC2-D115	LC2-D150

Mounting accessories for 3-pole reversing contactors

2 identical contactors with screw clamp terminals or connectors, horizontally mounted

Mechanical interlock	Set of connections	Mechanical interlock
■ with an electrical interlocking kit for the contactors		
LC1-D09...D38	LAD-9R1V	included
■ with integral electrical interlocking		
LC1-D80 and D95 (~)	LA9-D8069	LA9-D4002
LC1-D80 and D95 (≡)	LA9-D8069	LA9-D8002
LC1-D115 and D150	LA9-D11569	LA9-D11502
■ without electrical interlocking		
LC1-D09...D38	LA9-9R1	included
LC1-D40A...D65A	LAD-9R3	included
LC1-D80 and D95 (~)	LA9-D8069	LA9-D50978
LC1-D80 and D95 (≡)	LA9-D8069	LA9-D80978



Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

For use on contactor	Reference	Standard control circuit voltages
LC1-D09...D65A ~ or ≡, LC1-DT20...DT80 ~ or ≡	LA6-6K10•	B E F M Q
LC1-D80...D150 3P ~, LC1-D80 and D115 3P ~, LC1-D115 4P ≡	LA6-DK20•	B E F M Q

TeSys D

Contactors

Auxiliary contacts



Contact type			instantaneous, connection by screw terminals	
Block mounting			Front mounting	Side mounting
References	Contact	1 "N/O"	LADN10	–
		1 "N/C"	LADN01	–
		1 "N/O" 1 "N/C"	LADN11	LAD8N11
		2 "N/O"	LADN20	LAD8N20
		2 "N/C"	LADN02	LAD8N02
		2 "N/O" 2 "N/C"	LADN22	–
		1 "N/O" 3 "N/C"	LADN13	–
		3 "N/O" 1 "N/C"	LADN31	–
		4 "N/O"	LADN40	–
		4 "N/C"	LADN04	–



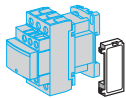
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Type de contacts			Time delay, connection by screw terminals		
Block mounting			Front mounting		
Temporisation			0.1...3 s	0.1...30 s	10...180 s
References		On-delay	LADT0	LADT2	LADT4
		Off-delay	LADR0	LADR2	LADR4

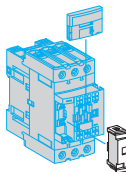
Maximum number of auxiliary contacts that can be fitted								
Type	Number of poles and size		Instantaneous					
			Side mounting			Front mounting		
			on left side	on right side	and	1 contact	2 contacts	4 contacts
AC	3P	LC1D09...D38	1	–	and	–	1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1
		LC1D80...95 (50/60Hz)	1	1	or	2	and 1	or 1
		LC1D80...95 (50 or 60Hz)	1	1	and	2	and 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1
	4P	LC1DT20...DT40	1	–	and	–	1	or 1
		LC1DT60A...D80A	1	or 1	and	–	1	or 1
		LC1D115	1	1	and	1	or 1	or 1
DC	3P	LC1D09...D38	–	–		–	1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1
		LC1D80 and 95	–	–		1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1
	4P	LC1DT20...DT40	–	–		–	1	or 1
		LC1DT60A...D80A	–	–		–	1	or 1
		LC1D115	1	1		–	and 1	or 1
DC low consumption	3P	LC1D09...D38	–	–		–	1	–
	4P	LC1DT20...DT40	–	–		–	1	–

TeSys D

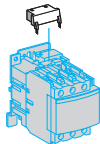
Contactor
Suppressor modules



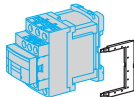
Type of module			RC circuits (Resistor-Capacitor)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...48 VAC	LAD4RCE	LAD4RC3E	LA4DA2E
		50...127 VAC	LAD4RCG	LAD4RC3G	LA4DA2G
		110...240 VAC	LAD4RCU	LAD4RC3U	LA4DA2U
		380...415 VAC	–	LAD4RC3N	LA4DA2N



Type of module			Varistors (peak limiting)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...48 VAC	LAD4VE	LAD4V3E	LA4DE2E
		50...127 VAC	LAD4VG	LAD4V3G	LA4DE2G
		110...240 VAC	LAD4VU	LAD4V3U	LA4DE2U
		24...48 VDC	–	–	LAD4DE3E (AC and DC)
		50...127 VDC	–	–	LAD4DE3G (AC and DC)
		110...240 VDC	–	–	LAD4DE3U (AC and DC)



Type of module			Flywheel diodes		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...250 VDC	LAD4DDL	LAD4D3U	LAD4DC3U



Type of module			Bidirectional peak limiting diode		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24 VAC	LAD4TB	LAD4T3B	LA4DB2B
		24 VDC	LAD4TBDL	LAD4T3B	LA4DB2S
		72 VAC	LAD4TS	LAD4T3S	LA4DB3B
		72 VDC	LAD4TSDL	LAD4T3S	LA4DB3S
		125 VDC	LAD4TGDL	LAD4T3G (AC and DC)	–
		250 VDC	LAD4TUDL	LAD4T3U (AC and DC)	–
		600 VDC	LAD4TXDL	LAD4T3R (AC and DC)	–

TeSys F

Contactors

90...450 kW



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	185 A	225 A	265 A	330 A
	Ie AC-1 (θ ≤ 40° C)	275 A	315 V	350 A	400 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		3 or 4	3 or 4	3 or 4	3 or 4
Rated operational power	220/240 V	55 kW	63 kW	75 kW	100 kW
in category AC3	380/400 V	90 kW	110 kW	132 kW	160 kW
	415 V	100 kW	110 kW	140 kW	180 kW
	440 V	100 kW	110 kW	140 kW	200 kW
	500 V	110 kW	129 kW	160 kW	200 kW
	660/690 V	110 kW	129 kW	160 kW	220 kW
	1000 V	100 kW	100 kW	147 kW	160 kW
Contactor type*		LC1-F185	LC1-F225	LC1-F265	LC1-F330
Reversing contactor type*		LC2-F185	LC2-F225	LC2-F265	

* Basic reference to be completed by adding the coil voltage

Standard control circuit voltages													
~ supply													
Volts	24	48	110	115	120	208	220	230	240	380	400	415	440
Contactors LC1-F115...F225(0.85...1.1UC)													
50 Hz (coil LX1)	B5	E5	F5	FE5	-	-	M5	P5	U5	Q5	V5	N5	-
60 Hz (coil LX1)	-	E6	F6	-	G6	L6	M6	-	U6	Q6	-	-	R6U7
40...400 Hz (coil LX9)	-	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactors LC1-F265...F330U7													
40...400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactors LC1-F400...F630U7													
40...400 Hz (coil LX1)	-	E7	F7	FE7	G7 ⁽¹⁾	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1-F780U7													
40...400 Hz (coil LX1)	-	-	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
Contactor LC1-F800U7													
40...400 Hz (coil LX1)	-	-	FE7	FE7	FE7	-	P7	P7	P7	V7	V7	V7	V7Y7
⋮ supply													
Volts	24	48	110	125	220	230	250	400	440				
Contactors LC1-F115...F330(0.85...1.1UC)													
(coil LX4-F)	BD	ED	FD	GD	MD	MD	UD	-	RD				
Contactors LC1-F400...F630(0.85...1.1UC)													
(coil LX4-F)	-	ED	FD	GD	MD	-	UD	-	RD				
Contactor LC1-F780(0.85...1.1UC)													
(coil LX4-F)	-	-	FD	GD	MD	-	UD	-	RD				
Contactor LC1-F800(0.85...1.1UC)													
(coil LX4-F)	-	-	FW	FW	MW	MW	-	QW	-				
Example: For a 630 A contactor with a 110 V ~ coil, order LC1-F630F7													

Example: For a 630 A contactor with a 110 V ~ coil, order **LC1-F630F7**

(1) F7 for LC1-F630



	400 A	500 A	630 A	780 A	800 A
	500 A	700 A	1 000 A	1 600 A	1 000 A
	1 000 V	1 000 V	1 000 V	1 000 V	1 000 V
	2, 3 or 4	2, 3 or 4	2, 3 or 4	3 or 4	3
	110 kW	147 kW	200 kW	220 kW	250 kW
	200 kW	250 kW	335 kW	400 kW	450 kW
	220 kW	280 kW	375 kW	425 kW	450 kW
	250 kW	295 kW	400 kW	425 kW	450 kW
	257 kW	355 kW	400 kW	450 kW	450 kW
	280 kW	335 kW	450 kW	475 kW	475 kW
	185 kW	335 kW	450 kW	450 kW	450 kW
	LC1-F400	LC1-F500	LC1-F630	LC1-F780	LC1-F800
For customer assembly					



5

Auxiliary contact blocks

instantaneous				dust & damp protected contacts				time delay 1N/O + 1 N/C		
Composition	Reference	Composition	Reference	Composition	Reference	Composition	Reference	Type	Range	Reference
N/O N/C		N/O N/C		N/O N/C		N/O N/C				
1 -	LAD-N10	1 1	LAD-N11	2 2	LAD-N22	2 - - -	LA1-DX20	On-delay	0.1...3 s	LAD-T0
- 1	LAD-N01	2 -	LAD-N20	1 3	LAD-N13	2 2 - -	LA1-DY20		0.1...30 s	LAD-T2
		- 2	LAD-N02	4 -	LAD-N40	2 - 2 -	LA1-DZ40		10...180 s	LAD-T4
				- 4	LAD-N04	2 - 1 1	LA1-DZ31		1...30 s	LAD-S2
				3 1	LAD-N31			Off-delay	0.1...3 s	LAD-R0
				2 2	LAD-C22				0.1...30 s	LAD-R2
									10...180 s	LAD-R4

Mounting accessories for 3-pole reversing contactors for motor control

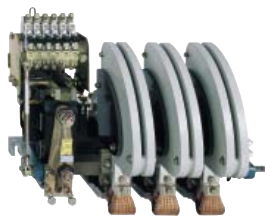
2 identical contactors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors

Contactor type	Set of connections	Mechanical interlock
LC1-F115	LA9-FF976	LA9-FF970
LC1-F150	LA9-F15076	LA9-FF970
LC1-F185	LA9-FG976	LA9-FG970
LC1-F225	LA9-F22576	LA9-FG970
LC1-F265	LA9-FH976	LA9-FJ970
LC1-F330	LA9-FJ976	LA9-FJ970
LC1-F400	LA9-FJ976	LA9-FJ970
LC1-F500	LA9-FK976	LA9-FJ970
LC1-F630 or LC1-F800	LA9-FL976	LA9-FL970

TeSys B

Contactors
400...900 kW



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	750 A	1000 A	1500 A	1800 A
	Ie AC-1 (θ ≤ 40° C)	800 A	1250 V	2000 A	2750A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		1 to 4	1 to 4	1 to 4	1 to 4
Rated operational power		220 kW	280 kW	425 kW	500 kW
in category AC3	220/240 V	400 kW	500 kW	750 kW	900 kW
	380/400 V	425 kW	530 kW	800 kW	900 kW
	415 V	450 kW	560 kW	800 kW	900 kW
	440 V	500 kW	600 kW	700 kW	900 kW
	500 V	560 kW	670 kW	750 kW	900 kW
	660/690 V	530 kW	530 kW	670 kW	750 kW
4 instantaneous contact configurations					
2 N/C + 2 N/O, 3 N/O + 1 N/C, 1 N/O + 3 N/C or 4 N/O					
Contactor type*		LC1-BL	LC1-BM	LC1-BP	LC1-BR

* Basic reference to be completed by adding the coil voltage, followed by the instantaneous contact configuration.

5

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)													
Volts	48	110	125	127	220	230	240	380	400	415	440	500	
~ 50...400 Hz	-	F	-	G	M	P	U	Q	V	N	R	S	
---	ED	FD	GD	-	MD	-	-	-	-	-	RD	-	

Example: To order a 1500 A contactor with 127 V --- coil with 3 N/O + 1 N/C, select **LC1-BP33G31**

Mounting accessories		
Description	For contactor	Reference
Bar support bracket	LC1-BL to BR	LA9-B103
for mounting on 120 or 150 mm centres		
Mechanical interlock and locking device components	LC1-B	EZ2-LB0601

Reference to compiled by the customer

Contactor type, according to required use					
supply 690 V, supply 220 V/pole		CV1-B			
supply 1000 V, supply 440 V/pole		CV3-B			
Contacting rating	CV1: 80 A CV3: 80 A	F			
	CV1: 200 A CV3: 170 A	G			
	CV1: 300 A CV3: 250 A	H			
	CV1: 470 A CV3: 320 A	J			
	CV1: 630 A CV3: 500 A	K			
	CV1: 1000 A	L			
Number of poles (PN1 main poles for CV1 and PA3 main poles for CV3)					
Normally Open main poles	1 N/O		1		
	2 N/O		2		
	3 N/O		3		
	4 N/O		4		
	5 N/O		5		
Normally Closed main poles	1 N/C			1	
	2 N/C			2	
	3 N/C			3	
No main poles			0	Z	0 Z
Operational current	10 A			E	E
	20 A			N	N
	40 A			P	P
	80 A			F	F
	125 A			R	R
	170 A			W	W
	200 A			G	G
	250 A			S	S
	300 A			H	H
	320 A			T	T
	470 A			J	J
	500 A			V	V
	630 A			K	K
	1000 A			L	L
Control circuit voltage	48 V				E
	110 V				F
	120 V				K
	208 V				L
	220 V				M
	230 V				P
	240 V				U
	380 V				Q
	400 V				V
	440 V				R
Operating frequency	50 Hz				5
	60 Hz				6
	50/60 Hz				7
					D
	+ economy resistor				R
Instantaneous auxiliary contacts					
Normally Open	1 N/O				1
	2 N/O				2
	3 N/O				3
	4 N/O				4
Normally Closed	1 N/C				1
	2 N/C				2
	3 N/C				3
	4 N/C				4
Without instantaneous contact					0 0
On-delay	1 C/O				J
Off-delay	1 C/O				N

Example 1/ for single-phase capacitor switching: 400 V - 80 A - 1 N/O pole - Control circuit 220 V / 50 Hz, 1 N/O and 1 1N/C auxiliary contacts: **CV1-BF1F0ZM511**.

2/ for heating circuits, d.c. supply 800 V - 150 A - 2 N/O poles - Control circuit 48 V $\square$, 1 N/O + 1 N/O On-delay auxiliary contacts: **CV3-BG2W0ZED10J**



Thermal-magnetic circuit-breakers GV2-ME and GV2-P for connection by screw clamp terminals

GV2-ME with pushbutton control, GV2-P control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

400/415 V			500 V			690 V			Setting range of thermal trips	Magnetic tripping current	Reference	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	A	A (d ± 20%)		
kW	kA		kW	kA		kW	kA					
-	-	-	-	-	-	-	-	-	0.1...0.16	1.5	GV2-ME01	GV2-P01
0.06	★	★	-	-	-	-	-	-	0.16...0.25	2.4	GV2-ME02	GV2-P02
0.09	★	★	-	-	-	-	-	-	0.25...0.40	5	GV2-ME03	GV2-P03
0.12	★	★	-	-	-	0.37	★	★	0.40...0.63	8	GV2-ME04	GV2-P04
0.18	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2-ME04	GV2-P04
0.25	★	★	-	-	-	0.55	★	★	0.63...1	13	GV2-ME05	GV2-P05
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2-ME06	GV2-P06
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2-ME06	GV2-P06
0.75	★	★	1.1	★	★	1.5	3	75	1.6...2.5	33.5	GV2-ME07	
0.75	★	★	1.1	★	★	1.5	8	100	1.6...2.5	33.5		GV2-P07
1.1	★	★	1.5	★	★	2.2	3	75	2.5...4	51	GV2-ME08	
1.1	★	★	1.5	★	★	2.2	8	100	2.5...4	51		GV2-P08
1.5	★	★	2.2	★	★	3	3	75	2.5...4	51	GV2-ME08	
1.5	★	★	2.2	★	★	3	3	100	2.5...4	51		GV2-P08
2.2	★	★	3	50	100	4	3	75	4...6.3	78	GV2-ME10	
2.2	★	★	3	★	★	4	6	100	4...6.3	78		GV2-P10
3	★	★	4	10	100	5.5	3	75	6...10	138	GV2-ME14	
3	★	★	4	50	100	5.5	6	100	6...10	138		GV2-P14
4	★	★	5.5	10	100	7.5	3	75	6...10	138	GV2-ME14	
4	★	★	5.5	50	100	7.5	6	100	6...10	138		GV2-P14
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2-ME16	
5.5	★	★	7.5	42	75	9	6	100	9...14	170		GV2-P16
-	-	-	-	-	-	11	3	75	9...14	170	GV2-ME16	
-	-	-	-	-	-	11	6	100	9...14	170		GV2-P16
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2-ME20	
7.5	50	50	9	10	75	15	4	100	13...18	223		GV2-P20
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2-ME21	
9	50	50	11	10	75	18.5	4	100	17...23	327		GV2-P21
11	15	40	15	4	75	-	-	-	20...25	327	GV2-ME22 ⁽²⁾	
11	50	50	15	10	75	-	-	-	20...25	327		GV2-P22
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2-ME32	
15	50	50	18.5	10	75	22	4	100	24...32	416		GV2-P32

H > 100 kA

(1) as % of Icu

(2) combined with a recommended contactor

Thermal-magnetic circuit-breakers GV2-ME for connection by spring terminals

Add the figure 3 to the end of the reference. Example **GV2-ME22** becomes **GV2-ME223**

Thermal-magnetic circuit-breakers GV2-ME for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV2-ME32** becomes **GV2-ME326**



Magnetic circuit-breakers GV2-LE and GV2-L for connection by screw clamp terminals

GV2-LE control by rocker lever, GV2-L control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

400/415 V			500 V			690 V			Magnetic protection	Tripping current	Use in association with thermal overload relay	Reference
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	rating	d ± 20%		
kW	kA		kW	kA		kW	kA		A	A		
0.06	★	★	-	-	-	-	-	-	0.4	5	LR2-K0302	GV2-LE03
0.09	★	★	-	-	-	-	-	-	0.4	5	LR2-K0304 or LRD-03	GV2-LE03 GV2-L03
0.12	★	★	-	-	-	0.37	★	★	0.63	8	LR2-K0304 or LRD-04	GV2-LE04 GV2-L04
0.18	★	★	-	-	-	-	-	-	0.63	8	LR2-K0305 or LRD-04	GV2-LE04 GV2-L04
-	-	-	-	-	-	0.55	★	★	1	13	LR2-K0305 or LRD-05	GV2-LE05 GV2-L05
0.25	★	★	-	-	-	-	-	-	1	13	LR2-K0306 or LRD-05	GV2-LE05 GV2-L05
-	-	-	-	-	-	0.75	★	★	1	13	LR2-K0306 or LRD-06	GV2-LE05 GV2-L05
0.37	★	★	0.37	★	★	-	-	-	1	13	LR2-K0306 or LRD-05	GV2-LE05 GV2-L05
0.55	★	★	0.55	★	★	1.1	★	★	1.6	22.5	LR2-K0307 or LRD-06	GV2-LE06 GV2-L06
-	-	-	0.75	★	★	-	-	-	1.6	22.5	LR2-K0307 or LRD-06	GV2-LE06 GV2-L06
0.75	★	★	1.1	★	★	1.5	3	75	2.5	33.5	LR2-K0308	GV2-LE07
0.75	★	★	1.1	★	★	1.5	4	100	2.5	33.5	LRD-07	GV2-L07
1.1	★	★	-	-	-	-	-	-	2.5	33.5	LR2-K0308 or LRD-08	GV2-LE08 GV2-L08
1.5	★	★	1.5	★	★	3	3	75	4	51	LR2-K0310	GV2-LE08
1.5	★	★	1.5	★	★	3	4	100	4	51	LRD-08	GV2-L08
-	-	-	2.2	★	★	-	-	-	4	51	LR2-K0312 or LRD-08	GV2-LE08 GV2-L08
2.2	★	★	3	50	100	4	3	75	6.3	78	LR2-K0312	GV2-LE10
2.2	★	★	3	★	★	4	4	100	6.3	78	LRD-10	GV2-L10
3	★	★	4	10	100	5.5	3	75	10	138	LR2-K0314	GV2-LE14
3	★	★	4	10	100	5.5	4	100	10	138	LRD-12	GV2-L14
4	★	★	5.5	10	100	-	-	-	10	138	LR2-K0316 or LRD-14	GV2-LE14 GV2-L14
-	-	-	-	-	-	7.5	3	75	10	138	LRD-14	GV2-LE14
-	-	-	-	-	-	7.5	4	100	10	138	LRD-14	GV2-L14
-	-	-	-	-	-	9	3	75	14	170	LRD-16	GV2-LE16
-	-	-	-	-	-	9	4	100	14	170	LRD-16	GV2-L16
5.5	15	50	7.5	6	75	11	3	75	14	170	LR2-K0321	GV2-LE16
5.5	50	50	7.5	10	75	11	4	100	14	170	LRD-16	GV2-L16
7.5	15	50	9	6	75	15	3	75	18	223	LRD-21	GV2-LE20
7.5	50	50	9	10	75	15	4	100	18	223	LRD-21	GV2-L20
9	15	40	11	4	75	18.5	3	75	25	327	LRD-22	GV2-LE22
9	50	50	11	10	75	18.5	4	100	25	327	LRD-22	GV2-L22
11	15	40	15	4	75	-	-	-	25	327	LRD-22	GV2-LE22
11	50	50	15	10	75	-	-	-	25	327	LRD-22	GV2-L22
15	10	50	18.5	4	75	22	3	75	32	416	LRD-32	GV2-LE32
15	50	50	18.5	10	75	22	4	100	32	416	LRD-32	GV2-L32

H > 100 kA

(1) as % of Icu

Common accessories GV2 / GV3, see page 5/15



Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	trips	
kW	kA		kW	kA		kW	kA		A	
5,5	100	50	7,5	12	50	11	6	50	9...13	GV3-P13
7,5	100	50	11	12	50	15	6	50	12...18	GV3-P18
11	100	50	15	12	50	18,5	6	50	17...25	GV3-P25
15	100	50	18,5	12	50	22	6	50	23...32	GV3-P32
18,5	50	50	22	10	50	30	5	60	30...40	GV3-P40
22	50	50	30	10	50	37	5	60	37...50	GV3-P50
30	50	50	37	10	50	45	5	60	48...65	GV3-P65

(1) as % of Icu

Thermal-magnetic circuit-breakers GV3-P for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV3-P13** becomes **GV3-P136**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at the end of the reference. Example : GV3P65 becomes GV3P651

Magnetic 11...30 kW with EverLink terminal blocks



Magnetic circuit-breakers GV3-L for connection by EverLink terminal blocks (2)

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	Icu	Ics	P	Icu	Ics	P	Icu	Ics	overload	protection	
kW	kA		kW	kA		kW	kA		relay	Rating A	Reference
11	100	50	15	12	50	18,5	6	50	LRD-22	25	GV3-L25
15	100	50	18,5	12	50	22	6	50	LRD-32	32	GV3-L32
18,5	50	50	22	10	50	30	5	60	LRD-3355	40	GV3-L40
22	50	50	30	10	50	45	5	60	LRD-3357	50	GV3-L50
30	50	50	37	10	50	45	5	60	LRD-3359	65	GV3-L65

Magnetic circuit-breakers GV3-L for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV3-L25** becomes **GV3-L256**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at the end of the reference. Example : GV3L65 becomes GV3L651

(2) BTR screw of 4 mm

Add-on blocks and accessories ⁽³⁾

Add-on blocks (front)

Fault signalling contact + instantaneous auxiliary contact

Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Références (4)	GV-AED011	GV-AED101

Accessories

Type	for contactor for lug type terminals	IP20 cover for lug type terminals	Set of 3-pole 115 A busbars	2-pole busbars	"Wide spacing" UL 508 type E cover	Side by side mounting busbars
Références	LAD96575	LAD96570	GV3G364	GV36264	GV3G66	GV3S

(3) Common add-on blocks and accessories GV2 / GV3, see page 5/15

(4) For spring terminal version add 3 to the end of the reference. Example **GV-AED011** becomes **GV-AED0113**



Accessories GV2

Combination block

For mounting on	LC1-K or LP1-K	LC1-D09...D38	LAD-31 and LC1-D09...D38
	GV2-AF01	GV2-AF3	GV2-AF4

Sets of 3-pole busbars

63 A	Pitch	45 mm	54 mm	72 mm
Number of tap-offs	2	GV2-G245	GV2-G254	GV2-G272
	3	GV2-G345	GV2-G354	
	4	GV2-G445	GV2-G454	GV2-G472
	5		GV2-G554	

Protective end cover

For unused busbar outlets	GV1-G10
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Terminal blocks

For supply to one or more GV2-G busbar sets	connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)
	GV1-G09	GV1-G05

Padlockable external operator for GV2 and GV3 (150 to 290 mm)

Padlocking		In "On" and "Off" position	In "Off" position
Handle		black	red
Legend plate		blue	yellow
IP 54	For GV2-ME/P/L	GV2-AP01	GV2-AP02
	For GV2-LE	GV2-AP03	–
	For GV3-P/L	GV3-AP01	GV3-AP02

Add-on blocks common to GV2 / GV3

Contact blocks

Contact types	N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
Instantaneous auxiliary contacts						
Mounting	front	GV-AE1	GV-AE11	GV-AE20		
	LH side		GV-AN11	GV-AN20		
Fault signalling contact + instantaneous auxiliary contact						
	LH side	"F" fault			GV-AD1001	GV-AD1010
		"O" fault			GV-AD0101	GV-AD0110
Short-circuit signalling contact						
	LH side					GV-AM11

Electric trips

Undervoltage or shunt trips (1)			
Side mounting (1 block on RH side of circuit-breaker)		50 Hz	60 Hz
Voltage	24 V	GV-A•025	GV-A•026
	48 V	GV-A•055	GV-A•056
	100 V	GV-A•107	
	100...110 V		GV-A•107
	110...115 V	GV-A•115	GV-A•116
	120...127 V	GV-A•125	
	127 V		GV-A•115
	200 V	GV-A•207	
	200...220 V		GV-A•207
	220...240 V	GV-A•225	GV-A•226
	380...400 V	GV-A•385	GV-A•386
	415...440 V	GV-A•415	
	415 V		GV-A•416

Padlocking device

For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max	GV2-V03
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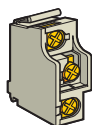


Thermal-magnetic circuit-breakers GV7-R for connection by screw clamp terminals

Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	trips	
kW	kA		kW	kA		kW	kA		A	
7.5	25	100	9	18	100	11	8	100	12...20	GV7-RE20
9	25	100	11	18	100	15	8	100		
7.5	70	100	9	50	100	11	10	100	12...20	GV7-RS20
9	70	100	11	50	100	15	10	100		
9	25	100	11	18	100	15	8	100	15...25	GV7-RE25
11	25	100	15	18	100	18.5	8	100		
9	70	100	11	50	100	15	10	100	15...25	GV7-RS25
11	70	50	15	50	100	18.5	10	100		
18.5	25	100	18.5	18	100	22	8	100	25...40	GV7-RE40
			22	18	100					
18.5	70	100	18.5	50	100	22	10	100	25...40	GV7-RS40
22	25	100	30	18	100	30	8	100	30...50	GV7-RE50
37	25	100	45	18	100	55	8	100	48...80	GV7-RE80
			55	18	100					
37	70	100	45	50	100	55	10	100	48...80	GV7-RS80
			55	50	100					
45	25	100	-	18	100	75	8	100	60...100	GV7-RE100
45	70	100	-	50	100	75	10	100	60...100	GV7-RS100
55	35	100	75	30	100	90	8	100	90...150	GV7-RE150
75	70	100	90	30	100	110	8	100		
55	70	100	75	50	100	90	10	100	90...150	GV7-RS150
75	70	100	90	50	100	110	10	100		
90	35	100	110	30	100	160	8	100	132...220	GV7-RE220
110	35	100	132	30	100	200	8	100		
			160	30	100					
90	70	100	110	50	100	160	10	100	132...220	GV7-RS220

(1) as % of Icu



Add-on blocks						
Contact blocks						
Auxiliary contacts						
Contact type		C/O				
		GV7-AE11				
Thermal or magnetic fault discrimination						
		⎓ 24...48 V or ⎓ 24...72 V		⎓ 110...240 V		
		GV7-AD111		GV7-AD112		
Electric trips						
Voltage	50/60 Hz	48 V	110... 130 V	200... 240 V	380...440 V	
	50 Hz					525 V
Undervoltage trip ⁽¹⁾		GV7-AU055	GV7-AU107	GV7-AU207	GV7-AU387	GV7-AU525
Shunt trip ⁽¹⁾		GV7-AS055	GV7-AS107	GV7-AS207	GV7-AS387	GV7-AS525

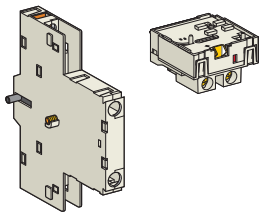
(1) For mounting of a GV7-AD or a GV7-AU or AS

Accessories				
Terminal shields IP 405				
Supplied with the sealing accessory		GV7-AC01		
Phase barriers				
Safety accessories		GV7-AC04		
used when fitting of shields is impossible				
Insulating screens				
Ensure insulation between		GV7-AC05		
the connections and the backplate				
Kit for combination with contactor				
Allowing link between the circuit-breaker and the contactor		LC1-F115 to F185	LC1-F225 and F26	LC1-D115 and D150
		GV7-AC06	GV7-AC07	GV7-AC08
Rotary handles				
Handle		black		red
Legend plate		black		yellow
■ direct	IP 40	GV7-AP03		GV7-AP04
■ extended	IP 55	GV7-AP01		GV7-AP02
Conversion accessory				
for mounting on enclosure door		IP 43	GV7-AP05	
Locking device				
For circuit-breaker not fitted with a rotary handle		GV7-V01		



Thermal-magnetic circuit-breakers GV3-ME for connection by screw clamp terminals										
Pushbutton control										
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	P	Icu	Ics ⁽¹⁾	trips	
kW	kA		kW	kA		kW	kA		A	
37	15	50	45	4	100	55	2	100	56...80	GV3-ME80

(1) as % of Icu

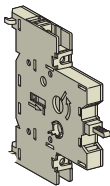


Add-on blocks for GV3-ME						
Contact blocks						
Instantaneous auxiliary contacts (1 per breaker)						
Normal early break type contacts	N/C + N/O	N/O + N/O	N/C + N/O + N/O	N/O + N/O + N/O	N/O + N/O ⁽¹⁾	N/C + N/O ⁽¹⁾
	GV3-A01	GV3-A02	GV3-A03	GV3-A05	GV3-A06	GV3-A07
Fault signalling contact						
Normal early break type contacts	N/C			N/O		
	GV3-A08			GV3-A09		
Electric trips						
Voltage	50 Hz	110, 120, 127 V		220, 240 V		380, 415 V
	60 Hz	120, 127 V		277 V		440, 480 V
Undervoltage trip		GV3-B11		GV3-B22		GV3-B38
Shunt trip		GV3-D11		GV3-D22		GV3-D38
Padlocking device						
Start button (for bare device)		GV1-V02				

(1) + 2 volt free terminals



Magnetic circuit-breakers GK3-EF for connection by screw clamp terminals											
Control by rotary knob											
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	Icu	Ics	P	Icu	Ics	P	Icu	Ics	min. size	protection	
kW	kA		kW	kA		kW	kA		relay	Rating A	Reference
37	35	25	45	15	30	-	-	-	LRD-3363	80	GK3-EF80



Add-on blocks for GK3					
Contact blocks					
Contact types	N/O	N/O + N/O	N/C + N/O	N/C	N/O
On-Off signalling contacts	GK2-AX10	GK2-AX20	GK2-AX50		
and "Control circuit test" function (1 or 2 blocks per device)					
mounted on RH side of GK3-EF					
Instantaneous fault signalling contacts	GK2-AX12	GK2-AX22	GK2-AX52		
(1 or 2 blocks per device) mounted on LH side of GK3-EF					
Fault signalling contact ⁽¹⁾				GV3-A08	GV3-A09

(1) 1 trip OR 1 fault signalling contact to be fitted inside the circuit-breaker.

Accessories	
Padlocking device	
for padlocking the operator, with up to 3 padlocks (padlocks not supplied)	GK3-AV01
External operator	
for mounting on enclosure door.	GK3-AP03
Red Ø 40 pushbutton on yellow plate, can be locked in	
position O by means of up to 3 padlocks with door locked in	
position I, and door locked in position O when padlocked	

TeSys DF

Fuse carriers
0.5...125 A



Type			Fuse carriers without indicator			
Rated operational voltage (Ui)			500 V	690 V		
Fuse size			8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81	DF101	DF141	DF221
		N	DF10N	DF10N	DF14N	DF22N
		1P+N	DF81N	DF10N	DF14N	DF22N
		2P	DF82	DF102	DF142	DF222
		3P	DF83	DF103	DF143C	DF223C
		3P+N	DF83N	DF103N	DF143NC	DF223NC



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Type			Fuse carriers with indicator			
Rated operational voltage (Ui)			500 V	690 V		
Fuse size			8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional rated thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81V	DF101V	DF141V	DF221V
		1P+N	DF81NV	DF10NV	DF14NV	DF22NV
		2P	DF82V	DF102V	DF142V	DF222V
		3P	DF83V	DF103V	DF143CV	DF223CV
		3P+N	DF83NV	DF103NV	DF143NCV	DF223NCV

Accessories

Type		Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped		DF14		DF22	
Size of cartridge fuse or link		14 x 51 mm		22 x 58 mm	
Number of contacts		1	2	1	2
References		DF14AM1	DF14AM2	DF22AM1	DF22AM2

Type		Fuse carrier assembly kits			
Fuse carrier to be assembled		DF8	DF10	DF14	DF22
Size of cartridge fuse or link		8,5 x 31,5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Kit contents		1 pin, 2 clips		1 pin, 3 clips	
References		DF10AP		DF14AP	DF22AP



Fuse carriers				
Rated operational voltage with links, a.c. supply	690 V	690 V	690 V	690 V
Maximum continuous current for ambient temperature ≤ 40° C				
with links	min cable Ø/le (mm²/A)	6/32 or 4/25 or 2.5/16	4/25 or 2.5/16	10/50 or 6/40
with aM fuses (mm²/A)		6/32 or 4/22 or 2.5/20	4/22 or 2.5/20	10/50 or 6/35
with gG fuses (mm²/A)		6/32 or 2.5/20 or 1.5/16	2.5/20 or 1.5/16	10/40 or 6/32
Conforming to standards	NF EN 60947-3	●	●	●
	IEC 947-3	●	●	●
Product certifications		BV, UR	-	-
Fuse carrier type	LS1-D32	LS1-D323	GK1-E•	GK1-F•



Basic blocks						
Connection						
Rating	25 A	32 A	50 A		125 A	
Cartridge fuse size	10 x 38	10 x 38	14 x 51		22 x 58	
■ by spring terminals						
Number of early break contacts	-					
Single-phase protection device	Without	Without	Without	With	Without	With
3-pole	LS1-D323					
■ by screw clamp terminals or connectors						
Number of early break contacts	-	-	1		1	
3-pole		LS1-D32	GK1-EK	GK1-EV	GK1-FK	GK1-FV
4-pole		LS1-D32 + LA8-D324	GK1-EM	GK1-EY	GK1-FM	GK1-FY
Number of early break contacts			2		2	
3-pole			GK1-ES	GK1-EW	GK1-FS	GK1-FW
4-pole			GK1-ET	GK1-EX	GK1-FT	GK1-FX



Operators						
Handles	side			front		
Number of poles, 3 or 4						
For fuse carrier rating	125 A			32, 50, 125 A		
For mounting on	RH side		LH side			
	GK1-AP07		GK1-AP08	Fitted as standard		
external						
For fuse carrier rating	32 A	50 A		125 A		
For mounting on	RH or LH side		RH side	LH side	RH side	LH side
	DK1-FB005	GK1-AP05	GK1-AP06	GK1-AP07	GK1-AP08	

Padlocking devices					
For fuse carrier rating	32 A	50 A			
Number of poles	3 or 4	3		4	
Single-phase protection device	Without	Without	With	Without	With
	Integral	GK1-AV07	GK1-AV08	GK1-AV08	GK1-AV09

Links			
Tubular links			
Number of poles, 3 or 4			
For fuse carrier rating	32 A	50 A	125 A
Reference	DK1-CB92 ⁽¹⁾	DK1-EB92 ⁽²⁾	DK1-FA92 ⁽²⁾

(1) For use on a neutral circuit, the tubular link can be interlocked with special device LA8-D25906.

(2) 4-pole fuse carriers GK1-50 and 125 A 4 are fitted with an interlocked neutral tubular link as standard.

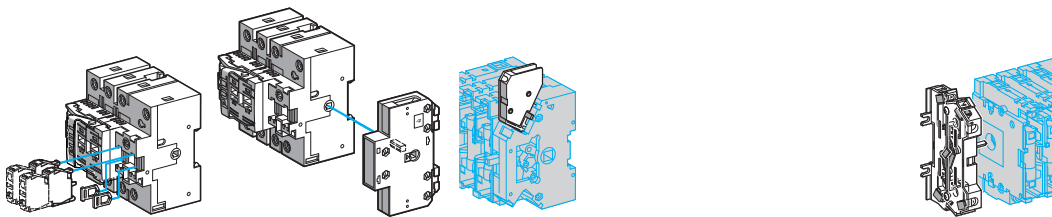
Add-on blocks				
Contact blocks				
For use on	LS1-D32		LS1-D323	
Contact type	N/O + N/C	N/O + N/O	N/O + N/C	N/O + N/O
Instantaneous auxiliary contacts				
Mounting	front			
	GV-AE11	GV-AE20	GV-AE113	GV-AE203



Switch-disconnector-fuse switch bodies for use with NF C or DIN fuses										
Number of poles	3		3 + N ⁽¹⁾	3	4	3	4	3	4	3
Switch rating	32 A			50 A		63 A		100 A		125 A
Fuse size	10 x 38			14 x 51		00C ⁽²⁾		22 x 58		22 x 58
Type of operator:										
■ internal or external	RH or LH side and front		GS1-DD3	GS1-DD4						
	RH side				GS1-FD3	GS1-FD4	GS1-GD3	GS1-GD4	GS1-JD3	GS1-JD4
■ external	LH side				GS1-FG3	GS1-FG4	GS1-GG3	GS1-GG4	GS1-JG3	GS1-JG4
	front				GS1-F3	GS1-F4	GS1-G3	GS1-G4	GS1-J3	GS1-J4
■ internal and external	front									
for use with BS fuses										
Switch rating	32 A			63 A		100 A		160 A		
Fuse size	A1			A2-A3		A4 Ø ≤ 31 mm		A4		B1-B2
Type of operator:										
■ internal or external	RH or LH side and front		GS1-DDB3	GS1-DDB4						
■ RH side					GS1-GBR3	GS1-GBR4	GS1-JBR3	GS1-JBR4	GS1-LLBR3	GS1-LLBR4
■ external	front									
■ internal and external	front		GS1-DB3	GS1-DB4	GS1-GB3	GS1-GB4	GS1-JB3	GS1-JB4	GS1-LLB3	GS1-LLB4

(1) N = Switched Neutral
(2) Fuses for German market

Auxiliary “blown fuse” signalling contacts for use with NF C or DIN fuses							
Contact type	1 st C/O						
Switch rating	50 A			100 and 125 A		160 A	
Fuse size	14 x 51			22 x 58		T0	
Number of poles	3	4		3	4	3	4
	GS1-AF13	GS1-AF14		GS1-AF23	GS1-AF24	GS1-AF33	GS1-AF34



Auxiliary early break and/or signalling contacts										
Switch rating	32 A				50...400 A		630...1250 A		50...400 V	
Contact type	1 N/O	1 N/C	1 C/O	2 C/O	1 C/O	2 C/O	1 C/O	2 C/O	1 N/C + 1 N/O	2 N/C + 2 N/O
Standard contacts	GS1-AM110	GS1-AM101	GS1-AM111	GS1-AM211	GS1-AM1	GS1-AM2	GS1-AM3	GS1-AM4	GS1-AN11	GS1-AN22
Contacts with test facility									GS1-ANT11	GS1-ANT22



4	3	4	3	4	3	4	3	4	3	4	3	4	3	4
			160 A				250 A		400 A		630 A		1250 A	
	Size 00		Size 0			Size 00		Size 1		Size 2		Size 3		Size 4
GS1-KD4	GS1-KKD3	GS1-KKD4	GS1-LD3	GS1-LD4	GS1-LLD3	GS1-LLD4	GS1-ND3	GS1-ND4	GS1-QQD3	GS1-QQD4	GS1-SD3	GS1-SD4	GS1-VD3	GS1-VD4
GS1-KG4	GS1-KKG3	GS1-KKG4	GS1-LG3	GS1-LG4	GS1-LLG3	GS1-LLG4	GS1-NG3	GS1-NG4	GS1-QQG3	GS1-QQG4				
GS1-K4	GS1-KK3	GS1-KK4	GS1-L3	GS1-L4	GS1-LL3	GS1-LL4	GS1-N3	GS1-N4	GS1-QQ3	GS1-QQ4				
											GS1-S3	GS1-S4	GS1-V3	GS1-V4
	200 A		250 A			315 A		400 V		630 A		800 A		1250 A
	B1-B2		B1...B3			B1...B3		B1...B4		C1-C2		C1...C3		D1
GS1-LBR4	GS1-MMBR3	GS1-MMBR4	GS1-NBR3	GS1-NBR4	GS1-PPBR3	GS1-PPBR4	GS1-QQBR3	GS1-QQBR4	GS1-SBR3	GS1-SBR4	GS1-TBR3	GS1-TRB4	GS1-VRB3	GS1-VRB4
GS1-LB4	GS1-MMB3	GS1-MMB4	GS1-NB3	GS1-NB4	GS1-PPB3	GS1-PPB4	GS1-QQB3	GS1-QQB4						
									GS1-SB3	GS1-SB4	GS1-TB3	GS1-TB4	GS1-VB3	GS1-VB4

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250 and 400 A						630 A			
T1 and T2						T3			
3	4	3	4	3	4	3	4	3	4
GS1-AF43	GS1-AF44	GS1-AF63	GS1-AF64	GS1-AF73	GS1-AF74	GS1-AF	GS1-AF	GS1-AFF	GS1-AFF



Thermal overload relays, TeSys K

adjustable from 0.11 to 12 A

Connection by screw clamp terminals, direct mounting on contactors LC1-K, manual or automatic reset

Relay setting range	Fuses to be used with selected relay			Reference
Class 10 A	aM	gG	BS88	
0.11...0.16 A	0.25 A	0.5 A	-	LR2-K0301
0.16...0.23 A	0.25 A	0.5 A	-	LR2-K0302
0.23...0.36 A	0.5 A	1 A	-	LR2-K0303
0.36...0.54 A	1 A	1.6 A	-	LR2-K0304
0.54...0.8 A	1 A	2 A	-	LR2-K0305
0.8...1.2 A	2 A	4 A	6 A	LR2-K0306
1.2...1.8 A	2 A	6 A	6 A	LR2-K0307
1.8...2.6 A	2 A	6 A	10 A	LR2-K0308
2.6...3.7 A	4 A	10 A	16 A	LR2-K0310
3.7...5.5 A	6 A	16 A	16 A	LR2-K0312
5.5...8 A	8 A	20 A	20 A	LR2-K0314
8...11.5 A	10 A	25 A	20 A	LR2-K0316

Thermal overload relays for use on class 10 A unbalanced loads: for above references LR2-K0305 to LR2-K0316 only, replace the prefix LR2 with LR7.

Example LR7-K0310.

Accessories

Prewiring kit

Allowing direct connection of the N/C contact of relay LRD-01...35 or LR3-D01... D35 to the contactor	For use on	
	LC1-D09...D18	LAD-7C1
	LC1-D25...D38	LAD-7C2

Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200)	LRD-01...35 and LR3-D01...D35	LAD-7B10
or screw fixing	LRD-3***, LR3-D3***, LRD-35**	LA7-D3064 ⁽²⁾
For independent mounting of the relay	LR2-K****	LA7-K0064

EverLink Terminal blocks

Separate terminal block	LRD-313... LRD-365	LAD-9R3
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Terminal block adapter

For mounting a relay beneath an LC1-D115 or D150 contactor	LRD-3***, LR3-D3***, LRD-35**	LA7-D3058
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Stop or electrical reset

Remote ⁽³⁾	LRD-01...35 and LR3-D01...D35	LAD-703* ⁽⁴⁾
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Tripping or electrical reset device

Remote ⁽³⁾	All relays except LRD-01...35 and LR3-D01...D35	LA7-D03* ⁽⁴⁾
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(1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open "ready-to-tighten" position.

(2) To order a terminal block for connection by lug-clamps, the reference becomes LA7-D30646.

(3) The time for which the coil of remote tripping or electrical resetting device LA7-D03 or LAD-703 can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time 200 ms.

(4) Reference to be completed by adding the code indicating the control circuit voltage.

Standard control circuit voltages

~ supply

Volts	12	24	48	96	110	220/230	380/400	415/440
50/60 Hz. Consumption, inrush and sealed < 100 VA	-	B	E	-	F	M	Q	N

--- supply

Consumption, inrush and sealed < 100 W	J	B	E	DD	F	M	-	-
--	---	---	---	----	---	---	---	---



Thermal overload relays, TeSys D

adjustable from 0.1 to 140 A

Compensated relays with manual or automatic reset, with relay trip indicator, for a.c. or d.c.

Relay setting range		Fuses to be used with selected relay			With contactor	Reference
Connection by screw clamp terminals or connectors		aM	gG	BS88		
Class 10 A	0.10...0.16 A	0.25 A	2 A	-	LC1-D09...D38	LRD 01
	0.16...0.25 A	0.5 A	2 A	-	LC1-D09...D38	LRD 02
	0.25...0.40 A	1 A	2 A	-	LC1-D09...D38	LRD 03
	0.40...0.63 A	1 A	1.6 A	-	LC1-D09...D38	LRD 04
	0.63...1 A	2 A	4 A	-	LC1-D09...D38	LRD 05
	1...1.7 A	2 A	4 A	6 A	LC1-D09...D38	LRD 06
	1.6...2.5 A	4 A	6 A	10 A	LC1-D09...D38	LRD 07
	2.5...4 A	6 A	10 A	16 A	LC1-D09...D38	LRD 08
	4...6 A	8 A	16 A	16 A	LC1-D09...D38	LRD 10
	5.5...8 A	12 A	20 A	20 A	LC1-D09...D38	LRD 12
	7...10 A	12 A	20 A	20 A	LC1-D09...D38	LRD 14
	9...13 A	16 A	25 A	25 A	LC1-D12...D38	LRD 16
	12...18 A	20 A	35 A	32 A	LC1-D18...D38	LRD 21
	16...24 A	25 A	50 A	50 A	LC1-D25...D38	LRD 22
	23...32 A	40 A	63 A	63 A	LC1-D25...D38	LRD 32
	30...38 A	50 A	80 A	80 A	LC1-D32 et D38	LRD 35
	55...70 A	80 A	125 A	125 A	D50...D95	LRD 3361
	63...80 A	80 A	125 A	125 A	D65...D95	LRD 3363
	80...104 A	100 A	160 A	160 A	D80 et D95	LRD 3365
	80...104 A	125 A	200 A	160 A	D115 et D150	LRD 4365
	95...120 A	125 A	200 A	200 A	D115 et D150	LRD 4367
	110...140 A	160 A	250 A	200 A	D150	LRD 4369
	80...104 A	100 A	160 A	160 A	Montage séparé	LRD 33656
	95...120 A	125 A	200 A	200 A	Montage séparé	LRD 33676
	110...140 A	160 A	250 A	200 A	Montage séparé	LRD 33696
Class 20	6 A	10 A	16 A		LC1-D09...D32	LRD 1508
	4...6 A	8 A	16 A	16 A	LC1-D09...D32	LRD 1510
	5.5...8 A	12 A	20 A	20 A	LC1-D09...D32	LRD 1512
	7...10 A	16 A	20 A	25 A	LC1-D09...D32	LRD 1514
	9...13 A	16 A	25 A	25 A	LC1-D12...D32	LRD 1516
	12...18 A	25 A	35 A	40 A	LC1-D18...D32	LRD 1521
	17...25 A	32 A	50 A	50 A	LC1-D25 et D32	LRD 1522
	23...28 A	40 A	63 A	63 A	LC1-D25 et D32	LRD 1530
	25...32 A	40 A	63 A	63 A	LC1-D25 et D32	LRD 1532
	55...70 A	100 A	125 A	125 A	D65...D95	LR2 D3561
	63...80 A	100 A	160 A	125 A	D80 et D95	LR2 D3563
Connection by EverLink terminal blocks, with BTR screws						
Class 10 A	9...13 A	16 A	25 A	25 A	LC1-D40A...D65A	LRD 313 (1)
	12...18 A	20 A	32 A	35 A	LC1-D40A...D65A	LRD 318 (1)
	17...25 A	25 A	50 A	50 A	LC1-D40A...D65A	LRD 325 (1)
	23...32 A	40 A	63 A	63 A	LC1-D40A...D65A	LRD 332 (1)
	30...40 A	40 A	80 A	80 A	LC1-D40A...D65A	LRD 340 (1)
	37...50 A	63 A	100 A	100 A	LC1-D40A...D65A	LRD 350 (1)
	48...65 A	63 A	100 A	100 A	LC1-D40A...D65A	LRD 365 (1)
Class 20	9...13 A	20 A	32 A	35 A	LC1-D40A...D65A	LRD 313L (1)
	12...18 A	25 A	40 A	40 A	LC1-D40A...D65A	LRD 318L (1)
	17...25 A	32 A	50 A	50 A	LC1-D40A...D65A	LRD 325L (1)
	23...32 A	40 A	63 A	63 A	LC1-D40A...D65A	LRD 332L (1)
	30...40 A	50 A	80 A	80 A	LC1-D40A...D65A	LRD 340L (1)
	37...50 A	63 A	100 A	100 A	LC1-D40A...D65A	LRD 350L (1)
	48...65 A	80 A	125 A	125 A	LC1-D40A...D65A	LRD 365L (1)

Class 10A with connection by lug-clamps:

Select overload relay with screw clamp terminals or connectors from the table above and add one of following suffixes:

■ figure 6 for relays LRD01 to LRD35 and LRD313 to LRD365.

■ figure A66 for relays LRD3361 to LRD3365.

Relays LRD43 are suitable as standard, for use with lug-clamps

(1) Independant mounting on a DIN rail, order an EverLink LAD96560 terminal block.

Thermal overload relays for use with unbalanced loads Class 10A

with connection by screw clamp terminals and lug-clamp terminals:

In the reference selected above, change LRD (except LRD 4●●●) by LR3D

Example: LRD01 becomes LR3D01

Example with screw clamp terminal: LRD340 becomes LR3D340

Example with lug-clamp terminal: LRD3406 becomes LR3D3406



For use with contactor	LC1-D	LC1-F
Motor current	60...150 A	30...630 A
Basic reference, to be completed	LR9-D	LR9-F

Relay setting range	Fuse to be used with selected relay		For mounting beneath contactor LC1-	Compensated and differential		or not with alarm Class 10 or 20
	aM	gG		Class 10	Class 20	
60...100	100	160	D115 and D150	LR9-D5367	LR9-D5567	
90...150	160	250	D115 and D150	LR9-D5369	LR9-F5569	
30...50	50	80	F115...F185	LR9-F5357	LR9-F5557	LR9-F57
48...80	80	125	F115...F185	LR9-F5363	LR9-F5563	LR9-F63
60...100	100	200	F115...F185	LR9-F5367	LR9-F5567	LR9-F67
90...150	160	250	F115...F185	LR9-F5369	LR9-F5569	LR9-F69
132...220	250	315	F185...F400	LR9-F5371	LR9-F5571	LR9-F71
200...330	400	500	F225...F500	LR9-F7375	LR9-F7575	LR9-F75
300...500	500	800	F225...F500	LR9-F7379	LR9-F7579	LR9-F79
380...630	630	800	F400...F630 and F800	LR9-F7381	LR9-F7581	LR9-F81

Accessories		
Remote control		
Function	Reset	Stop and/or Reset
Electrical reset ⁽¹⁾	LA7-D03• ⁽²⁾	
Reset by flexible cable (length 0.5 m)	LA7-D305	
Adapter for door interlock mechanism		LA7-D1020
Operating head for pushbutton		
Spring return	ZA2-BL639	ZA2-BL432
Rod with snap-off end		
Adjustable from 17 to 120 mm	ZA2-BZ13	
Insulated terminal blocks		
For relays LR9-F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69	Set of 2 blocks	
	LA9-F103	

(1) The time for which the coil of remote electrical reset device LA7-D03 can remain energised depends on its rest time: 1 s pulse with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time: maximum pulse duration 20 s with rest time of 300 s. Minimum pulse time: 200 ms.

(2) Reference to be completed by adding the coil voltage code, see page 5/27



Relay type		Electronic over current relays			
		TeSys LR97D			
Relay setting range		0,3...1,5 A	1,2...7 A	5...25 A	20...38 A
For use with contactor		LC1D09...D38		LC1D25...D38	
References	200... 240 VAC	LR97D015M7	LR97D07M7	LR97D025M7	LR97D038M7
	100... 120 VAC	LR97D015F7	LR97D07F7	LR97D025F7	LR97D038F7
	24 VAC/DC	LR97D015B	LR97D07B	LR97D025B	LR97D038B
	48 VAC/DC	LR97D015E	LR97D07E	LR97D025E	LR97D038E

0,5...60 A



Relay type		Electronic over current relays		
		TeSys LT47 with manual reset		
Relay setting range		0,5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7S	LT47D30M7S	LT4760M7S
	100... 120 VAC	LT47D06F7S	LT47D30F7S	LT4760F7S
	24 VAC/DC	LT47D06BS	LT47D30BS	LT4760BS
	48 VAC/DC	LT47D06ES	LT47D30ES	LT4760ES

5



Relay type		Electronic over current relays		
		TeSys LT47 with automatic reset		
Relay setting range		0,5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7A	LT47D30M7A	LT4760M7A
	100... 120 VAC	LT47D06F7A	LT47D30F7A	LT4760F7A
	24 VAC/DC	LT47D06BA	LT47D30BA	LT4760BA
	48 VAC/DC	LT47D06EA	LT47D30EA	LT4760EA

Accessories : please consult your Schneider Electric agency.

TeSys T

Motor management system

Controllers



Type of fieldbus			Modbus		Profibus DP	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08MBD	LTMR08MFM	LTMR08PBD	LTMR08PFM
		1.35...27 A	LTMR27MBD	LTMR27MFM	LTMR27PBD	LTMR27PFM
		5...100 A	LTMR100MBD	LTMR100MFM	LTMR100PBD	LTMR100PFM



Type of fieldbus			CANopen		DeviceNet	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08CBD	LTMR08CFM	LTMR08DBD	LTMR08DFM
		1.35...27 A	LTMR27CBD	LTMR27CFM	LTMR27DBD	LTMR27DFM
		5...100 A	LTMR100CBD	LTMR100CFM	LTMR100DBD	LTMR100DFM

Extension module



Type of module		Extension 4 additional inputs + voltage measuring		Ethernet external port Modbus RTU / Modbus TCP/IP
Inputs voltage		24 VDC	100...240 VAC	24 VDC
References		LTMEV40BD	LTMEV40FM	TCSEQM113M13M

Operator dialogue terminal and software



Type of terminal		Compact display	Configuration software
Description		4 lines of 20 characters	For Windows 98, 2000, XP
Supply voltage		24 VDC	—
References		XBTN410	XBTL1000

TeSys T

Motor management system

Current transformers



Type of transformer		External			
Operational current	primary	100 A	200 A	400 A	800 A
	secondary	1 A			
References		LT6CT1001	LT6CT2001	LT6CT4001	LT6CT8001

Earth fault toroids

Type of toroid	Closed						Split	
Maximum current	65 A	85 A	160 A	250 A	400 A	630 A	85 A	250 A
Internal diameter	Ø 30	Ø 50	Ø 80	Ø 120	Ø 200	Ø 300	Ø 46	Ø 110
References	TA30	PA50	IA80	MA120	SA200	GA300	POA	GOA

PTC thermistor probe

Type of probe	Triple							
Operating temperature	90°C	110°C	120°C	130°C	140°C	150°C	160°C	170°C
References	DA1TT090	DA1TT110	DA1TT120	DA1TT130	DA1TT140	DA1TT150	DA1TT160	DA1TT170

5

Accessories (1)



Type of accessory	Connecting cable Controller / Extension module		
Length of cable	0.04 m	0.3 m	1 m
References	LTMCC004	LU9R03	LU9R10



Type of accessory	Connecting cable Controller / Display	Connection kit PC serial port
Length of cable	2.5 m	–
References	XBTZ938	VW3A8106

(1) For other connection accessories, see www.schneider-electric.com



For use with contactor	LC1-D or LC1-F	LC1-D or LC1-F
Motor current	No limit	1...5 A
Basic reference, to be completed	LT3-S	LT6-P0M0-5FM

3-pole multifunction protection relays

Operational current	A	0.2...1. 1...5	5...25
		LT6-P0M005FM	LT6-P0M025FM

Protection units with automatic reset with thermistor short-circuit detection without fault memory

Connection	Voltage	Output contact	Reference
by cage connectors	~ 50/60 Hz	N/C	LT3-SE00F
	230 V	N/C	LT3-SE00M
	24 V	N/C	LT3-SE00F
On front panel: fault and voltage signalling indicator			
~ 50/60 Hz	115/230 V	N/C + N/O	LT3-SA00M
---	24/48 V	N/C + N/O	LT3-SA00ED
~ 50/60 Hz or ---	24...230 V	2 C/O	LT3-SA00MW

with fault memory

On front panel: fault and voltage signalling indicator, Test and Reset button

~ 50/60 Hz	400 V	N/C + N/O	LT3-SM00V
	24/48 V	N/C + N/O	LT3-SM00E
	115/230 V	N/C + N/O	LT3-SM00M
---	24/48 V	N/C + N/O	LT3-SM00ED
~ 50/60 Hz1 or ---	24...230 V	2 C/O	LT3-SM00MW

Accessories

PTC thermistor probes for LT3 and LT6 relays

Normal operating temperature (NOT)	90 °C	110 °C	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
Integrated triple probes	DA1-TT090	DA1-TT110	DA1-TT120	DA1-TT130	DA1-TT140	DA1-TT150	DA1-TT160	DA1-TT170
Normal operating temperature (NOT)		60 °C	70 °C	80 °C	90 °C	100 °C		
Surface probes	DA1-TS060	DA1-TS070	DA1-TS080	DA1-TS090	DA1-TS100			

Configuration software for LT6 relays

Languages: English, French, German, Italian, Spanish	Kit ⁽¹⁾	Diskette
For use with all relay sizes LA9-P620	LA9-P621	

Current transformers for LT6 relays

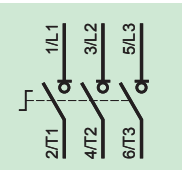
Operational current	primary	100 A	400 A	800 A
	secondary	1 A	1 A	1 A
		LT6-CT1001	LT6-CT4001	LT6-CT8001

(1) Comprising 2 x 3" 1/2 diskettes, 1 x 2 m connection cable with 2 SUB-D 9-pin connectors (female-female)

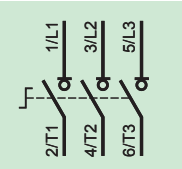
Vario

Protection components 12...175 A

Switch disconnectors



Type	Mini-Vario for standard applications		
	Mounting door		Backplate mounting in enclosure
Colour handle / Front plate	Red / Yellow	Black / Black	Red / Yellow
Front plate dimensions (mm)	60 x 60		60 x 60
Fixing	Ø 22.5 mm		Ø 22.5 mm
Degree of protection	IP 20		IP 20
Rated operational voltage (Ue)	690 V		690 V
Thermal current in open air (Ith)	12 A	VCDN12	VBDN12
	20 A	VCDN20	VBDN20



Type	Vario for high performance applications						Backplate mounting in enclosure		
	Mounting door								
Colour handle / Front plate	Red / Yellow	Black / Black	Red / Yellow	Black / Black	Red / Yellow	Red / Yellow			
Front plate dimensions (mm)	60 x 60	60 x 60	60 x 60	60 x 60	90 x 90	90 x 90	60 x 60	90 x 90	90 x 90
Fixing	Ø 22,5 mm		4 screws		4 screws	4 screws	Ø 22,5 mm	4 screws	4 screws
Degree of protection	IP 20		IP 20		IP 20	IP 20	IP 20	IP 20	IP 20
Rated operational voltage (Ue)	690 V		690 V		690 V	690 V	690 V	690 V	690 V
Thermal current in open air (Ith)	12 A	VCD02	VBD02	VCF02	VBF02	–	VCCD02	VCCF02	–
	20 A	VCD01	VBD01	VCF01	VBF01	–	VCCD01	VCCF01	–
	25 A	VCD0	VBD0	VCF0	VBF0	–	VCCD0	VCCF0	–
	32 A	VCD1	VBD1	VCF1	VBF1	–	VCCD1	VCCF1	–
	40 A	VCD2	VBD2	VCF2	VBF2	–	VCCD2	VCCF2	–
	63 A	–	–	VCF3	VBF3	–	–	VCCF3	–
	80 A	–	–	VCF4	VBF4	–	–	VCCF4	–
	125 A	–	–	–	–	VCF5	–	–	VCCF5
175 A	–	–	–	–	–	VCF6	–	–	VCCF6



Add-on modules		For mini-Vario		For Vario					
Main pole modules									
Rating		12 A	20 A	12 A	20 A	25 A	32 A	40 A	63 A
References		VZN12	VZN20	VZ02	VZ01	VZ0	VZ1	VZ2	VZ3
Neutral pole module with early make and late break contacts									
Rating		12...20 A		12...40 A		63 and 80 A		125 and 175 A	
References		VZN11		VZ11		VZ12		VZ13	
Earthing module									
References		VZN14		VZ14		VZ15		VZ16	
Auxiliary contact block modules									
Contact types		N/O	N/C	N/O + N/C		N/O + N/O			
References		VZN05	VZN06	VZ7		VZ20			



D.O.L. starters		with circuit-breaker		with fuse protection
Level of service	Coordination:	Type 1		Type 2
Power at 400 V	Up to:	5.5 kW	15 kW	37 kW
Type of components		Combination automatic motor starter with overload protection incorporated in the circuit-breaker		Fuse carrier + plate-mounted contactor
Basic reference, to be completed		GV2-ME	GV2-DM	GV2-DP
				LC4-D



Starters GV2-ME						Non-reversing	Reversing
Standard power ratings of 3-phase motors			Setting	Fixed	For customer assembly		Factory assembled
50/60 Hz in category AC-3 (kW)			range of thermal trips	magnetic tripping current	Motor circuit-breaker	Contactor	Basic reference, to be completed with code indicating control circuit voltage
400/415 V	440 V	500 V		13 Irth			
0.37	0.37	0.37	1...1.6	22.5	GV2-ME06	LC1-K06	GV2-ME06K1**
0.55	0.55	0.55					GV2-ME06K2**
-	-	0.75					
0.75	0.75	-	1.6...2.5	33.5	GV2-ME07	LC1-K06	GV2-ME07K1**
-	1.1	1.1					GV2-ME07K2**
1.1	-	1.5	2.5...4	51	GV2-ME08	LC1-K06	GV2-ME08K1**
1.5	1.5	2.2					GV2-ME08K2**
2.2	2.2	-	4...6.3	78	GV2-ME10	LC1-K06	GV2-ME10K1**
-	-	3					GV2-ME10K2**
3	-	4	6...10	138	GV2-ME14	LC1-K09	GV2-ME14K1**
4	4	5.5					GV2-ME14K2**
5.5	5.5	7.5	9...14	170	GV2-ME16	LC1-K12	GV2-ME16K1**
							GV2-ME16K2**

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)						
Volts	24	110	220/230	230	230/240	380/400
~ 50...400 Hz	B7	F7	M7	P7	U7	Q7
--- (1)	BW3	-	-	-	-	-

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) and with integral suppression device as standard.



D.O.L. starters GV2-DM and GV2-DP

					Non-reversing		Reversing
Standard power ratings of 3-phase motors			Setting	Fixed	For customer assembly		Factory assembled
50/60 Hz in category AC-3 (kW)			range of thermal trips	magnetic tripping current	Motor circuit-breaker	Contactor	Basic reference, to be completed with code indicating control circuit voltage
400/415 V	440 V	500 V		13 Irth			
0.06	0.06	-	0.16...0.25	2.4	GV2-ME02	LC1-D09**	GV2-DM102**
					GV2-P02	LC1-D09**	GV2-DP102**
0.09	0.09	-	0.25...0.40	5	GV2-ME03	LC1-D09**	GV2-DM103**
-	0.12	-			GV2-P03	LC1-D09**	GV2-DP103**
0.12	-	-	0.40...0.63	8	GV2-ME04	LC1-D09**	GV2-DM104**
0.18	0.18	-			GV2-P04	LC1-D09**	GV2-DP104**
0.25	0.25	-	0.63...1	13	GV2-ME05	LC1-D09**	GV2-DM105**
0.37	0.37	-			GV2-P05	LC1-D09**	GV2-DP105**
-	-	0.37	1...1.6	22.5	GV2-ME06	LC1-D09**	GV2-DM106**
0.55	0.55	0.55			GV2-P06	LC1-D09**	GV2-DP106**
-	-	0.75					
0.75	0.75	-	1.6...2.5	33.5	GV2-ME07	LC1-D09**	GV2-DM107**
-	1.1	1.1			GV2-P07	LC1-D09**	GV2-DP107**
1.1	-	1.5	2.5...4	51	GV2-ME08	LC1-D09**	GV2-DM108**
1.5	1.5	2.2			GV2-P08	LC1-D09**	GV2-DP108**
2.2	2.2	-	4...6.3	78	GV2-ME10	LC1-D09**	GV2-DM110**
-	3	3			GV2-P10	LC1-D09**	GV2-DP110**
3	-	4	6...10	138	GV2-ME14	LC1-D09**	GV2-DM114**
4	4	5.5			GV2-P14	LC1-D09**	GV2-DP114**
5.5	5.5	7.5	9...14	170	GV2-ME16	LC1-D12**	GV2-DM116**
-	7.5	9			GV2-P16	LC1-D25**	GV2-DP116**
7.5	9	-	13...18	223	GV2-ME20	LC1-D18**	GV2-DM120**
					GV2-P20	LC1-D25**	GV2-DP120**
9	11	11	17...23	327	GV2-ME21	LC1-D25**	GV2-DM121**
					GV2-P21	LC1-D25**	GV2-DP121**
11	-	15	20...25	327	GV2-ME22	LC1-D25**	GV2-DM122**
					GV2-P22	LC1-D25**	GV2-DP122**
15	15	18.5	24...32	416	GV2-ME32	LC1-D32**	GV2-DM132**
					GV2-P32	LC1-D32**	GV2-DP132**

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Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)

Volts	24	220	230
~ 50...400 Hz	B7	M7	P7
--- (1)	BD		-

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) with integral suppression device as standard.



=



+



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Standard control unit	
		Non-reversing	Reversing (1)	Class 10 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault.	0.09 kW	LUB12	LU2B12●●	LUCA6X●●	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCA1X●●	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCA05●●	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCA12●●	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCA18●●	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCA32●●	8...32 A

ADVANCED motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Advanced control unit		
		Non-reversing	Reversing (1)	Class 10 (2) (3)	Class 20 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault. - Thermal overload test function.	0.09 kW	LUB12	LU2B12●●	LUCB6X●●	LUCD6X●●	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCB1X●●	LUCD1X●●	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCB05●●	LUCD05●●	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCB12●●	LUCD12●●	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCB18●●	LUCD18●●	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCB32●●	LUCD32●●	8...32 A

(3) For single-phase-motors, replace LUCB●●●● by LUCC●●●●.

MULTIFUNCTION motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Multifunction control unit	
		Non-reversing	Reversing (1)	Class 5 to 30	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM..., PC or HMI, - Integrated Modbus communication.	0.09 kW	LUB12	LU2B12●●	LUCM6XB�	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCM1XB�	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCM05BŁ	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCM12BŁ	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCM18BŁ	4.5...18 A
	15 kW	LUB32	LU2B32●●	LUCM32BŁ	8...32 A

(1) Complete the references of the power bases according to the following table.

Example: LU2B12

●●

(2) Complete the references of the control units according to the following table.

Example: LUCA/B/D/M6X

●●

Standard control circuit voltages

24 V DC	BL
24 V AC	B
48 V AC / 48...72 V DC	ES
110...240 V AC / 110...220 V DC	FU



Type of optional function	Thermal overload alarm	Thermal fault signalling			Motor load indication
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCL	NO	NO	NO	NO	NO
Compatible with LUCB, LUCD	YES	YES	YES	YES	YES
Compatible with LUCM	NO	NO	NO	NO	YES
Output signal	1 NO	1 NO +1 NC	1 NC	1 NO	4...20 mA
Reset	NA	Manual	Automatic or remote		NA
References	LUFW10	LUFDH11	LUFDA01	LUFDA10	LUFV2

Communication modules



Type of communication	Modbus	Advantys STB	Profibus DP	CANopen	DeviceNet	AS-Interface	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	9,6...12 Mbps	20 K...1 Mbps	125...500 Kbaud	167 Kbps	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	125 per Profibus DP module	128 per CANopen module	63 per DeviceNet module	62 per AS-Interface master	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11C, LU9MRC	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●●	LU9RCD●●, LU9RDD●●	TSXPBSCA●●	TSXCANC●●	DeviceNet standard	XZCG0142	TSXCDP●●●
References	LUFC033	LULC15	LULC07	LULC08	LULC09	ASILUFC51	LUFC00

(1) Network Interface Module.

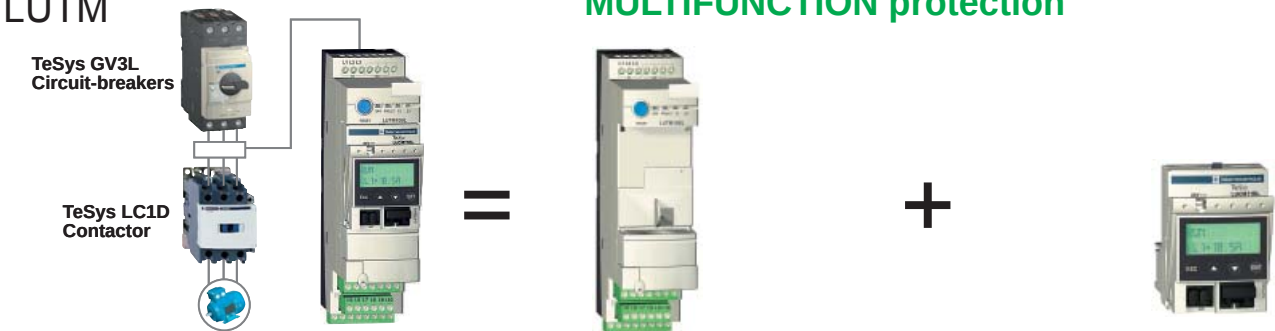
Information carried by the Modbus, Advantys STB or CANopen bus

Type of control unit	LUCA●●BL	LUCB●●BL, LUCD●●BL	LUCM●●BL
Start and Stop commands	X	X	X
Starter status (ready, running, fault)	X	X	X
Thermal alarm		X	X
Remote reset via the bus		X	X
Indication of motor load		X	X
Signalling and fault differentiation		X	X
Alarms (overcurrent, ...)			X
Remote programming and monitoring of all the functions			X
"Log" function			X
Monitoring function			X

Contact blocks



Type of contact block		Add-on		Auxiliary		
Signalling contacts	of any fault	NC (95-96)	NO (97-98)	–	–	–
	position of control handle	NO (17-18)	NO (17-18)	–	–	–
2 auxiliary contacts module		–	–	NO (33-34)	NC (31-32)	NC (31-32)
		–	–	NO (43-44)	NO (43-44)	NC (41-42)
References	Screw clamp terminals	LUA1C11	LUA1C20	LUFN20	LUFN11	LUFN02
	Without connections	LUA1C110	LUA1C200	–	–	–



Function characteristics	Control base for use with contactors		Multifunction control unit Class 5 to 35
	TeSys D (LC1D..)	TeSys F (LC1F..)	
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM..., PC or HMI, - Integrated Modbus communication.	LUTM10BL	LUTM20BL	LUCMT1BL

ADVANCED protection



Function characteristics	Control base for use with contactors		Advanced control unit	
	TeSys D (LC1D..)	TeSys F (LC1F..)	Class 10	Class 20
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault. - Thermal overload test function.	LUTM10BL	LUTM20BL	LUCBT1BL	LUCDT1BL

Current transformers

Type of transformer							
Supply voltage		24 V DC					
Operating current	Primary	30 A	50 A	100 A	200 A	400 A	800 A
	Secondary	1 A					
References		LUTC0301	LUTC0501	LUTC01001	LUTC02001	LUTC04001	LUTC05001

Above 32 A, the TeSys U controller provides a motor starter management system solution identical to that provided by the TeSys U starter-controller.

Used in conjunction with a short-circuit protection device and a contactor, it provides a motor starter whose functions are the same as those of a TeSys U starter-controller and, in particular, provides the following functions: overload protection, motor starter control and application monitoring.

It comprises a control unit, whose adjustment range is compatible with the secondary of current transformers, and a control base that also enables the fitting of a function module or communication module.

It requires a 24 V DC external power supply.



Type of optional function	Thermal overload alarm	Motor load indication
Compatible with LUCA	NO	NO
Compatible with LUCL	NO	NO
Compatible with LUCB, LUCD	YES	YES
Compatible with LUCM	NO	YES
Output signal	1 NO	4...20 mA
Reset	NA	NA
References	LUFW10	LUFV2

Communication modules



Type of communication	Modbus	Advantys STB	CANopen	DeviceNet	Parallele wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	20 K...1 Mbps	125...500 Kbaud	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	128 per CANopen module	63 per DeviceNet module	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●● LU9RDD●●	LU9RCD●●,	TSXCANC●●	DeviceNet standard	TSXCDP●●●
References	LUFC033	LULC15	LULC08	LULC09	LUFC00

Information carried by the Modbus, Advantys STB or CANopen bus		
Type of control unit	LUCBT1BL, LUCDT1BL	LUCMT1BL
Start and Stop commands	X	X
Starter status (ready, running, fault)	X	X
Thermal alarm	X	X
Remote reset via the bus	X	X
Indication of motor load	X	X
Signalling and fault differentiation	X	X
Alarms (overcurrent, ...)		X
Remote programming and monitoring of all the functions		X
"Log" function		X
Monitoring function		X

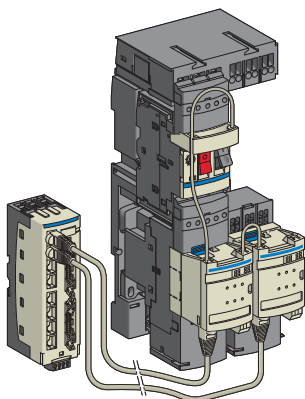


Starters

		D.O.L.				
		■ standard				
Standard power ratings of 3-phase motors in category AC3 400/415 V		4...37 kW	0.06...37 kW	0.55...30 kW	0.37...5.5 kW	0.25...45 kW
Starters	manual	●	●	●	-	-
	auto	-	-	-	●	●
Isolating device	switch-disconnector-fuse	●	-	-	-	-
	circuit-breaker	-	●	●	●	-
	fuse carrier	-	-	-	-	-
Protection	short-circuit	-	●	●	●	-
	overload	-	●	-	●	●
Communication		-	-	-	-	-
Basic reference	Non reversing	V•F	GV2-ME	GV2-LC	LE1-GVME	LE1-M
		VCFN	GV3-PC	GV-NGC		LE1-D
		V•FX	GV3-CE			
	Reversing					LE2-K
						LE2-D



2 stage							
	■ safety applications			■ AS-i bus		standard star-delta	
	2.2...45 kW	0.06...11 kW	0.06...9 kW	0.06...9 kW	0.06...5.5 kW	5.5...132 kW	7.5...75 kW
	-	●	-	-	-	-	-
	●	-	●	●	●	●	●
	-	-	●	-	-	-	-
	-	●	●	●	●	-	-
	●	-	-	-	-	-	●
	●	●	●	●	●	-	●
	●	●	●	●	●	●	●
	-	-	-	-	●	-	-
LE4-K		GV2-ME	LG1-K	LG7-K	LF1-M	LE3-K	LE6-D
LE4-D			LG1-D	LG7-D	LF1-P	LE3-D	LE3-D
				LJ7-K	LF7-P	LE3-F	
LE8-K				LG8-K	LF2-M		
LE8-D				LJ8-K	LF2-P		
LE2-D					LF8-P		



TeSys Quickfit is a modular system which standardises and simplifies the implementation of motor starters with its pre-wired control and power circuits.

Installation of a motor starter becomes quick, simple, safe and flexible.

In addition, this system:

- enables the motor starter to be customised at a later date,
- reduces maintenance time and
- optimises panel space by reducing the number of terminals and intermediate interfaces and the amount of ducting.

The motor starters concerned are those created by combining:

- GV2 ME or GV3 P circuit-breakers, with an operating limit of 80% of the maximum current at an ambient temperature of 60 °C, up to 690 V
- with 9 to 65 A TeSys D (LC1) contactors.

This offer comprises components for pre-wiring

- the power part,
- the control part.

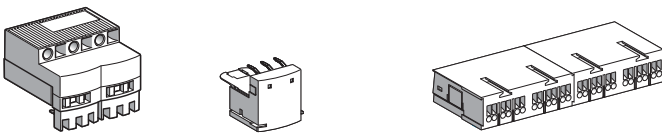
Components for pre-wiring the power part

- a **power kit** comprising, for each starter, a plate for mounting the contactor and the circuit-breaker, and two power connection modules,
- a **power splitter box** for 2 or 4 starters,
- an **upstream terminal block** for a power supply up to 60 A (16 mm²),
- a **downstream terminal block** for connecting the motor power supply cables and the earth cables (6 mm²).

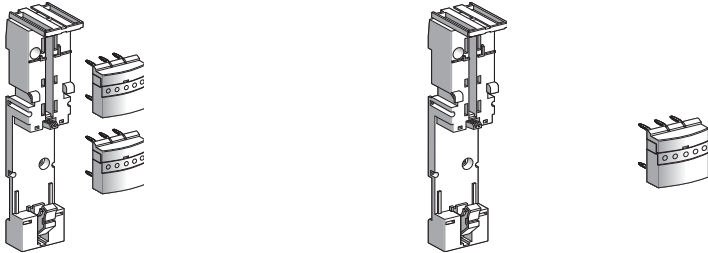
Components for pre-wiring the control part

- a **control circuit connection module** that mounts directly on the contactor and the circuit-breaker of each starter. This module integrates the status and control information of this particular motor starter.
- a **parallel wiring module** enabling grouping of the information relating to each motor starter:
 - **HE 10**, intended for centralised applications. The information is transmitted to the PLC via the Advantys Telefast pre-wired system.
 - **STB**, intended for decentralised automation architectures. This module is integrated in an Advantys STB configuration for connection to the PLC via a fieldbus.

9...25 A power pre-wiring components



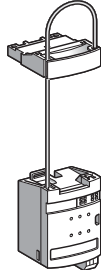
Type	Terminal block		60 A power splitter box	
	Upstream	Downstream	Extension by LAD32●	
Maximum c.s.a. of connection	16 mm ²	6 mm ²	–	–
Use	Splitter boxes supply	Motor cables	–	–
Number of starters	–	–	2	4
Reference	LAD3B1	LAD331	LAD322	LAD324



Type	Connection kit	Mounting plate for	Power connection
	For D.O.L. starter (1)	GV2 ME & contactor	module
Composition	1 mounting plate LAD311 for GV2ME 2 power connection modules LAD341	For 1 motor starter	
Reference	LAD252	LAD311	LAD341

(1) For a reversing starter order 2 connection kits LAD252

Control-command pre-wiring components



Type	Connection module			
TeSys D coil voltage	12...250 V AC or 5...130 V DC		24 V DC	
Type of coil control relay	Electronic		Without relay	
Type of motor starter	Direct	Reversing	Direct	Reversing
Reference	LAD9AP31	LAD9AP32	LAD9AP3D1	LAD9AP3D2

Type	24 V DC parallel wiring module	
	Splitter box	Advantys STB parallel interface module
PLC/motor starter side connectors	2 x HE10/8 x RJ45	–/4 x RJ45
Reference	LU9G02	STBEPI2145

5

Accessories

Type	Connecting cables			
	(1)	From splitter box LU9G02 to the PLC		
Connectors	2 x RJ45	2 HE10	Bare wires and HE10	
Gauge / c.s.a.	–	22 / 0.324 mm ²	28 / 0.080 mm ²	22 / 0.324 mm ²
Reference	L = 0.3 m	LU9R03	–	–
	0.5 m	–	TSXCDP053	–
	1 m	LU9R10	TSXCDP103	ABFH20H100
	2 m	–	TSXCDP203	ABFH20H200
	3 m	LU9R30	TSXCDP303	ABFH20H300
	5 m	–	TSXCDP503	TSXCDP301

(1) From connection module LAD9AP3● to splitter box LU9G02 or module STBEPI2145

Type	Connectors		Connecting cable
	Spring terminals	Self-stripping	
Use	External contact, auxiliary power supply		Between communication module APP1C● and splitter box LU9GG02
Reference	APE1PRE21	APE1PAD21	APP2AH40H060

Components Lighting applications (AC5)

Sodium vapour lamps															
low pressure															
	Non corrected							With parallel compensation							
P (W)	3-	55	90	135	150	180	200	35	55	90	135	150	180	200	
IB (A)	1.2	1.6	2.4	3.1	3.2	3.3	3.4	0.3	0.4	0.6	0.9	1	1.2	1.3	
C (μF)	-	-	-	-	-	-	-	17	17	25	36	36	36	36	LC1-
Max. number of lamps	6	5	3	2	2	2	2	-	-	-	-	-	-	-	K09
accordint to P (W), per contactor	10	7	5	3	3	3	3	40	30	-	-	-	-	-	D09, D12
	12	9	6	4	4	4	4	50	37	25	-	-	-	-	D18
	15	11	7	6	5	5	5	63	47	31	21	19	15	14	D25
	21	16	10	8	8	7	7	86	65	43	28	26	21	20	D32, D38
	27	20	13	10	10	10	9	110	82	55	36	33	27	25	D40
	35	26	17	13	13	12	12	140	105	70	46	42	35	32	D50, D65
	50	37	25	19	18	18	17	200	150	100	66	60	50	46	D80, D95
	100	75	50	38	36	36	34	400	300	200	132	120	100	92	D115, D150
	140	104	70	54	52	50	48	560	420	280	186	168	140	128	F185
	152	114	76	58	56	54	54	606	454	302	202	182	152	140	F225
	174	130	88	68	66	64	62	700	524	350	232	210	174	162	F265
	198	148	98	76	74	72	70	792	594	396	264	238	198	182	F330
	250	188	124	96	94	90	88	1002	752	502	334	300	250	252	F400
	338	254	168	130	126	122	118	1352	1014	676	450	406	338	312	F500
	496	372	248	192	186	180	174	1982	1488	992	660	594	496	458	F600, F800
high pressure															
P (W)	150	250	400	700	1000			150	250	400	700	1000			
IB (A)	1.9	3.2	5	8.8	12.4			0.84	1.4	2.2	3.9	5.5			
C (μF)	-	-	-	-	-			20	32	48	96	120			LC1-
Max. number of lamps	4	2	1	-	-			-	-	-	-	-			K09
accordint to P (W), per contactor	6	3	2	1	-			-	-	-	-	-			D09, D12
	7	4	3	1	1			17	-	-	-	-			D18
	10	5	3	2	1			22	13	8	-	-			D25
	13	8	5	2	2			30	18	11	6	-			D32, D38
	17	10	6	3	2			39	23	15	8	6			D40
	22	13	8	4	3			50	30	19	10	7			D50, D65
	31	18	12	6	4			71	42	27	15	10			D80, D95
	62	36	24	12	8			142	84	54	30	20			D115, D150
	88	52	34	18	14			200	120	76	42	30			F185
	96	56	36	20	16			216	130	82	46	32			F225
	110	66	42	24	18			250	150	94	54	38			F265
	124	74	48	26	20			282	170	108	60	42			F330
	158	94	60	34	24			358	214	136	76	54			F400
	214	126	80	46	32			482	290	184	104	74			F500
	312	186	118	68	48			708	424	270	152	108			F630, F800
Metal iodine vapour lamps															
P (W)	250	400	1000	2000				250	400	1000	2000				
IB (A)	2.5	3.6	9.5	20				1.4	2	5.3	11.2				
C (μF)	-	-	-	-				32	32	64	140				LC1-
Max. number of lamps	3	2	-	-				-	-	-	-				K09
accordint to P (W), per contactor	4	3	1	-				-	-	-	-				D09, D12
	6	4	1	-				-	-	-	-				D18
	7	5	2	-				13	9	-	-				D25
	10	7	2	1				18	13	4	-				D32, D38
	13	9	3	1				23	16	6	-				D40
	16	11	4	2				30	21	7	-				D50, D65
	24	16	6	3				42	30	11	5				D80, D95
	48	32	12	6				84	60	22	10				D115, D150
	66	46	18	8				120	84	32	14				F185
	72	50	20	10				130	90	34	16				F225
	84	58	22	12				150	104	40	18				F265
	94	66	24	14				170	118	44	20				F330
	120	84	32	16				214	150	56	26				F400
	162	112	42	20				290	202	76	36				F500
	238	164	62	30				424	298	112	52				F630, F800

Incandescent and halogen lamps

P (W)	60	75	100	150	200	300	500	750	1000		
IB (A)	0.27	0.34	0.45	0.68	0.91	1.40	2.30	3.40	4.60		LC1-
Max. number of lamps	35	28	21	14	10	6	4	2	2		K09
accordint to P (W), per contactor	59	47	35	23	17	11	7	4	3		D09, D12
	77	61	46	30	23	15	9	6	4		D18
	92	73	55	36	27	18	11	7	5		D25
	129	103	77	51	38	25	15	10	7		D32, D38
	163	129	97	64	48	31	19	13	9		D40
	207	164	124	82	62	40	24	16	12		D50, D65
	296	235	177	117	88	57	34	23	17		D80, D95
	430	340	256	170	126	82	50	34	24		D115
	466	370	280	184	138	90	54	36	26		D150
	710	564	426	282	210	136	82	56	40		F185
	770	610	462	304	228	148	90	60	44		F225
	888	704	532	352	262	170	104	70	52		F265
	1006	800	604	400	298	194	118	80	58		F330
	1274	1010	764	504	378	244	148	100	74		F400
	1718	1364	1030	682	508	330	200	136	100		F500
	2328	1850	1396	924	690	448	272	184	136		F600
	2776	2204	1666	1102	824	534	326	220	162		F800

Fluorescent lamps with starter

single fitting											
	Non-corrected					With parallel correction					
P (W)	20	40	65	80	110	20	40	65	80	110	
IB (A)	0.39	0.45	0.70	0.80	1.2	0.17	0.26	0.42	0.52	0.72	
C (μF)	-	-	-	-	-	5	5	7	7	16	LC1-
Max. number of lamps	24	21	13	12	8	56	36	22	18	-	K09
accordint to P (W), per contactor	41	35	22	20	13	94	61	38	30	22	D09, D12
	53	46	30	26	17	123	80	50	40	29	D18
	66	57	37	32	21	152	100	61	50	36	D25
	89	77	50	43	29	205	134	83	67	48	D32, D38
	112	97	62	55	36	258	169	104	84	61	D40
	143	124	80	70	46	329	215	133	107	77	D50, D65
	205	177	114	100	66	470	367	190	153	111	D80, D95
	410	354	228	200	132	940	614	380	306	222	D115, D150
	492	426	274	240	160	1128	738	456	368	266	F185
	532	462	296	260	172	1224	800	490	400	288	F225
	614	532	342	300	200	1412	922	570	462	332	F265
	696	604	388	340	226	1600	1046	648	522	378	F330
	882	764	490	430	286	2024	1322	818	662	478	F400
	1190	1030	662	580	386	2728	1724	1104	892	644	F500
	1612	1398	698	786	524	3700	2418	1498	1210	874	F630, F800
twin fitting											
P (W)	2x20	2x40	2x65	2x80	2x110	2x20	2x40	2x65	2x80	2x110	
IB (A)	2x0.22	2x0.41	2x0.67	2x0.82	2x1.1	2x0.13	2x0.24	2x0.39	2x0.48	2x0.65	LC1-
Max. number of lamps	2x21	2x11	2x7	2x5	2x4	2x36	2x20	2x12	2x10	2x7	K09
accordint to P (W), per contactor	2x36	2x18	2x10	2x8	2x6	2x60	2x32	2x20	2x16	2x12	D09, D12
	2x46	2x24	2x14	2x12	2x8	2x80	2x42	2x26	2x20	2x16	D18
	2x58	2x30	2x18	2x14	2x10	2x100	2x54	2x32	2x26	2x20	D25
	2x78	2x42	2x26	2x20	2x14	2x134	2x72	2x44	2x36	2x26	D32, D38
	2x100	2x52	2x32	2x26	2x18	2x168	2x90	2x56	2x44	2x32	D40
	2x126	2x68	2x40	2x34	2x24	2x214	2x116	2x70	2x58	2x42	D50, D65
	2x180	2x96	2x58	2x48	2x36	2x306	2x166	2x102	2x82	2x60	D80, D95
	2x360	2x194	2x118	2x96	2x72	2x614	2x332	2x204	2x166	2x122	D115, D150
	2x436	2x234	2x142	2x116	2x86	2x738	2x400	2x246	2x200	2x148	F185
	2x472	2x254	2x154	2x126	2x94	2x800	2x432	2x266	2x216	2x160	F225
	2x544	2x292	2x178	2x146	2x108	2x922	2x500	2x308	2x250	2x184	F265
	2x618	2x332	2x202	2x166	2x124	2x1046	2x566	2x348	2x282	2x208	F330
	2x782	2x420	2x256	2x210	2x156	2x1322	2x716	2x440	2x358	2x264	F400
	2x1054	2x566	2x346	2x282	2x210	2x1784	2x966	2x594	2x482	2x356	F500
	2x1430	2x766	2x468	2x384	2x286	2x2418	2x1310	2x806	2x654	2x484	F630, F800

Components

Capacitor switching

0...1000 kVAR

On-load capacitor switching for bar-mounted contactors, a.c. control circuit								
Rated operational voltage (V)	Without damping resistor				With damping resistor			
	Number of poles	Max. operational current (A)		Basic reference, to be completed	Number of poles	Max. operational current (A)		Basic reference, to be completed
		50 Hz	180 Hz			50 Hz	180 Hz	
1300	1	80	60	CE5-FB11•11	1 + 1 staggered pole	80	60	CE6-FB12•11
		160	125	CE5-GB11•11		160	125	CE6-GB12•11
		240	190	CE5-HB11•11		240	190	CE6-HB12•11
	2	80x2	60x2	CE5-FB21•11	2 + 2 staggered poles			
		160x2	125x2	CE5-GB21•11				
		240x2	190x2	CE5-HB21•11		240x2	190x2	CE6-HB22•11
1500	3	80x3	60x3	CE5-FB31•11	1 + 2 staggered poles			
		160x3	125x3	CE5-GB31•11				
		240x3	190x3	CE5-HB31•11				
	2 poles in series	160	125	CE5-GB12•11		160	125	CE6-GB13•11
		280	220	CE5-HB12•11		280	220	CE6-HB13•11
	2 x 2 poles in series	280x2	220x2	CE5-HB22•11				
2000	2 poles in series	240	190	CS5-HB12•11	1 + 2 staggered poles	240	190	CS6-HB13•11
	2 x 2 poles in series	240x2	190x2	CS5-HB22•11				
3000	3 poles in series	280	220	CS5-HB13•11	1 + 3 staggered poles	280	220	CS6-HB14•11

Standard control circuit voltages												
~ supply												
Volts	110	125	127	200	220	240	250	380	415	440	500	
50 Hz (coil LX1)	F	-	G	L	M	U	-	Q	N	R	S	



Maximum operational power of contactors

standard contactors

Operational power at 50/60 Hz

	$\theta \geq 40\text{ }^{\circ}\text{C}$			$\theta \geq 55\text{ }^{\circ}\text{C}$			Peak current	Contactor
	220 V	400 V	600 V	220 V	400 V	600 V		size
	240 V	440 V	690 V	240 V	440 V	690 V		
	kVAR	kVAR	kVAR	kVAR	kVAR	kVAR	A	
6	11	15	15	6	11	15	560	LC1-D09, D12
9	15	20	20	9	15	20	850	LC1-D18
11	20	25	25	11	20	25	1600	LC1-D25
14	25	30	30	14	25	30	1900	LC1-D32, D38
17	30	37	37	17	30	37	2160	LC1-D40A
22	40	50	50	22	40	50	2160	LC1-D50A
22	40	50	50	22	40	50	3040	LC1-D65A
35	60	75	75	35	60	75	3040	LC1-D80, D95
50	90	125	125	38	75	80	3100	LC1-D115
60	110	135	135	40	85	90	3300	LC1-D150
70	125	160	160	50	100	100	3500	LC1-F185
80	140	190	190	60	110	110	4000	LC1-F225
90	160	225	225	75	125	125	5000	LC1-F265
100	190	275	275	85	140	165	6500	LC1-F330
125	220	300	300	100	160	200	8000	LC1-F400
180	300	400	400	125	220	300	10000	LC1-F500
250	400	600	600	190	350	500	12000	LC1-F630
250	400	600	600	190	350	500	14200	LC1-F800
200	350	500	500	180	350	500	25000	LC1-BL
300	550	650	650	250	500	600	25000	LC1-BM
500	8350	950	950	400	750	750	25000	LC1-BP
600	1100	1300	1300	500	1000	1000	25000	LC1-BR

special contactors

Operational power at 50/60 Hz

	$\theta \geq 55\text{ }^{\circ}\text{C}$			Instantaneous auxiliary contacts		Tightening torque on cable end	Basic reference, to be completed
	220 V	400 V	660 V				
	240 V	440 V	690 V				
	kVAR	kVAR	kVAR	N/O	N/C	N.m	
6.7	12.5	18	18	1	1	1.2	LC1-DFK11••
				-	2	1.2	LC1-DFK02••
8.5	16.7	24	24	1	1	1.7	LC1-DGK11••
				-	2	1.7	LC1-DGK02••
10	20	30	30	1	1	1.9	LC1-DLK11••
				-	2	1.9	LC1-DLK02••
15	25	36	36	1	1	2.5	LC1-DMK11••
				-	2	2.5	LC1-DMK02••
20	33.3	48	48	1	2	5	LC1-DPK12••
25	40	58	58	1	2	5	LC1-DTK12••
40	60	92	92	1	2	9	LC1-DWK12••

Standard control circuit voltages

~ supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz (coil LX1)	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7



Maximum operational current (device in open air)

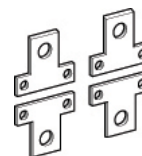
Contactors			LC1-/LP1-K09	LC1-/LP1-K12	LC1-D09	LC1-DT20	LC1-D12	LC1-D18	LC1-D25	LC1-D32	LC1-D38	LC1-D40A
■ 3-pole												
■ 4-pole												
LC2- changeover contactor pairs, factory assembled				K09004	K12004		DT20	DT25	DT32	DT40		DT60A
Operational current in AC-1, in A,	≤ 40° C	A	20	20	25	20	25	32	40	50	50	60
according to ambient temperature	≤ 60° C	A	20	20	25	20	25	32	40	50	50	60
	≤ 70° C											
Maximum operational	220/230 V	kW	8	8	9	8	9	11	14	18	18	21
power ≤ 60° C	240 V	kW	8	8	9	8	9	12	15	19	19	23
	380/400 V	kW	14	14	15	14	15	20	25	31	31	37
	415 V	kW	14	14	17	14	17	21	27	34	34	41
	440 V	kW	15	15	18	15	18	23	29	36	36	43
	500 V	kW	17	17	20	17	20	23	33	41	41	49
	660/690 V	kW	22	22	27	22	27	34	43	54	54	65

5

Increase in operational current by parallel connection of poles

Apply the following coefficients to the currents or powers above;
these coefficients take into account an often unbalanced distribution
of current between the poles:

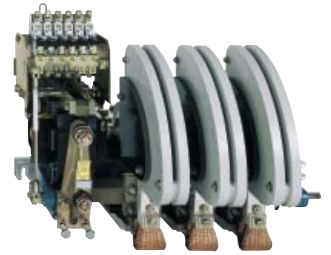
- 2 poles in parallel K = 1.6
- 3 poles in parallel K = 2.25
- 4 poles in parallel K = 2.8



Connection accessories for heating applications

Paralleling links for:			Reference
■ TeSys K	2 poles	with screw clamp terminals	LA9-E01
	4 poles	with screw clamp terminals	LA9-E02
■ TeSys D	2 poles	D09...D38	LA9-D2561
		DT20 and DT25 (4P)	LA9-D1261
		DT32...DT40 (4P)	LAD-D96061
		D40A...D65A	LAD-9P32
	3 poles	D80	LA9-D80961
		D09...D38	LAD-9P3 ⁽¹⁾
		D40A...D65A	LAD-9P33
■ TeSys F	4 poles	D80	LA9-D80962
		DT20...DT25	LA9-D1263
		D40A...D65A	2 x LAD-9P33
		D80	LA9-D80963
	2 to 2	LC1-F1154	LA9-FF602
		LC1-F1504, F1854	LA9-FG602
		LC1-F2254, F2654, F3304, F4004	LA9-FH602
		LC1-F5004	LA9-FK602
		LC1-F6304	LA9-FL602

(1) Link that can be split, allowing parallel connection of 2 poles



	LC1- D50A	LC1- D65A	LC1- D80	LC1- D115	LC1- F185	LC1- F225	LC1- F265	LC1- F330	LC1- F400	LC1- F500	LC1- F630	LC1- F780	LC1- F800	LC1- BL	LC1- BM	LC1- BP	LC1- BR
		DT80A	D80004	D115004	F1854	F2254	F2654										
	80	80	125	250	275	315	350	400	500	700	1000	1600	1000	800	1250	2000	2750
	80	80	125	200	275	280	300	360	430	580	850	1350	850	700	1100	1750	2400
					180	200	250	290	340	500	700	1100	700	600	900	1500	2000
	29	29	45	80	90	100	120	145	170	240	350	550	350	300	425	700	1000
	31	31	49	83	100	110	125	160	180	255	370	570	370	330	450	800	1100
	50	50	78	135	165	175	210	250	300	430	600	950	600	500	800	1200	1600
	54	54	85	140	170	185	220	260	310	445	630	1000	630	525	825	1250	1700
	58	58	90	150	180	200	230	290	330	370	670	1050	670	550	850	1400	2000
	65	65	102	170	200	220	270	320	380	660	750	1200	750	600	900	1500	2100
	86	86	135	235	280	300	370	400	530	740	1000	1650	1000	800	1100	1900	2700

Mounting accessories for changeover contactor pairs

(for customer assembly)

Contactor type	Set of power connections	Mechanical interlock	Contactor type	Set of power connections	Mechanical interlock
2 contactors, vertically mounted					
■ 4-pole changeover pairs with locking device components					
LC1-B		EZ2-LB0601			
2 identical contactors, horizontally mounted					
■ with electrical interlocking kit for the contactors					
LC1-DT20...DT40	LAD-T9R1V ⁽¹⁾				
■ mechanical interlock with integral electrical interlocking					
LP1-D80004	LA9-D8070	LA9-D8002	LC1-D115004	LA9-D11570	LA9-D11502
■ without electrical interlocking ⁽²⁾					
LC1-DT20...DT32	LAD-T9R1 ⁽²⁾		LC1-DT40 and DT60	LAD-T9R2 ⁽²⁾	
LP1-D80004	LA9-D8070	LA9-D80978			
2 contactors of identical rating, horizontally mounted					
■ 4-pole changeover pairs					
LC1-F1154	LA9-FF977	LA9-FF970	LC1-F1504	LA9-F15077	LA9-FF970
LC1-F1854	LA9-FG977	LA9-FG970	LC1-F2254	LA9-F22577	LA9-FG970
LC1-F2654	LA9-FH977	LA9-FJ970	LC1-F3304	LA9-FJ977	LA9-FJ970
LC1-F4004	LA9-FJ977	LA9-FJ970	LC1-F5004	LA9-FK977	LA9-FJ970
LC1-F6304	LA9-FL977	LA9-FL970			
■ 3-pole changeover pairs with electrical interlocking					
LC1-D115 and D150	LA9-D11571	LA9-D11502			
reversers assembled using 2 contactors, vertically mounted					
■ 4-pole changeover pairs using contactors of identical rating ⁽³⁾					
LC1-F1154 or F1505	(3)	LA9-FF4F	At bottom	At top	
LC1-F1854	(3)	LA9-FG4G	LC1-F115 or F1154	LC1-F185 or F1854	LA9-FG4F
LC1-F2254	(3)	LA9-FG4G	or LC1-F150 or F1504	LC1-F225 or F2254	LA9-FG4F
LC1-F2654 or F3304	(3)	LA9-FH4H		LC1-F265 or F2654	LA9-FH4F
LC1-F4004	(3)	LA9-FJ4J		LC1-F300 or F3304	LA9-FH4F
LC1-F5004	(3)	LA9-FK4K		LC1-F400 or F4004	LA9-FJ4F
LC1-F6304	(3)	LA9-FL4L		LC1-F500 or F5004	LA9-FK4F
LC1-F7804	(4)	LA9-FX971 ⁽⁴⁾		LC1-F630, F6304 or F800	LA9-FL4F
			LC1-F185 or F1854	LC1-F265 or F2654	LA9-FH4G
			or LC1-F225 or F2254	LC1-F330 or F3304	LA9-FH4G
				LC1-F400 or F4004	LA9-FJ4G
				LC1-F500 or F5004	LA9-FK4G
				LC1-F630, F6304 or F800	LA9-FL4G
			LC1-F265 or F2654	LC1-F400 or F4004	LA9-FJ4H
			or LC1-F330 or F3304	LC1-F500 or F5004	LA9-FK4H
				LC1-F630, F6304 or F800	LA9-FL4H
			LC1-F400 or F4004	LC1-F500 or F5004	LA9-FK4J
				LC1-F630, F6304 or F800	LA9-FL4J
			LC1-F500 or F5004	LC1-F630, F6304 or F800	LA9-FL4K

(1) Including mechanical interlock, (2) Order separately 2 auxiliary contact blocks LAD-N*1 to obtain electrical interlocking between the two contactors, (3) Power connections to be made by the customer. (4) Double mechanical interlock mechanism with 2 interlock connecting rods and 4 power connecting links.

Power Supplies & Transformers

Universal Power Supplies



single/three phase
100-500 V 72 W-960 W

Performance and service for your automated systems

A new generation of regulated switch mode power supplies for single and three-phase networks delivering 3 A to 40 A.

Their extremely wide operating range and their integration of a large number of new functions make them the new reference in universal power supply.

Optimum, Modular Power Supplies

Simple and compact

Designed for simple applications and machines, optimum and modular power supplies are primarily appreciated for their highly compact size.



single phase
100-240 V 7 W-145 W

Dedicated Power Supplies



single phase
100-240 V 60 W-240 W

Tailor-made for your repetitive machines...

Designed for simple and repetitive commercial machines, a range of competitive high quality dedicated power supplies.

Contents

- Modular, Optimum, Universal Power supplies
Phaseo ABL7, ABL8 6/2 to 6/5
- Dedicated, Filtered Rectified Power supplies
Phaseo ABL7, ABL8 6/6
- Transformers
Phaseo ABL6, ABT7 6/7

Discover 6/2 and 6/3 pages the fonction modules to answer for the different problemes as network cut, 24 VDC circuit overlaod and availability

Filtered Rectified Power Supplies

Ruggedness serving your applications

Filtered rectified models are used for supply of circuits not requiring output voltage regulation, such as: solenoid valves, contactors, etc.

Their simple and proven technology enables them to offer greatly extended working life.



*single/three phase
230-400 V / 12 W-1440 W*

Transformers

A response to each requirement

3 transformer ranges: the high performance Universal range with double windings and innovative product design, the Optimum range, a generation of proven products with single winding and the Economy range for repetitive automated systems.



*single phase
230-400 V 25 VA-2500 VA*

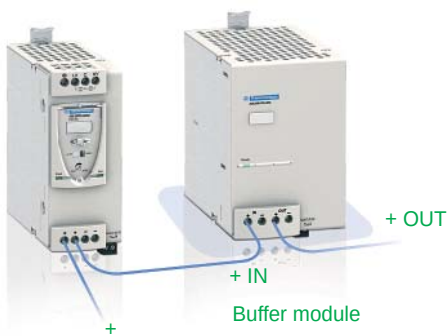
More service...

Network cuts

Network voltage interrupts create equipment operating irregularity that can result in production losses and even require maintenance team intervention for restarting.

Buffer module solution

(Microcuts < few secondes)



Phaseo universal solutions can:

- Render microcuts «transparent» for equipment
- Enable equipment stop with necessary data backup, so allowing restart without problems at return of network voltage.

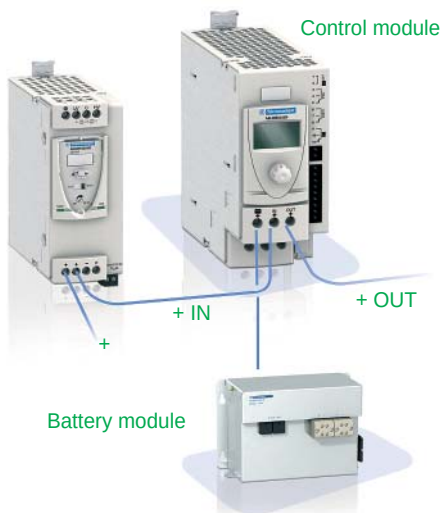
Simple and efficient

- No setting required
- Diagnostic relay contact (module charge state)
- Standard and backup circuit separation possible.



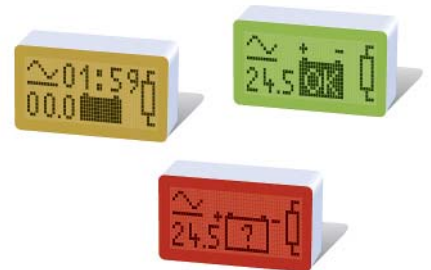
Battery backup solution

(Cuts > few secondes)



Total confidence

- Battery state automatic test
- Advanced and user-friendly diagnostics:
 - **Power supply** operation
 - **Battery** operation
 - **Fault** presence.

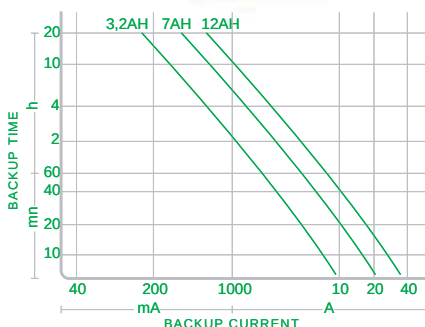


Flexible and adaptable

- 2 current supply modules are available:
 - Backup until complete battery discharge (battery is however disconnected before overdischarge)
 - Backup for an adjustable time period, keeping energy in reserve in case of a closely following cut.

Quick installation

- Copy of configuration between 2 modules using memory cartridge
- Quick configuration of battery control module by a single selector switch and display pictograms.



24 VDC circuit overload

Protection of circuits supplied in DC low voltage has traditionally been by fuses or electromechanical circuit-breakers. In certain cases (notably short-circuits) this protection is not sufficiently selective, and electronic protection of the power supply suspends low voltage supply before downstream protections can react.

The Phaseo solution is a 4-starter electronic protection module, dedicated to ABL 8R/W Universal power supplies.

Each of these starters is adjustable from 1 to 10 A.

High-performance solution ensuring service continuity

- Selectivity enabling isolation of fault circuits only
- Advanced diagnostics by LED and relay contact
- Manual opening of each circuit by switch
- Lead-sealed settings.

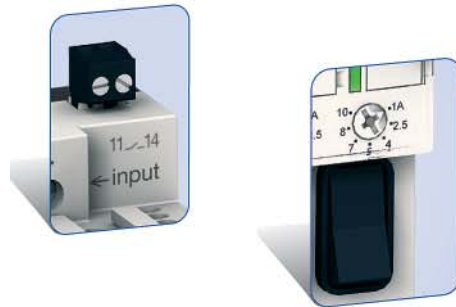
Minimised stock levels

- 1 product reference each covering 1 to 10 A.

Starter protection solution



Protection module



Availability

On certain equipment, the consequences of a 24 V control voltage breakdown can be extremely detrimental and can justify paralleling 2 or more power supplies to maintain faultless operating continuity.

The Phaseo solution consists of coupling 2 universal power supplies with an electronic redundancy module.

The primaries of these power supplies can be on the same or on different networks.

Redundancy solution



Redundancy module

Service continuity in total confidence

- Advanced diagnostics by LED
- C/O contact enables signalling of fault in one of the 2 power supplies and alerts maintenance.



Phaseo

Power supplies
Modular, Optimum, Universal,



Type of power supply	Modular, regulated switch mode with automatic reset					
Rated input voltage	100...240 VAC					
Rated output voltage	24 V				5 V	12 V
Rated power / Rated current	7.5 W / 0.3 A	15 W / 0.6 A	30 W / 1.2 A	60 W / 2.5 A	20 W / 4 A	25 W / 2 A
Reset	Auto					
Conformity to IEC 61000-3-2	Without					
Certifications	cULus, cCSAus, TUV, CE, C-Tick					
Dimensions (mm)	36x59x90		54x59x90	72x59x90	54x59x90	
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw					
References	ABL8MEM24003	ABL8MEM24006	ABL8MEM24012	ABL7RM24025	ABL8MEM05040	ABL8MEM12020



Type of power supply	Universal, regulated switch mode with automatic or manual reset		
Rated input voltage	100...120 VAC and 200...500 VAC		
Rated output voltage	24 V		
Rated power / Rated current	72 W / 3 A	120 W / 5 A	240 W / 10 A
Permissible temporary inrush current (boost)	1.5 In during 4 s		
Conformity to IEC 61000-3-2	Yes		
Diagnostic relay (output voltage > 21.6V)	No	Yes	
Certifications	UL (in progress), cCSAus, CB scheme, CE		
Dimensions (mm)	44x120x143	56x120x143	85x140x143
Fixing (mm)	DIN rail 35x7.5 or 35x15		
References	ABL8RPS24030	ABL8RPS24050	ABL8RPS24100



Type of module	Microcuts and cuts network solutions. Fixing Omega rail clip-in (1)		
Compatibility	Output connection of Universal power supplies ABL8RPS24... and ABL8WPS24...		
Technology	Buffer module	battery backup module + battery	
Rated voltage	40 A	20 A	40 A
Holding time 1A	2 s typique	adjustable from 10 s to 24 H (battery depending)	
Holding time for maximum current	100 ms typique	adjustable from 10 s to 30 mn (battery depending)	adjustable from 10 to 10 mn (battery depending)
Certifications	UL (in progress), cCSAus, CB scheme, CE		
Dimensions (mm)	85x140x146	86x175x143	86x175x143
Fixing (mm)	DIN rail 35x7.5 or 35x15 (1)		
References Control module	ABL8BUF24400	ABL8BBU24200	ABL8BBU24400
References battery	3,2AH (2)	ABL8BPK24A03	ABL8BPK24A03
	7AH (2)	ABL8BPK24A07	ABL8BPK24A07
	12AH (2)	ABL8BPK24A12	ABL8BPK24A12

(1) Battery module except 7AH and 12AH. For battery module 3.2AH with ABL1A02 kit.

(2) Battery to be chosen according to the graph page 6/2



	Optimums, regulated switch mode			
	100...240 VAC			
	24 V		12 V	48 V
	72 W / 3 A	120 W / 5 A	60 W / 5 A	144 W / 2.5 A
	Auto		Auto or manual	
	No		Yes	
	cULus, cCSAus, TUV, CE, C-Tick			
	27x120x120	54x120x120		
	DIN rail 75x7.5, 35x7.5 or 35x15			
	ABL8REM24030	ABL8REM24050	ABL7RP1205	ABL7RP4803



	Universal, regulated switch mode with automatic or manual reset			Type of module	Converters DC/DC			
	100...120 VAC and 200...240 VAC	3 x 380...500 VAC		Compatibility	Output connection of Universal power supplies ABL8RPS24... and ABL8WPS24...			
	24 V				Rated output voltage	5 V	12 V	
	480 W / 20 A	960 W / 40 A						
	1.5 In during 4 s				Rated output current	6 A	2 A	
	Yes							
	Yes				Certifications	UL (in progress), cCSAus, CB scheme, CE		
	UL (in progress), cCSAus, CB scheme, CE							
	145x140x143	95x155x143	165x155x143	Dimensions (mm)	44x140x146			
	DIN rail 35x7.5 or 35x15				Fixing (mm)	DIN rail 35x7.5 or 35x15		
	ABL8RPM24200	ABL8WPS24200	ABL8WPS24400	References	ABL8DCC05060	ABL8DCC12020		

6



Type of module	Redundancy power supplies solutions	Type of module	Starter protection solution
Compatibility	Connection of 2 power supplies inputs up to 20 A (1 power supply 40A)	Compatibility	Output connection of Universal power supplies ABL8RPS24... and ABL8WPS24...
Rated output voltage	24 V	Rated output current	10A par voie
Rated output current	40 A	Calibres	1 / 2.5 / 4 / 5 / 7 / 8 / 10 A
Certifications	UL (in progress), cCSAus, CB scheme, CE	Nombre de voies	4
Dimensions (mm)	44x140x146	Relais de défaut	Yes
Fixing (mm)	DIN rail 35x7.5 ou 35x15	Coupeur manuelle (1 par voie)	Two-pole
References	ABL8RED24400	Certifications	UL (in progress), cCSAus, CB scheme, CE
		Dimensions (mm)	71x109x110
		Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw
		References	ABL8PRP24100

Phaseo

Power supplies

Dedicated



Type of power supply		Dedicated, regulated switch mode					
Input voltage		85...264 VAC			85...132 VAC / 170...264 VAC		
Output voltage		12 VDC			24 VDC		
Power / rated current		60 W / 5 A	100 W / 8.3 A	60 W / 2.5 A	100 W / 4.2 A	150 W / 6.2 A	240 W / 10 A
Certifications		UL, c CSA us, CE, Ctick					
Dimensions WxDxH (mm)		150x38x98	200x38x98	150x38x98	200x38x98	200x50x98	200x65x98
Fixing (mm)		Panel mount by screw, by bracket ABL1A01 (1) , on DIN rail 35mm by panel ABL1A02 (1).					
References	Without filter	ABL1REM12050	–	ABL1REM24025	ABL1REM24042	ABL1REM24062	ABL1REM24100
	With filter (2)	–	ABL1RPM12083	–	ABL1RPM24042	ABL1RPM24062	ABL1RPM24100

(1) has to order separately.
(2) Anti harmonic IEC/EN 61000-3-2

Filtered rectified



6

Type of power supply		Filtered rectified single-phase or two-phase							
Input voltage		215/230/245 V or 385/400/415 VAC							
Rated output voltage		24 V							
Certifications		cULus, ENEC							
Rated power / Rated current		12 W / 0.5 A	24 W / 1 A	48 W / 2 A	96 W / 4 A	144 W / 6 A	240 W / 10 A	360 W / 15 A	480 W / 20 A
Dimensions (mm)		87x124x108	87x124x108	87x142x108	87x165x108	123x153x153	123x185x153	135x185x138	175x215x128
Fixing (mm)		DIN rail 35x7.5 or 35x15 or on panel mount by screw				On panel mount by screw			
References		ABL8FEQ24005	ABL8FEQ24010	ABL8FEQ24020	ABL8FEQ24040	ABL8FEQ24060	ABL8FEQ24100	ABL8FEQ24150	ABL8FEQ24200



Type of power supply		Filtered rectified three-phase				
Input voltage		3x 380 / 400 / 420 V				
Rated output voltage		24 V				
Certifications		cULus, ENEC				
Rated power / Rated current		240 W / 10 A	480 W / 20 A	720 W / 30 A	960 W / 40 A	1440 W / 60 A
Dimensions (mm)		185x190x78	220x215x104	240x252x108	310x310x140	310x310x154
Fixing (mm)		On panel mount by screw				
References		ABL8TEQ24100	ABL8TEQ24200	ABL8TEQ24300	ABL8TEQ24400	ABL8TEQ24600

Transformers



Type of transformer		Universal range, double winding operating temperature +60°C										
Rated input voltage		230/400 VAC (±15 V) 1-phase										
Certifications		cULus, ENEC										
Rated power / Rated current		25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA	630 VA	1000 VA	
Visualization		LED display of voltage presence at primary							Without			
Fixing (mm)		DIN rail 35x15 or on panel mount by screw					On panel mount by screw					
References		ABT7PDU***(1)										
	Rated output voltage	24/48 V	002B	004B	006B	010B	016B	025B	032B	040B	063B	100B
		115/230 V	002G	004G	006G	010G	016G	025G	032G	040G	063G	100G

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)



Type of transformer		Optimum range, single winding operating temperature +50°C									
Rated input voltage		230/400 VAC (±15 V) 1-phase									
Certifications		UL									
Nominal power		25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	400 VA	630 VA	1000 VA	
References		ABL6TS*** ⁽¹⁾									
Rated output voltage		24 V	02B	04B	06B	10B	16B	25B	40B	63B	100B
		115 V	02G	04G	06G	10G	16G	25G	40G	63G	100G
		230 V	02U	04U	06U	10U	16U	25U	40U	63U	100U

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)



Type of transformer		Economy range, single winding operating temperature +40°C							
Rated input voltage		230 VAC (±15 V) 1-phase							
Certifications		Without							
Rated power / Rated current		40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA	
References		ABT7ESM*** ⁽¹⁾							
Rated output voltage		24 V	004B	006B	010B	016B	025B	032B	040B

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)

Interfaces and I/Os

AB1 Terminals Blocks

3 connection technologies:

- Screw technology type AB1 VV
Rugged and reliable
- Spring technology type AB1 RRN
Quick and reliable
- Insulation displacement technology type AB1 AA
Quick and innovative



Advantys Telefast pre-wired system:

Simplify your cabling by replacing long and difficult cable runs incorporating traditional terminals by Telefast sub-bases.



Advantys Telefast ABE7 - IP 20



Advantys Telefast ABE9 - IP 67

Advantys AS-Interface cabling system:

Take the direct route for simplicity and security by connecting all the components of an automation system on the yellow cable.



Advantys OTB - IP 20



Advantys FTB - IP 67



Advantys STB - IP 20



Advantys FTM - IP 67

New

Modular system

Modicon Momentum distributed inputs/outputs:

Simplify machine architectures by connecting the sensors and actuators distributed throughout your machines via a fieldbus.



New

Contents

Connection

- Terminal blocks **AB1** 7/2
- Cable ends **DZ5/AZ5** 7/3
- Cabling accessories **XZ** for sensors/actuators, IP 67
(see Chapter 1 "Detection")

Interfaces and pre-wired system

- IP 20 pre-wired system
Advantys Telefast ABE7 7/4
- IP 20 connection interfaces for Twido
Advantys Telefast ABE7 7/6
- IP 67 passive splitter boxes
Advantys ABE9 7/7



Distributed I/O solution Advantys STB

- **The intelligence**
integrated in Advantys STB and its software responds perfectly to your needs by simplifying the implementation of your automation systems. She offer too a simple integration solution of human/machine dialog, motor starter, speed drives, electronic valves,...through a simple «drad&drop»
- **Simplicity:**
connectors and sockets simplify installation and commissioning; removable memory card enable island

- configuration to be copied in a few seconds.
- **Adaptability:**
The modular and evolutionary design of the range, I/O modules, network interfaces and options available enable you to design a system suited to your needs.
 - **Open:**
Advantys STB can be interfaced with the main fieldbuses: CANopen, DeviceNet, Ethernet, Fipio, INTERBUS, Modbus Plus, Profibus DP.

Distributed inputs/outputs

- IP 20 distributed I/O, optimised block
Advantys OTB 7/8
- IP 67 distributed I/O, optimised block
Advantys FTB 7/9
- IP 20 distributed I/O, modular system
Advantys STB 7/10 to 7/13
- IP 67 distributed I/O, modular system
Advantys FTM 7/14
- IP 20 distributed I/O with processor
Modicon Momentum 7/18 to 7/21

Also see:

- Advantys AS-Interface IP 20 and IP 67 cabling system
(Chapter 8 "AS-Interface cabling system")





Clip-on mounting on 35 mm $\frac{1}{4}$ rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm ² c.s.a.	Conducting	AB1RRN235U2GR	AB1RRNAC242GR	AB1RRAL22 (1)
	Protective earth conductor	AB1RRNTP235U2	AB1RRNTPAC242	–
4 mm ² c.s.a.	Conducting	AB1RRN435U2GR	AB1RRNAC442GR	AB1RRAL42 (1)
	Protective earth conductor	AB1RRNTP435U2	AB1RRNTPAC442	–
6 mm ² c.s.a.	Conducting	AB1RRN635U2GR	AB1RRNAC642GR	AB1RRNAL62 (2)
	Protective earth conductor	AB1RRNTP635U2	AB1RRNTPAC642	–
10 mm ² c.s.a.	Conducting	AB1RRN1035U2GR (3)	AB1RRNAC1042GR	AB1RRNAL102
	Protective earth conductor	AB1RRNTP1035U2 (3)	AB1RRNTPAC1042	–
16 mm ² c.s.a.	Conducting	AB1RRN1635U2GR (3)	AB1RRNAC1642GR	AB1RRNAL162
	Protective earth conductor	AB1RRNTP1635U2 (3)	AB1RRNTPAC1642	–
35 mm ² c.s.a.	Conducting	AB1RRN3535U2GR (4)	–	AB1RRAL352
	Protective earth conductor	AB1RRNTP3535U2 (4)	–	–

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RRAL22 becomes A1BRRAL23)

(2) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RRNAL62 becomes A1BRRNAL64)

(3) Sold in lots of 50

(4) Sold in lots of 10

Screw clamp technology



Clip-on mounting on 35 mm $\frac{1}{4}$ rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm ² c.s.a.	Conducting	AB1VV235U	AB1AC24	AB1ALN22 (1)
	Protective earth conductor	AB1TP235U	AB1AC25	–
4 mm ² c.s.a.	Conducting	AB1VV435U	AB1AC24	AB1ALN42 (1)
	Protective earth conductor	AB1TP435U	–	–
6 mm ² c.s.a.	Conducting	AB1VV635U	AB1AC6	AB1ALN62 (1)
	Protective earth conductor	AB1TP635U	–	–
10 mm ² c.s.a.	Conducting	AB1VVN1035U (2)	AB1ACN10	AB1ALN102 (1)
	Protective earth conductor	AB1TP1035U (2)	–	–
16 mm ² c.s.a.	Conducting	AB1VVN1635U (2)	AB1ACN16	AB1ALN162 (1)
	Protective earth conductor	AB1TP1635U (2)	–	–
35 mm ² c.s.a.	Conducting	AB1VVN3535U (3)	–	AB1ALN352 (1)
	Protective earth conductor	AB1TP3535U (3)	–	–
70 mm ² c.s.a.	Conducting	AB1VVN7035U (3)	–	AB1ALN702
150 mm ² c.s.a.	Conducting	AB1VVN15035U (4)	–	AB1ALN1502 (1)

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1ALN22 becomes AB1ALN23)

(2) Sold in lots of 50

(3) Sold in lots of 20

(2) Sold in lots of 10

Insulation displacement technology



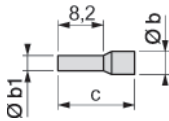
Clip-on mounting on 35 mm $\frac{1}{4}$ rails		2-way terminal blocks (sold in lots of 100)	End covers (sold in lots of 10)	2-pole commoning link (1) (sold in lots of 10)
1 mm ² c.s.a.	Conducting	AB1AA135U2GR	AB1AAAC122GR	AB1RRAL22
	Protective earth conductor	AB1AATP135U2	AB1AAAC122VE	–
2.5 mm ² c.s.a.	Conducting	AB1AA235U2GR	AB1AAAC122GR	AB1RRAL22
	Protective earth conductor	AB1AATP235U2	AB1AAAC122VE	–

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RAL22 becomes AB1RAL23).

DZ5/AZ5

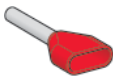
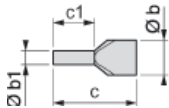
Insulated cable ends
Conforming to DIN 46228⁽¹⁾

mm²	Øb	Øb1	c
0.5	3	1.4	13
0.75	3.1	1.6	13
1	3.4	1.8	13.5
1.5	4	2.1	13.5
2.5	4.6	2.7	14.5



Type			Single cable ends Sold in lots of 10 x 100		
Packaging			Individual or "strings" of bags	Dispenser pack	Strips of 50 in bag
Conductor c.s.a. in mm²	0.5	White	DZ5CE005D	AZ5CE005D	DZ5CEB005D
	0.75	Grey	DZ5CE007D	AZ5CE007D	DZ5CEB007D
	1	Red	DZ5CE010D	AZ5CE010D	DZ5CEB010D
	1.5	Black	DZ5CE015D	AZ5CE015D	DZ5CEB015D
	2.5	Blue	DZ5CE025D	AZ5CE025D	DZ5CEB025D

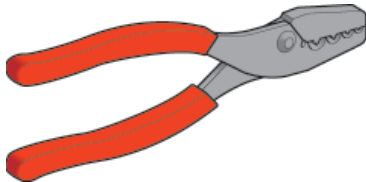
mm²	Øb	Øb1	c	c1
0.75	2.8 x 5	1.8	15	8
1	3.4 x 5.4	2.05	15	8
1.5	3.6 x 6.6	2.3	15	8
2.5	4.2 x 7.8	2.9	18.5	10



Type			Double cable ends Sold in lots of 5 x 100		
Packaging			Dispenser pack		
Conductor c.s.a. in mm²	2 x 0.75	Grey	AZ5DE007D		
	2 x 1	Red	AZ5DE010D		
	2 x 1.5	Black	AZ5DE015D		
	2 x 2.5	Blue	AZ5DE025D		

(1) For insulated cable ends conforming to standard NF C 63-023 , please refer to your Schneider Electric agency.

Cabling accessories



Type	Pliers/cutters				
Functions	Stripping	Cutting/stripping	Crimping	Crimping (ratchet)	Cutting/stripping/crimping (2)
For cable c.s.a.	0.08 to 4 mm²	0.4 to 4 mm²	0.5 to 16 mm²	0.25 to 6 mm²	0.5 to 2.5 mm²
References	AT1PA7	AT2PE1	AT1PA2	AT2PA5	AT2TRIF01

(2) For use with cable ends packed in strips of 50.

Advantys ABE7

Telefast® pre-wired system
Passive I/O sub-bases «Discrete»



Type of connection sub-base		Optimum			
Number of channels		16	16		
Max. current per channel		0.5 A	0.5 A		
Control voltage / output voltage		24 VDC / 24 VDC	24 VDC / 24 VDC		
LED per channel		–	With		
Number of terminals per channel/on row number		1/2	1/1	2/2	3/3
Dimensions (WxDxH)		55 x 59 x 67 mm	106 x 60 x 49 mm		
References		–	ABE7H16C11	ABE7H16C21	ABE7H16C31
	Cable L = 1 m	ABE7H20E100 (1)	–	–	–
	Cable L = 2 m	ABE7H20E200 (1)	–	–	–
	Cable L = 3 m	ABE7H20E300 (1)	–	–	–
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)		ABFH20H100			

- (1) Connection cable supplied for PLCs.
- (2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base		Universal					
Number of channels		16					
Max. current per channel		0.5 A					
Control voltage / output voltage		24 VDC / 24 VDC					
LED per channel		–	With	–	–	With	With
Number of terminals per channel/on row number		1/1	1/1	1/2	2/2	2/2	3/3
Dimensions (WxDxH)		125 x 58 x 70 mm		84 x 58 x 70 mm	125 x 58 x 70 mm		
References		ABE7H16R10	ABE7H16R11	ABE7H16R50	ABE7H16R20	ABE7H16R21	ABE7H16R31
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (2)							

- (2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base		For counter and analogue channels	Passive distribution with shielding continuity	Distribution and supply of analogue channels
Number of channels		1 counter channel (3)	8	8
Max. current per channel		25 mA	25 mA	25 mA
Control voltage / output voltage		24 VDC / 24 VDC		
Number of terminals per channel		2	2 or 4	2 or 4
Dimensions (WxDxH)		143 x 58 x 70 mm	125 x 58 x 70 mm	125 x 58 x 70 mm
References		ABE7CPA01	ABE7CPA02	ABE7CPA03
Connection cable recommended for Modicon PLCs (4)	TSX Micro L = 2.5 m	TSXCCPS15	–	–
	Premium L = 3 m	TSXCAP030		

- (3) Or 8 inputs + 2 outputs, analogue .
- (4) Connection cables available for other PLCs, please refer to your Schneider Electric agency.

Sockets with plug-in relays and terminals



Type of connection sub-base	With soldered solid-state relay inputs		With soldered solid-state relay outputs	With soldered electro-mechanical relay outputs	
Number of channels	16		16	16	
Max. current per channel	12 mA		0.5 A	2 A	5 A
Input voltage / output voltage	24 VDC / -	110 VAC / -	- / 24 VDC	- / 5...30 VDC, 250 VAC	
Number of contacts	-		-	1 N/O	
Polarity distribution	-		-	(1)	Volt-free
Number of terminals per channel	2				
Dimensions (WxDxH)	206 x 58 x 77 mm				
References	ABE7S16E2B1	ABE7S16E2F0	ABE7S16S2B0(2)	ABE7S16S1B2	ABE7R16S111 ABE7R16S210

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (3)

- (1) Contact common per group of 8 channels.
(2) With fault detection signal (can only be used with modules with protected outputs).
(3) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomesABFH20H200).



Type of connection sub-base	With plug-in electromechanical relays					
Number of channels	16					
Max. current per channel	5 A	2.5 A			4 A	5 A
Control voltage / output voltage	24 VDC / 5...24 VDC, 230 VAC					
Number of contacts	1 N/O		1 C/O		2 C/O	
Polarity distribution	(4)	(5)	Volt-free			
Number of terminals per channel	2	2 or 3			2 to 6	
Dimensions (WxDxH)	110x54x89 mm	211 x 64 x 89 mm			272 x 74 x 89 mm	
References	ABE7R16T111	ABE7R16T212	ABE7R16T210	ABE7R16T230	ABE7R16T330	ABE7R16T370

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (6)

- (4) Contact common per group of 4 channels.
(5) Common on both poles.
(6) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).

Connection cables for PLCs ⁽⁷⁾



Input/Output functions		Discrete	Analogue	Analogue and counter	Counter	Axis control
References	Cable L = 1 m	ABFH20H100	-	-	-	-
	Cable L = 2 m	ABFH20H200	ABFY25S200	-	-	TSXCCP213
	Cable L = 2.5 m	-	-	TSXCCPS15	TSXCCPH15	-
	Cable L = 3 m	ABFH20H300	TSXCAP030	-	-	-
	Cable L = 6 m	-	-	-	-	TSXCCP613

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please refer to your Schneider Electric agency.

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Advantys ABE7

Telefast® connection interfaces

Sub-bases for Twido controllers



Type of connection sub-base	Discrete inputs/outputs		Solid-state and relay
Number of channels	20	20	20
Number of inputs	12 I (1 common for 12 channels)		
Number of outputs	8 O (1 common for 8 channels)	8 O, fuse protected (1 common for 8 channels)	2 O, solid-state 6 O, relay (1 common for 6 chnls.)
Voltage / current of inputs	24 VDC / 5...7 mA		
Voltage / current of outputs	24 VDC / 0.3 A		Solid-state: 24 VDC / 2 A Relay: 5...30 VDC, 250 VAC / 3 A
LED per channel	—	With	—
Number of terminals per channel/row number	2/2		
Dimensions (WxDxH)	130 x 62.5 x 83 mm		
References	ABE7B20MPN20	ABE7B20MPN22	ABE7B20MRM20

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Sub-base for input/output module



Type of connection sub-base	Discrete outputs			Relay
Number of channels	16	16	16	16
Type of outputs	16 I (1 common for 16 channels)	16 O (1 common for 16 channels)	16 O, fuse protected (1 common for 16 channels)	16 O (1 common for 4 channels)
Voltage / current of outputs	24 VDC / 5 mA	24 VDC / 0.1 A		Relay: 5...30 VDC, 250 VAC / 3 A
LED per channel	—		With	—
Number of terminals per channel/row number	2/2			
Dimensions (WxDxH)	106 x 60 x 49 mm		130 x 62.5 x 83 mm	
References	ABE7E16EPN20	ABE7E16SPN20	ABE7E16SPN22	ABE7E16SRM20

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Connection cables for Twido



Type of cable	For linking Twido and Telefast sub-base	
For use with	TWDLMDA20DTK/40DTK	TWDDI16DK/32DK/DDO16TK/32TK
Type of connectors	HE10, 26-pin, at either end	
References	Cable	L = 0.5 m
		L = 1 m
		L = 2 m
	ABFT26B050	ABFT20E050
	ABFT26B100	ABFT20E100
	ABFT26B200	ABFT20E200

7

Accessories

Type of accessory	Optional clip-in terminals	
Number of linked terminals	20	12 + 8
References	ABE7BV20	ABE7BV20TB

Advantys ABE9

Passive splitter boxes

IP 67



Type of connection			To PLC using multicore cable	
Number of channels			4	8
Type of female connector			M12, 5-pin	M12, 5-pin
Max. number of signals			8	16
Max. current per channel			4 A	
Max. current per splitter box			16 A (1 mm²)	
Product certification			cULus	
Dimensions (WxDxH)			50.2 x 42 x 92.2 mm	50.2 x 42 x 149.2 mm
References	Without LEDs	Cable L = 5 m	ABE9C1240L05	ABE9C1280L05
		Cable L = 10 m	ABE9C1240L10	ABE9C1280L10
	With LEDs (1)	Cable L = 5 m	ABE9C1241L05	ABE9C1281L05
		Cable L = 10 m	ABE9C1241L10	ABE9C1281L10

(1) Green LED: power supply status, yellow LED: channel status.



Type of connection			To PLC using M23 connector	
Number of channels			4	8
Type of female connector			M12, 5-pin	M12, 5-pin
Max. number of signals			8	16
Max. current per channel			4 A	
Max. current per splitter box			16 A	
Product certification			cULus	
Dimensions, W X D x H			50.2 x 36.5 x 92.2 mm	50.2 x 36.5 x 149.2 mm
References	Without LEDs		ABE9C1240C23	ABE9C1280C23
	With LEDs (1)		ABE9C1241C23	ABE9C1281C23

(1) Green LED: power supply status, yellow LED: channel status.

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Accessories



Type of accessory		Splitter boxes w/o cable		Terminal connectors		Sealing plugs
		Without LEDs	With LEDs	Cable L = 5 m	Cable L = 10 m	(sold in lots of 10)
References	4-channel	ABE9C1240M	ABE9C1241M	ABE9XCA1405	ABE9XCA1410	–
	8-channel	ABE9C1280M	ABE9C1281M	ABE9XCA1805	ABE9XCA1810	–
	for Ø12 connector	–	–	–	–	FTXCM12B

Advantys OTB

IP 20 distributed I/O, optimised block
Interface modules



Discrete Type of bus		CANopen Machine bus	Ethernet TCP/IP network (2)	Modbus Series network
Number of I/Os		20 I/O		
Number of inputs		12 inputs 24 VDC IEC type 1		
Number of outputs		6 relay outputs and 2 solid state 24 VDC outputs		
Connection method		Removable terminal block		
Number of I/O expansion modules (1)		7 discrete or analogue input/output modules, or connection accessories		
Maximum I/O configuration		With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analogue channels		
Supply voltage		24 VDC		
Counting	5 kHz	2 channels, 32 bits (0...4 294 967 295 points) dedicated discrete inputs -up counting/down counting with preset		
	20 kHz	2 channels, 32 bits (0...4 294 967 295 points) up/down counting, up counting, down counting, frequency meter		
Pulse generator, 7 kHz		2 PWM function channels (output with pulse width modulation) or PLS function (pulse generator output)		
Dimension (WxDxH)		55x70x90 mm		
References		OTB1C0DM9LP	OTB1E0DM9LP	OTB1S0DM9LP

(1) for the references of discrete I/O and analogue expansion modules, refer to the Twido or Advantys OTB catalogue

(2) Transparent Ready : Class A10

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Accessories

Type of accessory	Commoning modules	Documentation
Usage	For grouping input or output commons, max 8 A	User guides for hardware & software
Positioning	Inter-module	—
Référence	OTB9ZZ61JP	FTXES00

Advantys FTB

IP 67 distributed I/O, optimised block
Interface modules, plastic enclosure



Type of module		CANopen machine bus	DeviceNet Fieldbus	ProfiBus Fieldbus	InterBus Fieldbus
Number of channels		8			
Type of female connector		M12, 5-pin			
Max. voltage / current of inputs		24 VDC type 2/200 mA			
Max. voltage / current of outputs		24 VDC/1.6 A			
Max. current per splitter box		8 A			
Product certification		cULus			
Dimensions, W X D x H		63 x 50.5 x 220 mm			63 x 69 x 220 mm
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply			
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault			
References	16 inputs	FTB1CN16EP0	FTB1DN16EP0	FTB1DP16EP0	FTB1IB16EP0
	8 inputs/8 outputs	FTB1CN08E08SP0	FTB1DN08E08SP0	FTB1DP08E08SP0	FTB1IB08E08SP0
	12 inputs/4 outputs	FTB1CN12E04SP0	FTB1DN12E04SP0	FTB1DP12E04SP0	FTB1IB12E04SP0
	16 configurable inputs/outputs	FTB1CN16CP0	FTB1DN16CP0	FTB1DP16CP0	FTB1IB16CP0

Interface modules, metal enclosure



Type of module		CANopen	DeviceNet	ProfiBus
Number of channels		8		
Type of female connector		M12, 5-pin		
Max. voltage / current of inputs		24 VDC type 2/200 mA		
Max. voltage / current of outputs		24 VDC/1.6 A		
Max. current per splitter box		8 A		
Product certification		cULus		
Dimensions (WxDxH)		62.7 x 38.9 x 224.7 mm		
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply		
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault		
References	16 inputs	FTB1CN16EM0	FTB1DN16EM0	FTB1DP16EM0
	8 inputs/8 outputs/configurable outputs	FTB1CN08E08CM0	FTB1DN08E08CM0	FTB1DP08E08CM0
	16 configurable inputs/outputs	FTB1CN16CM0	FTB1DN16CM0	FTB1DP16CM0



Type of module NIM		Ethernet TCP/IP network
Binary speed		10 Mbps
Protocol		Modbus TCP/IP
Transparent Ready	Class	B20
	Embedded Web server	Standard services
	Ethernet services	SNMP agent, FDR client (replacement of faulty equipment), BOOTP (allocation of IP addresses by a server)
Max. number of addressable I/O modules		32 per island
Dimensions (WxDxH)		40x70x128,3 mm
Reference	Standard	STBNIP2212



Type of module NIM		Machine bus CANopen	Fieldbus		
			Fipio	INTERBUS	Profibus DP
Max. number of addressable I/O modules		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
Binary speed		10 K...1 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
Dimensions (WxDxH)		40x70x128,3 mm			
Reference	Standard	STBNCO2212	STBNFP2212	STBNIB2212	STBNDP2212
	Basic	STBNCO1010	–	STBNIB1010	STBNDP1010

(1) On 7 segments max.

(2) 12 per island on 1 segment max for basic versions.



Type of module		Other networks		
		Modbus Plus	DeviceNet	
Max. number of addressable I/O modules		32 per island	32 per island	12 per island
Speed		1 Mbps	125, 250 or 500 Kbps	125, 250 or 500 Kbps
Dimensions (WxDxH)		40x70x128,3 mm		
Reference	Standard	STBNMP2212	STBNDN2212	–
	Basic	–	–	STBNDN1010

Connection accessories

Type of accessory		Removable terminals for 24 VDC power supply	DeviceNet
Use		All communication modules	Network link DeviceNet module
Reference	Screw terminals	STBXTS1120 (1)	STBXTS1111
	Spring terminals	STBXTS2120 (1)	STBXTS2111

(1) To be ordered separately, sold in lots of 10 only for spares parts. (STBXTS●120 are delivered systematically with STBN●●●●●●)

Marking label sheets	STBXMP6700
Screwdriver	STBXTT0220

Power distribution modules ⁽¹⁾



Type of module			PDM				Auxiliary Power supply
Connection by removable terminals			Screw STBXTS1130 (2) (3) Spring STBXTS2130 (2) (3)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)
Supply voltage			24 VDC		115...230 VAC		24 VDC
Maximum current	Inputs (4)		4 A at 30°C, 2,5 A at 60°C	–	5 A at 30°C, 2,5 A at 60°C	–	–
	Outputs (4)		8 A at 30°C, 5 A at 60°C	–	10 A at 30°C, 2,5 A at 60°C	–	–
	Inputs/Outputs (4)		–	4 A at 30°C, 2,5 A at 60°C	–	5 A at 30°C, 2,5 A at 60°C	–
	Logique interne 5 V		–	–	–	–	1.2 A
Sensor/actuator bus voltage range			19.2...30 VDC		85...265 VAC		–
Dimensions (WxDxH)			18.4x70x128.3 mm				
Reference	Module	Standard	STBPDT3100	–	STBPDT2100	–	STBCPS2111
		Basic	–	STBPDT3105	–	STBPDT2105	
	Base		STBXBA2200		STBXBA2200		STBXBA2100

(1) Process power supplies see chapter 6 "Power supply"

(2) To be ordered separately, sold in lots of 10.

(3) PDM connector keying pin kit STBXMP7810.

(4) PDM fuse kit STBXMP5600.

Bus extension modules for standard range



Type of module			"EOS" End of segment	"BOS" Beginning of segment	Extension for CANopen connection devices
Connection by removable terminals			–	Screw STBXTS1120 (2) Spring STBXTS2120 (2)	Screw STBXTS1110 (3) Spring STBXTS2110 (3)
Use			For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment
Dimensions (WxDxH)			18.4x70x128.3 mm		
Reference	Module	Standard	STBXBE1100	STBXBE1300	STBXBE2100
	Base		STBXBA2300	STBXBA2300	STBXBA2000

(2) To be ordered separately, sold in lots of 10.

(3) To be ordered separately, sold in lots of 20.

Software and memory card



Type	Advantys STB, OTB, FTM, FTB configuration software (PC connection cable supplied)					Removable memory card
Software User Guide	Single station	3 pack	10 pack	Unlimited Site	System Alliance Integrator	–
Memory size	–					32 Ko
Reference	STBSPU1000	STBSPU1003	STBSPU1011	STBSPU1130	STBSPU1010	STBXMP4440
	Hardware User Guide					STBSUS8800

Connection accessories

Type of accessory	Câble d'extension de bus d'ilot				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Reference	STBXCA1001	STBXCA1002	STBXCA1003	STBXCA1004	STBXCA1006
Bus termination module or plug			Programmation connection cable L= 2 m		
Reference	STBXMP1100		STBXCA4002		

Connection accessories: See www.schneider-electric.com

Advantys STB

IP 20 Distributed I/O, modular system

Discrete modules



Type of module			Discrete inputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100				STBXTS1180		STBXTS1110
		Spring (2)	STBXTS2100				STBXTS2180		STBXTS2110
Number of channels			2	4	6	16	2	2 (isolated)	2
Input voltage			24 VDC				115 VAC		230 VAC
Dimensions (WxDxH)			13.9x70x128.3 mm				18.4x70x128.3 mm		
Reference	Module	Standard	STBDDI3230	STBDDI3420	STBDDI3610	–	STBDAI5230	STBDAI5260	STBDAI7220
		Basic	–	STBDDI3425	STBDDI3615	STBDDI3725 (4)	–	–	–
	Base (3)		STBXBA1000				STBXBA3000	STBXBA2000	



Type of module			Discrete solid state outputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100						STBXTS1180
		Spring (2)	STBXTS2100						STBXTS2100
Number of channels			2	4		6		16	
Output voltage			24 VDC		24 VDC		24 VDC		24 VDC
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A	0.5 A
Dimensions (WxDxH)			13.9x70x128.3 mm						
Reference	Module	Standard	STBDDO3200	STBDDO3230	–	STBDDO3410	–	STBDDO3600	–
		Basic	–	–	STBDDO3415	–	STBDDO3605	–	STBDDO3705 (5)
	Base (3)		STBXBA1000						STBXBA3000



Type of module			Discrete outputs			
			Triac		Relay	
Connection by removable terminals (1)	Screw (2)		STBXTS1100			
	Spring (2)		STBXTS2100			
Number of channels			2	2 (isolated)	2 "OF"	2 "O+F"
Output voltage			115...230 VAC	115 VAC	24 VDC ou 115...230 VAC	
Output current			2 A à 30°C, 1 A à 60°C		2 A par contact	7 A par contact
Dimensions (WxDxH)			18.4x70x128.3 mm			28.1x70x128.3 mm
Reference	Module	Standard	STBDAO8210	STBDAO5260	STBDRC3210	STBDRA3290
	Base (3)		STBXBA2000			STBXBA3000

(1) To be ordered separately, sold in lots of 20.
(2) I/O connector keying pin kit STBXMP7800
(3) Module keying pin kit STBXMP7700
(4) if connection on Telefast2 order STBXTS6510 or connection on Telefast Twido order STBXTS5510
(5) if connection on Telefast2 order STBXTS6610 or connection on Telefast Twido order STBXTS5610

Analog modules



Type of module (1)			Analog inputs							
Connection by removable terminals			Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
Number of channels			2				4		8	2
Input signal			- 10...+10 V	0...+10 V	0...20 mA	4...20 mA	4...20 / 0...20 mA	Selectable	Selectable	Multigamme (3)
Resolution			9 bits + sign	10 bits	12 bits	10 bits	15 bits + sign			
Dimensions (WxDxH) (mm)			13,9x70x128,3				18,4x70x128,3			
Reference	Module	Standard	–	–	STBACI1230	–	STBAVI0320	STBAVI0300	STBACI1400 (5)	STBART0200
		Basic	–	–	–	–	STBACI8320 (4)	–	STBAVI1400 (6)	–
	Base	–	STBAVI1275	STBAVI1255	–	STBACI1225	–	–	–	–
		–	STBXBA1000				STBXBA2000			STBXBA1000



Type of module (1)			Analog outputs							
Connection by removable terminals			Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
Number of channels			1	2						
Output signal			4...20 mA	- 0...+10, - 10...+10 V	0...+10 V	-10 V...+10 V	0...20 mA	4...20 mA	4...20 mA	Selectable (6)
Resolution			15 bits + sign	11 bits + sign or 12 bits	10 bits	9 bits + sign	12 bits	10 bits	15 bits + sign	
Dimensions (WxDxH) (mm)			18,4x70x128,3	13,9x70x128,3						
Reference	Module	Standard	STBACO0120	STBAVO1250	–	–	STBACO1210	–	STBACO0220	STBAVO0200
		Basic	–	–	STBAVO1255	STBAVO1265	–	STBACO1225	–	–
	Base	–	STBXBA2000		STBXBA1000				STBXBA2000	
		–								

Application-specific modules



Type of module (1)			For motor starters		Counter
			Tego Power	TeSys model U	
Connection by connector			1 HE10 (30 contacts)	4 RJ45	Spring STBXTS2150 (2)
Number of inputs/outputs			16 E / 8 S	12 E / 8 S	4 E / 2 S
Input voltage			24 VDC		24 VDC
Output voltage/current			24 VDC/0.1 A per channel		24 VDC/0.5 A
Number of channels			8 non reversing motor starters	4 starters-controllers	1 counter channel 40 kHz
Dimensions (WxDxH) (mm)			18.4x70x128.3	28.1x70x128.3	
Reference	Module	Standard	STBEPI1145	STBEPI2145	STBEHC3020
	Base	–	STBXBA2000	STBXBA3000	–
	Connection cables	–	STBXCA3002 (L= 1 m)	(7)	–
		–	STBXCA3003 (L= 2 m)	(7)	–

(1) Grounding kit (conseilled for counter > 40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1.5...6 mm² cables) + STBXSP3020 (5...11 mm² cables)

(2) To be ordered separately, sold in lots of 20.

(3) Multirange temperature probe thermocouples B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.

(4) 4 HART-tolerant channels (5) Input signal selectable / channel 0...20 mA and 4...20 mA (6) Input signal selectable / channel 1...5 VDC, 0...5 VDC, 0...10 VDC, ± 5 VDC and ± 10 VDC

(7) LU9R03 (0,3 m), LU9R10 (1 m), 490NTW00002 (2 m), LU9R30 (3 m), 490NTW00005 (5 m), 490NTW00012 (12 m)

Advantys FTM

IP 67 distributed I/O, modular system

Interface modules



Type of bus module	CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus
Max. number of Discrete I/O	256		
Max. number of splitter boxes	16		
Bus module supply voltage	24 V DC		
Bus module max. supply current	9 A		
Product certification	UL/CSA		CULus
Dimensions (WxDxH)	50 x 50.3 x 151 mm		
References	FTM1CN10	FTM1DN10	FTM1DP10

Splitter boxes



Type of splitter box		Discrete inputs/outputs			
		Compact		Expandable	
Input voltage		24 V DC/type 2/200 mA		24 V DC/type 2/200 mA	
Output voltage		24 V DC		24 V DC	
Type of output		Solid-state		Solid-state	
Output current		0.5 A		0.5 A	
Maximum supply current by internal bus		4 A		4 A	
Diagnostics		Short-circuit on I/O, wire breakage fault, sensor/actuator fault			
Dimensions (WxDxH)		30 x 34.5 x 126 mm		30 x 34.5 x 151 mm	
I/O connection		M8 connector	M12 connector	M8 connector	M12 connector
References	8 inputs	FTM1DE08C08	FTM1DE08C12	FTM1DE08C08E	FTM1DE08C12E
	8 configurable inputs/outputs	FTM1DD08C08	FTM1DD08C12	FTM1DD08C08E	FTM1DD08C12E
	16 inputs	–	FTM1DE16C12 (1)	–	FTM1DE16C12E (1)
	16 configurable inputs/outputs	–	FTM1DD16C12 (1)	–	FTM1DD16C12E (1)

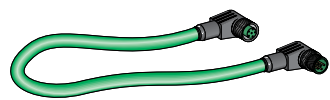
(1) Dimensions: 50 x 34.5 x 126 mm.



Type of splitter box		Analogue inputs/outputs			
		Compact			
Type of inputs/outputs		Current		Voltage	
Measuring range		0...20 mA/4...20 mA		± 10 V DC/0...10 V DC	
Diagnostics		Short-circuit on I/O, wire breakage fault, sensor/actuator fault			
Conversion time		≤ 2 ms per channel			
Dimensions (WxDxH)		30 x 34.5 x 126 mm			
Resolution		16 bit	12 bit	15 bit + sign	11 bit + sign
References	4 inputs	FTM1AE04C12C	–	FTM1AE04C12T	–
	4 outputs	–	FTM1AS04C12C	–	FTM1AS04C12T

Accessories for distributed I/O FTM ⁽¹⁾

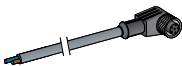
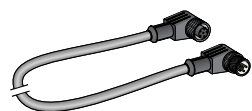
Internal bus connection cables



(1) For sensor/actuator cabling accessories, see page 7/13

Type of cable			For linking bus module and splitter boxes
Type of connector			Elbowed M12, 6-pin, at either end
References	Cable	L = 0.3 m	FTXCB3203
		L = 0.6 m	FTXCB3206
		L = 1 m	FTXCB3210
		L = 2 m	FTXCB3220
		L = 3 m	FTXCB3230
		L = 5 m	FTXCB3250

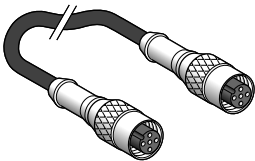
Auxiliary power supply connection cables



Type of cable			For connection of 24 V DC auxiliary power supply	
Type of connector			Elbowed M12, 6-pin, at either end	Elbowed M12, 6-pin, at one end (other end free)
References	Cable	L = 0.3 m	FTXCA3203	FTXCA3103
		L = 0.6 m	FTXCA3206	FTXCA3106
		L = 1 m	FTXCA3210	FTXCA3110
		L = 2 m	FTXCA3220	FTXCA3120
		L = 3 m	FTXCA3230	FTXCA3130
		L = 5 m	FTXCA3250	FTXCA3150

Accessories

Type		Line terminator for end of internal bus
Type of connector		M12
References		FTXCBTL12



(1) For sensor and actuator cabling accessories:
see page 7/17

Type of bus			CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus	INTERBUS fieldbus
Type of female connector			M12, 5-pin, at either end			–
Connector coding			A encoded		B encoded	–
References	Cable	L = 0.3 m	FTXCN3203		FTXDP3203	–
		L = 0.6 m	FTXCN3206		FTXDP3206	FTXIB1206 (2)
		L = 1 m	FTXCN3210		FTXDP3210	FTXIB1210 (2)
		L = 2 m	FTXCN3220		FTXDP3220	FTXIB1220 (2)
		L = 3 m	FTXCN3230		FTXDP3230	–
		L = 5 m	TXCN3250		FTXDP3250	FTXIB1250 (2)

(2) Reference includes the Bus connection cable + the power supply cable.

Power supply connection cables



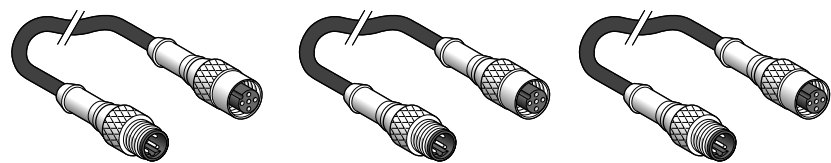
Type of bus			CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus
Type of female connector			Type 7/8, 5-pin, at either end		
References	Cable	L = 0.6 m	FTXDP2206		
		L = 1 m	FTXDP2210		
		L = 2 m	FTXDP2220		
		L = 5 m	FTXDP2250		
Type of female connector			Type 7/8, 5-pin, at one end (other end free)		
References	Cable	L = 1.5 m	FTXDP2115		
		L = 3 m	FTXDP2130		
		L = 5 m	FTXDP2150		

Accessories

Type of bus		CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus	INTERBUS fieldbus
References	Configuration CD-ROM	FTXES00			
	Diagnostics M12 adaptor	FTXDG12			
	Power supply T-connector	FTXCNT1			–
	Line terminator	FTXCNTL12		FTXDPTL12	–

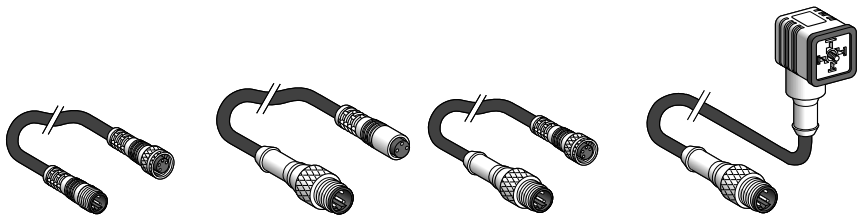
Accessories for sensors/actuators

M12 / M12 jumper cables



Type			Male / Female jumper cables		
Type of male connector, interface side			M12, 4-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Type of female connector, sensor side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Cable			PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1
		L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2

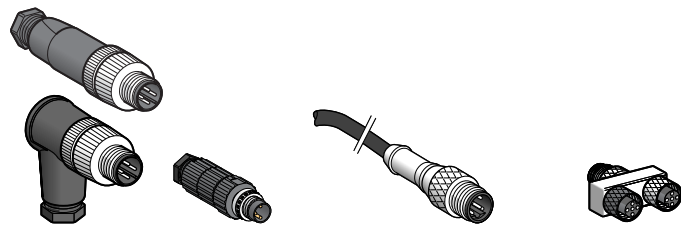
M8/M8, M8/M12 and M12/DIN jumper cables



Type			Male / Female jumper cables			
Type of male connector, interface side			M8, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread
Type of female connector, sensor side			M8, 3-pin straight, screw thread	M8, 3-pin straight, clip together	M8, 3-pin straight, screw thread	DIN 43650A elbowed, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR2705037R1	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1
		L = 2 m	XZCR2705037R2	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2

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Pre-wired connectors and splitter box



Type			Connectors		Pre-wired connectors	Splitter box "Y"	
Type of male connector, interface side			M12, 4-pin	M8, 3-pin	M12, 5-pin, straight, screw thread	1 x M12	1 x M12
Type of female connector, sensor side			–	–	–	2 x M12	2 x M8
Cable			–	–	PUR, black	–	–
References	Straight connector, screw thread		XZCC12MDM40B	XZCC8MDM30V	–	FTXCY1212	FTXCY1208
	Elbowed connector, screw thread		XZCC12MCM40B	–	–	–	–
	Cable	L = 0.5 m	–	–	XZCP1564L05	–	–
		L = 2 m	–	–	XZCP1564L2	–	–

Modicon Momentum — Distributed I/O and processors

Discrete I/O modules



Type of module	Multibus discrete inputs			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)			
Input voltage	24 VDC		120 VAC	230 VAC
Number of channels	16 (1 common point)	32 (2 common points)	16 (2 common points)	
Dimensions (WxDxH)	125 x 47.5 x 141.5 mm (with communication modules or processors)			
	144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)			
Reference	170ADI34000	170ADI35000	170ADI54050	170ADI74050



Type of module		Multibus discrete outputs						
		Relay	Solid state			Triac		
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)						
Output voltage		5...24 VAC, 24...230 VAC	24 VDC			120 VAC		230 VAC
Number of protected channels		6 (1 common pt)	16 (2 common pts)	32 (2 common pts)	8 (2 common pts)	16 (2 common pts)	8 (2 common pts)	16 (2 common pts)
Output current	Per channel	5A	0,5 A	0,5 A	2 A	0,5 A	2 A	0,5 A
	Per group of channels	—	4 A	8 A	4 A	4 A	4 A	4 A
	Per module	21A	8 A	16 A	8 A	8 A	8 A	8 A
Dimensions (WxDxH)		125 x 47.5 x 141.5 mm (with communication modules or processors) 144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)						
Reference		170ADO83030 (1)	170ADO34000	170ADO35000	170ADO53050	170ADO54050	170ADO73050	170ADO74050

(1) Screw connectors included



Type of module		Multibus discrete I/O							
		Solid state					Relay		Triac
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)							
Number of channels	Inputs	16 (1 common pt)	16 (4 com. pts)	16 (1 com. pt)	10 (1 common pt)				
	Input logic	Positive	Positive (2)	Negative	Positive			—	
	Outputs	16 (1 common pt)	16 (2 common pts)		8/4 (1 com. pt)	12	8 (2 common pts)		8 (1 com. pt)
Input voltage		12...48 VDC	24 VDC					120 VAC	
Output voltage		12...48 VDC	24 VDC					24...230 VAC/20...115 VDC 120 VAC	
Output current	Per output	0,5 A	0,5 A		2 A	0,5 A	2 A		0,5 A
	Per group of channels	—	4 A		4 A	4/2 A	8 A		4 A
	Per module	8 A	8 A		8 A	6 A	16 A		4 A
Dimensions (WxDxH)		125 x 47.5 x 141.5 mm (with communication modules or processors)							
		144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)							
Reference		170ADM85010	170ADM35010	170ADM35015	170ADM37010	170ADM39010	170ADM39030	170ARM37030	170ADM69051

(2) For a version with high-speed positive logic, replace 0 at the end of the reference with 1. E.g. 170ADM35010 becomes 170ADM35011

Connection accessories: See www.schneider-electric.com

Analog I/O modules



Type of module		Multibus analog inputs		
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)		
Number of channels		8 isolated	16 with common point	4 isolated
Input signal		$\pm 5\text{ V}$, $\pm 10\text{ V}$, $\pm 20\text{ mA}$, 1...5 V, 4...20 mA	$\pm 5\text{ V}$, $\pm 10\text{ V}$, 4...20 mA	Multi-range $\pm 25\text{ mV}$, $\pm 10\text{ mV}$ (1)
Resolution		14 bits + sign, 15 bits unipolar	12 bits + sign	15 bits + sign
Dimensions (WxDxH)		125 x 47.5 x 141.5 mm (with communication modules or processors) 144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)		
Reference		170AAI03000	170AAI14000	170AAI52040

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.



Type of module		Multibus analog outputs		Analog I/O and multibus discrete I/O		
Connection		By screw terminals 140XTS00200 (to be ordered separately)				
Number of channels	Inputs	—		4 differential + 4 discrete	6 with com pt + 8 discrete (24 VDC)	
	Outputs	4		2 + 2 discrete (24VDC)	4 with com pt + 8 discrete (24 VDC)	
Input signal		± 10 V, 0...20 mA	± 10 V, 4...20 mA	± 5 V, ± 10 V, ± 20 mA, 1...5 V, 4...20 mA	0...10 V	± 10 V
Output signal		—		± 10 V, 4...20 mA	0...10 V	± 10 V
Resolution		12 bits + sign		12...14 bits dep. on signal	14 bits	14 bits
Dimensions (WxDxH)		125 x 47.5 x 141.5 mm (with communication modules or processors) 144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)				
Reference		170AAO12000	170AAO92100	170AMM09000	170ANR12090	170ANR12091

Application-specific I/O modules



Type of module		High-speed counter	Discrete I/O with Modbus port
Type of inputs for		Incremental or absolute encoders	RS 485 Modbus port
Operating voltage		24 VDC	120 VAC
Counting frequency		200 kHz	—
Number of channels		2 independent	—
Number of discrete I/O		2 x 3 inputs/2 x 2 outputs	6 inputs/3 outputs
Dimensions (WxDxH)		125 x 47.5 x 141.5 mm (with communication modules or M1/M1E processors) 144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)	
Reference		170AEC92000	170ADM54080

Modicon Momentum

Distributed I/O and processors

Communication modules



Type of module	Ethernet TCP/IP network		Fipio (1) fieldbus	INTERBUS (2) fieldbus	Profibus DP fieldbus
Speed	10 Mbps	10/100 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
Manager PLC	—		Premium	-	-
Redundancy	No		No	No	No
Standard services	Modbus TCP/IP		—	—	—
Reference	170ENT11002	170ENT11001	170FNT11001 (1)	170INT11000 (2)	170DNT11000

(1) Fipio version 1 for communication with the TSX7 controller family, use model 170FNT11000 adapter
(2) Generation 4, twisted pair medium: 170INT11003, with optical fiber medium: 170INT12000



Type of module	Other networks Modbus Plus		DeviceNet
Speed	1 Mbps		0.5 Mbps
Manager PLC	Premium or Quantum	Quantum	—
Redundancy	No	Yes	No
Standard services	—	—	—
Reference	170PNT11020	170PNT16020	170LNT71000

Optional modules for M1/M1E processors



Type of module (3)	Modbus Plus		Asynchronous serial link
Communication ports	1 Modbus Plus	2 redundant Modbus Plus	RJ45
Real-time clock	Integrated, ± 13 sec/day accuracy		
Connection	By 9-way SUB-D connector		
Reference	172PNN21022	172PNN26022	172JNN21032

(3) Include save battery of the M1/M1E processors application and data memories.

Connection accessories

Type	RS 232C communication cable		
Length	1 m	3 m	6 m
Reference	110XCA28201	110XCA28202	110XCA28203

Power supply module (4)



Type of power supply module for	Momentum processors
Input voltage	120 or 230 VAC (selected by jumper)
Output voltage	24 VDC
Output current	0.7 A
Dimensions (WxDxH)	73 x 44.5 x 146 mm
Reference	170CPS11100

(4) Process power supplies see chapter 6 “Power supply”

7

M1/M1E processors



Type of processor		M1				
Number of I/O	Discrete	2048 I/O			2048 I/2048 Q	8192 I/O
	Registers	2048 words			4096 words	26048 words
Integrated communication ports	Modbus	1 RS 232C	1 RS 232C + 1 RS 485		1 RS 232C	1 RS 232C + 1 RS 485
	Ethernet TCP/IP	–				
	I/O bus (1)	–			1 I/O port	–
Transparent Ready	Embedded Web server	–				
Memory capacity	RAM	64 Kb			256 Kb	512 Kb
	Flash	256 Kb			256 Kb	512 Kb
	User, 984 LL language (2)	2.4 K			12 K	18 K
	User, IEC language (3)	–			160 K	240 K
	Data	2 K			4 K	24 K
Cycle time		1 ms/K	0.63 ms/K	1 ms/K	0.63 ms/K	1 ms/K
Reference		171CCS70000	171CCS70010	171CCS78000	171CCS76000	171CCC78010

(1) I/O bus derived from InterBus bus.

(2) ProWORX 32 or Concept programming software.

(3) Concept programming software.



Transparent
Ready

Type of processor		M1	M1E			
Number of I/O	Discrete	8192 I/O				
	Registers	26048 words				
Integrated communication ports	Modbus	1 RS 232C	1 RS 485		–	
	Ethernet TCP/IP	–		1 integrated Ethernet port		
	I/O bus (1)	1 I/O port	–		1 I/O port	
Transparent Ready	Embedded Web server	–		Standard services (class A10)		
Memory capacity	RAM	512 Kb	544 Kb			
	Flash	512 Kb		1 Mb	512 Kb	1 Mb
	User, 984 LL language (2)	18 K				
	User, IEC language (3)	240 K	–	200 K	–	200 K
	Data	24 K				
Cycle time		1 ms/K	0.3 ms/K			
Reference		171CCC76010	171CCC98020	171CCC98030	171CCC96020	171CCC96030



Type of processor		171 CBB97030
Integrated communication ports	Modbus	1 RS 232/485
	Ethernet TCP/IP	4 integrated Ethernet port
Transparent Ready	Embedded Web server	Standard services (class B)
Memory capacity	RAM	512 Kb
	Flash	1 Mb
	User, 984 LL language (2)	18 K
	User, IEC language (3)	200 K
	Data	24 K
Cycle time		0.25 ms/K
Reference		171CBB97030

Connection accessories: See www.schneider-electric.com

ConneXium cabling system

ConneXium

ConneXium products are the industrial Ethernet-ready network devices that can provide you with integrated Ethernet solutions to unite everything in your plant, from the device level all the way to your corporate intranet.

With innovative new tools like ConneXview Industrial Ethernet Diagnostic Software, intelligent managed switches, and an ever-expanding line of cables and accessories, the ConneXium range can help you realize the benefits of open and reliable networking in the industrial environment.



A unified communication solution
based on Ethernet standards and 3rd party compatibility

Improved network performance

ConneXium switched networks limit the number of collisions in the media and increase overall network performance. Furthermore, ConneXium full duplex capability delivers a high level of determinism to your industrial Ethernet network. ConneXium IP Multicast capability supports the Publish/Subscribe and streaming protocols of today's Industrial networks.

ConneXview Ethernet Diagnostic Software

Help your network perform at peak efficiency with ConneXview, the powerful yet easy to use Ethernet network diagnostic tool. It automatically discovers and maps your networks and devices, then gives you all the tools you'll need to easily monitor and troubleshoot network operations.

Diagnosing and managing installations

ConneXium switches implement SNMP protocol to facilitate network monitoring and diagnosis of problems. A web server is embedded in every TCSESM switch to deliver complementary management services that can be accessed via any web browser.

Fault-Tolerant

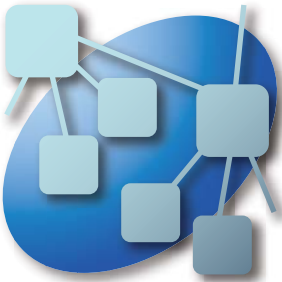
ConneXium managed switches incorporate a mechanism to support a high level of resilience. With their scalable redundant features, from single to double ring structure, it is easy to build a network that fits the specific requirements of your environment.

Designed for Harsh Environments

- Industrial – IEC 61131-2
- UL & FM3611 Class 1, Div 2
- Marine

Contents

Hub,
Transceiver,
IP 67 Switch 8/4



Switches 8/5 to 8/7



*“As part of Schneider’s
Transparent Ready strategy,
we are making a commitment
to implement the open
standards of the Internet
within the industrial control
environment in order to provide
you with solutions that are
simple and cost-effective
to deploy.”*

Gateways & Converters 8/8

ConneXview Software 8/9

Cables & Connectors 8/10



ConneXium

Ethernet TCP/IP, Transparent Ready

Cabling system: ConneXium Hub, Transceiver and Switch



Hub			
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T ports
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
Power supply	Voltage	24 V (18...32) DC, safety extra low voltage (SELV)	
Degree of protection		IP 30	
Dimensions W x H x D		40 x 125 x 80 mm	
Conformity to standards		cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL	
		FM 3810, FM 3611 Class 1 Division 2 , C-TICK	
Reference		499 NEH 104 10	



Transceiver			
Interfaces	Copper cable ports	Number and type	1 x 100BASE-TX port
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
	Fiber optic ports	Number and type	1 x 100BASE-FX port
		Connectors	SC
		Medium	Multimode optical fiber
		Length of optical fiber	
		50/125 µm fiber	3000 m (1)
		62.2/125 µm fiber	3000 m (1)
		Attenuation analysis	
		50/125 µm fiber	8 dB:
		62.2/125 µm fiber	11 dB:
Power supply	Voltage	24 V (18...32) DC, safety extra low voltage (SELV)	
Degree of protection		IP 20	
Dimensions W x H x D		47 x 135 x 111 mm	
Conformity to standards		cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL , C-TICK	
Reference		499 NTR 101 00	

(1) Length dependent on the attenuation analysis and attenuation of the optical fiber (typical value: 2000 m).



IP 67 switch		Twisted pair, unmanaged	
Interfaces	Copper cable ports	Number and type	5 x 10BASE-T/100BASE-TX ports
		Shielded connectors	M12 (type D)
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m with rated cable
Power supply	Voltage	24 VDC (18...32 VDC), safety extra low voltage (SELV)	
Degree of protection		IP 65/67	
Dimensions W x H x D		60 x 126 x 31 mm	
Conformity to standards		cUL 508 and CSA 22.2 14 , C-TICK	
Reference		TCS ESU 051 F0	

ConneXium

Ethernet TCP/IP, Transparent Ready
Cabling system: ConneXium unmanaged switches



Switches			Optimized, copper twisted pair, unmanaged	Copper twisted pair, unmanaged
Interfaces	Copper cable ports	Number and type	5 x 10BASE-T/100BASE-TX ports	8 x 10BASE-T/100BASE-TX ports
		Shielded connectors	RJ45	
		Medium	Shielded twisted pair, category CAT 5E	
		Total length of pair	100 m	
Power supply	Voltage		24 VDC (19.2...30)	24 VDC (18...32) safety extra low voltage (SELV)
Degree of protection			IP 20	
Dimensions W x H x D			75.2 x 143 x 43 mm	47 x 135 x 111 mm
Conformity to standards			UL 508, CSA 1010, EN 61131-2 , C-TICK	cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL , C-TICK
References			499 NES 251 00	499 NES 181 00



Switches			Copper twisted pair and fiber optic, unmanaged			
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T/100BASE-TX ports	3 x 10BASE-T/100BASE-TX ports	4 x 10BASE-T/100BASE-TX ports	3 x 10BASE-T/100BASE-TX ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports
		Connectors	SC			
		Medium	Multimode optical fiber			Single mode optical fiber
		Length of optical fiber				
		50/125 µm fiber	5,000 m (1)			–
		62.2/125 µm fiber	4,000 m (1)			–
		9/125 µm fiber	–			32,500 m (2)
Power supply	Voltage		24 VDC (18...32), safety extra low voltage (SELV)			
Degree of protection			IP 20			
Dimensions W x H x D			47 x 135 x 111 mm			
Conformity to standards			cUL 60950, cUL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL , C-TICK			
References			499 NMS 251 01	499 NMS 251 02	499 NSS 251 01	499 NSS 251 02

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).

ConneXium

Ethernet TCP/IP, Transparent Ready
Cabling system: ConneXium managed switches



Switches			Copper twisted pair and fiber optic, managed			
Interfaces	Copper cable ports	Number and type	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports
		Connectors	Duplex SC			
		Medium	Multimode optical fiber		Single mode optical fiber	
		Length of optical fiber				
		50/125 µm fiber	5,000 m (1)		–	
		62.2/125 µm fiber	4,000 m (1)		–	
		9/125 µm fiber	–		32,500 m (2)	
		Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)	
IP 20						
47 x 131 x 111 mm						
IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL , C-TICK						
References			TCS ESM 043F1CU0	TCS ESM 043F2CU0	TCS ESM 043F1CS0	TCS ESM 043F2CS0

- (1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).
- (2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).



Switches			Copper twisted pair, managed	
Interfaces	Copper cable ports	Number and type	4 x 10/100BASE-TX ports	8 x 10/100BASE-TX ports
		Shielded connectors	RJ45	
		Medium	Shielded twisted pair, category CAT 5E	
		Total length of pair	100 m	
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)	
Degree of protection			IP 20	
Dimensions W x H x D			47 x 131 x 111 mm	74 x 131 x 111 mm
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), C _E , GL , C-TICK	
References			TCS ESM 043F23F0	TCS ESM 083F23F0

ConneXium

Ethernet TCP/IP, Transparent Ready
Cabling system: ConneXium managed switches



Switches			Copper twisted pair and fiber optic, managed						
Interfaces	Copper cable ports	Number and type	7 x 10/100BASE-TX ports	6 x 10/100BASE-TX ports	7 x 10/100BASE-TX ports	6 x 10/100BASE-T ports			
		Shielded connectors	RJ45						
		Medium	Shielded twisted pair, category CAT 5E						
		Total length of pair	100 m						
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX port	1 x 100BASE-FX port	2 x 100BASE-FX port	1 + 1 x 100BASE-FX port		
		Connectors	Duplex SC						
		Medium	Multimode optical fiber (MM)			Single mode optical fiber (SM)		Multimode optical fiber (MM), Single mode optical fiber (SM)	
		Length of optical fiber							
		50/125 µm fiber	5,000 m (1)			–		5,000 m (1)	
		62.2/125 µm fiber	4,000 m (1)			–		4,000 m (1)	
		9/125 µm fiber	–			32,500 m (2)		32,500 m (2)	
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)						
Degree of protection			IP 20						
Dimensions W x H x D			74 x 131 x 111 mm						
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL , C-TICK						
References			TCSESM083F1CU0	TCSESM 083F2CU0	TCSESM 083F1CS0	TCSESM 083F2CS0	TCSESM 083F2CX0		

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).
(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).



Switches			Copper twisted pair, managed	Copper twisted pair and fiber optic, managed	Copper twisted pair and fiber optic, managed
Interfaces	Copper cable ports	Number and type	16 x 10/100BASE-TX ports	14 x 10/100BASE-TX ports	22 x 10/100BASE-TX ports
		Shielded connectors	RJ45		
		Medium	Shielded twisted pair, category CAT 5E		
		Total length of pair	100 m		
	Fiber optic ports	Number and type	–	2 x 100BASE-FX ports	
		Connector	–	Duplex SC	
		Medium	–	Multimode optical fiber	
		Length of optical fiber			
		50/125 µm fiber	–	5,000 m (1)	
		62.2/125 µm fiber	–	4,000 m (1)	
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)		
Degree of protection			IP 20		
Dimensions W x H x D			111 x 131 x 111 mm		
Conformity to standards			cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL, C-TICK		
References			TCSESM 163F23F0	TCSESM 163F2CU0	TCSESM 243F2CU0

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).



Type of gateway			TSX ETG 100
Transparent Ready services	Class		B10
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus links
	Ethernet TCP/IP communication management services	Modbus messaging	Read/Write Modbus registers of connected devices
		SNMP	SNMP Agent, device administration with a SNMP manager
		BOOTP protocol	FDR Client (replacement of defective product)
Security		Miniature firewall on-board (IP address filtering) and password protection	
Ethernet connectivity	Physical interface		10BASE-T/100BASE-TX (RJ45)
	Data rate		10/100 Mbps with automatic recognition
	Medium		Twisted pair
Modbus connectivity	Type of port		RS 485 (2 or 4-wire) or RS 232
	Protocol		Modbus (RTU and ASCII)
	Maxi transmission speed		38,4 Kbps (RS 485), 57,6 Kbps (RS 232)
	Number of devices		32 max.
Power supply			24 VDC, 4 W or by power supply device PoE (Power Over Ethernet - IEEE 802.3af)
Degree of protection			IP 30
Dimensions W x H x D			72 x 81 x 76 mm, mounting on symmetrical DIN rail
Conformity to standards			UL, cUL (conforming to CSA C22-2 no. 14-M91), UL508 , C-TICK, CÉ
Reference			TSX ETG 100 (1)

(1) Fonctions: Twido, Compact, Momentum, TSX Micro, Altivar, Altistart, Magelis, ... All products compatible with Modbus standard.



Type of gateway			Ethernet/Modbus Plus gateway/router Class B10
Transparent Ready services	Class		B10
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus Plus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus Plus links
	Standard Ethernet TCP/IP communication services		Modbus TCP messaging SNMP Agent
Functions	Communication gateway		Ethernet/Modbus Plus (many-to-many Modbus Plus)
	Interface for programming		Ethernet/Modbus Plus
Interfaces	Ethernet TCP/IP port	Type	1 x 10BASE-T/100BASE-TX
		Shielded connectors	RJ45
		Medium	Shielded twisted pair
		Max. distances	100 m (327 ft)
	Serial port	Type	1 x Modbus Plus
		Shielded connectors	9-way SUB-D connector
		Medium	Shielded twisted pair (single or double)
Power supply	Voltage		110/220 VAC (93.5 VAC...242 VAC), 47...63 Hz
Degree of protection			IP 20
Dimensions W x H x D			122 x 229 x 248 mm
Conformity to standards			UL 508, CSA 142, C€
Reference			174 CEV 200 40 (2)

(2) Fonctions: 1 Ethernet port, 10BASE-T/100BASE-TX, 1 Modbus Plus port



Introduction

ConneXview is a user friendly software tool used to diagnose industrial Ethernet networks. It provides a very easy and intuitive interface for network operators and maintenance personnel, plus a set of features and advanced functions that are of great value to system integrators and controls engineers.

Product features and functions

Automatic discovery of connected devices

ConneXview performs an automatic discovery of IP devices connected on an Ethernet network and then automatically maps the network topology and devices, providing a green/ yellow/ red color coding of links and devices to enable users to quickly evaluate the status of the network.

Client/ server architecture

ConnexView v2.0 now provides a client/ server architecture, giving you the ability to monitor your network, make routine checks on performance and troubleshoot problems, from anywhere you have access to a PC and a browser.

Alarm Notification

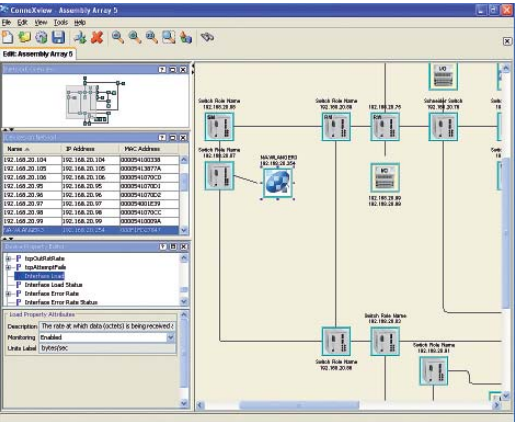
In the event of an alarm, you can choose to be automatically notified by eMail, pager or text message, and even get a list of all alarms and their severity.

Network Assistant

The Network Assistant is a context-sensitive help file containing topics describing every network alarm and warning reported by ConneXview. Selecting an alarm and clicking on the help button will launch the Network Assistant where you will find the alarm text message, a definition of the alarm, a list of the possible causes of the alarm, and a series of recommended actions to clear the alarm.

Device Type Editor (DTE)

ConneXview has a device-type library that enables it to identify a large number of Schneider devices. The DTE can also be used to add 3rd party devices that are not already in the library.



Product References

ConneXview	Server Single License	TCSEAZ01PSFM20S
	Client Single License	TCSEAZ01PSFM20C
Subscription services	Single Server Subscription	TCSEAZ01PSSM20S
	Single Client Subscription	TCSEAZ01PSSM20C

ConneXium

Ethernet TCP/IP, Transparent Ready

Cabling system: Connection components

Shielded copper connection cables

ConneXium shielded connection cables are available in two versions to meet the various current standards and approvals:

EIA/TIA 568 shielded twisted pair cables

- These cables conform to:
- EIA/TIA-568 standard, category CAT 5E,
 - IEC 11801/EN 50173 standard, class D.
- Their fire resistance conforms to:
- NFC 32070# C2 classification
 - IEC 322/1 standards
 - Low Smoke Zero Halogen (LSZH).



		EIA/TIA 568 shielded twisted pair cables for CE market					
Length	m / (ft)	2 (6.6)	5 (16.4)	12 (39.4)	15 (49.2)	40 (131.2)	80 (262.5)
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)					
	References	490 NTW 000 02	490 NTW 000 05	490 NTW 000 12	–	490 NTW 000 40	490 NTW 000 80
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers					
	References	–	490 NTC 000 05	–	490 NTC 000 15	490 NTC 000 40	490 NTC 000 80

EIA/TIA 568 shielded twisted pair cables

- Cable material is :
- CEC type FT-1
 - NEC type CM



		EIA/TIA shielded twisted pair cables for UL markets					
Length	m / (ft)	2 (6.6)	5 (16.4)	12 (39.4)	15 (49.2)	40 (131.2)	80 (262.5)
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)					
	References	490 NTW 000 02U	490 NTW 000 05U	490 NTW 000 12U	–	490 NTW 000 40U	490 NTW 000 80U
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers					
	References	–	490 NTC 000 05U	–	490 NTC 000 12U	490 NTC 000 40U	490 NTC 000 80U

Cables M12



		Cables M12									
M12 / M12	Length (m)	1	1,5	3	5	7	10	15	25	40	
	Reference	TCSECL1M1M●●S2●●									
RJ45 / M12	Length(m)	1	1,5	3	5	–	10	15	25	40	
	Reference	TCSECL1M3M●●S2●●									

Glass fiber optic cables

These glass fiber optics are for making connections:

- To a terminal device (DTE)
- Between hubs, transceivers and switches



		Glass fiber optic cables				
Length	m / (ft)	5 (16.4)	5 (16.4)	3 (9.8)	5 (16.4)	15 (49.2)
Glass fiber optic cables	Preformed at both ends	1 SC connector 1 MT-RJ connector	1 ST connector (BFOC) 1 MT-RJ connector	2 MT-RJ connectors		
	References	490 NOC 000 05	490 NOT 000 05	490 NOR 000 03	490 NOR 000 05	490 NOR 000 15

AS-Interface cabling system



(Actuator Sensor Interface)

- **Simplicity**

A quick and expandable cabling system:

- > Only 1 cable for connecting all the components of an automation system
- > Management of communications integrated in the products

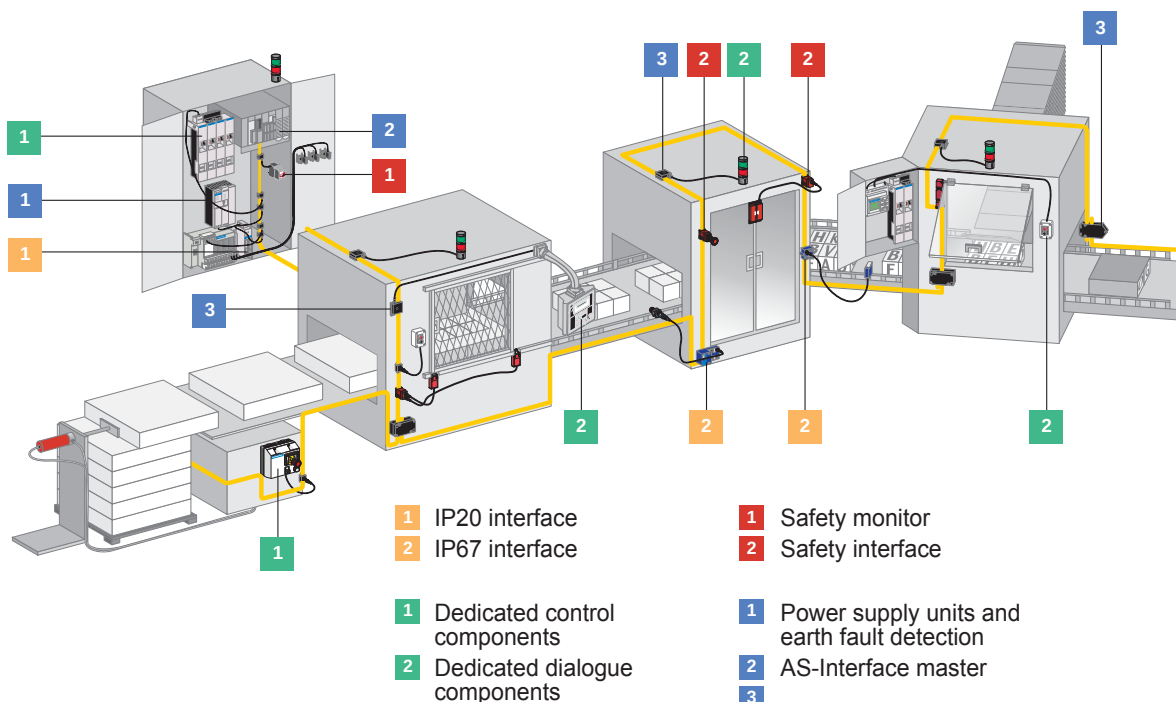
- **Maximum security**

AS-Interface significantly improves the reliability, availability and safety of your machine:

- > Cabling errors are eliminated
- > Risk of electrical connection failure greatly reduced
- > High immunity to electromagnetic interference (EMC)
- > The machine's safety function is fully integrated with AS-Interface Safety at Work.

- **Up to 40% savings in costs**

- > Savings in time for design, installation, setting-up and commissioning
- > Savings in space required in enclosures due to smaller products and elimination of intermediate boxes
- > Control cabling eliminated and reduction in cable ducting



Contents

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- IP20 interfaces
- IP67 interfaces

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- For control
- For dialogue

Safety solutions (see Chapter 9 “Machine safety”)

- Safety monitors
- Safety interfaces

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- Master modules, power supply units
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- Accessories

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- Adjustment and addressing terminals

AS-Interface

Advantys interfaces for generic products

IP20 for mounting in enclosure



Modular interface, width 25 mm V2.1 with standard addressing	Analogue		Digital		
Number of inputs	2 (0...10V)	2 (0/4...20mA)	4	4	4 isolated
Number of outputs	—	—	4 relay, 2A	4 solid state, 0.5A	4 solid state, 0.5A
Type of addressing	Standard				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.)				—
Supply by 24 VDC external source (black AUX cable)	—	—	—	Outputs	(2)
AS-Interface profile	S.7.3.F.D	S.7.3.F.D	S.7.0.F.E	S.7.0.F.E	S.7.0.F.E
Maximum consumption from AS-Interface (excluding sensor supply)	60 mA	60 mA	110 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	ASI20MA2VU	ASI20MA2VI	ASI20MT4I4OR	ASI20MT4I4OS	ASI20MT4I4OSA
Accessory (1) for connection to flat cables	XZCG0122	XZCG0122	XZCG0122	ASIDCPFIL20	ASIDCPFIL20

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

(2) Inputs, outputs and sensor supply (200 mA max.).



Modular interface, width 25 mm V2.1 with extended (A/B) addressing	Digital				
Number of inputs	4	2	4	4	4 isolated
Number of outputs	—	1 triac, 2A	3 relay, 2A	3 solid state, 0.5A	3 solid state, 0.5A
Type of addressing	Extended (A/B)				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.) (3)				—
Supply by 24 VDC external source (black AUX cable)	—	—	—	Outputs	(2)
AS-Interface profile	S.0.A.7.0	S.3.A.7.0	S.7.A.7.0	S.7.A.7.0	S.7.A.7.0
Maximum consumption from AS-Interface (excluding sensor supply)	50 mA	40 mA	90 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	ASI20MT4IE	ASI20MT2I1OTE	ASI20MT4I3ORE	ASI20MT4I3OSE	ASI20MT4I3OSAE
Accessory (1) for connection to flat cables	XZCG0122	XZCG0122	XZCG0122	ASIDCPFIL20	ASIDCPFIL20

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

(2) Inputs, outputs and sensor supply (200 mA max.).

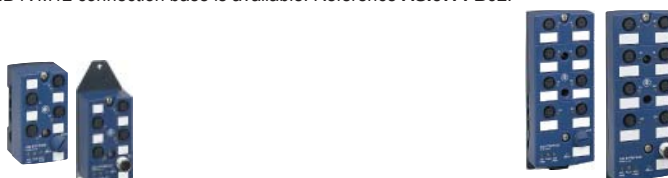
(3) Except ASI20MT4I3ORE (170 mA max.).

IP67 for mounting on machine



Interface			Digital					
V2.1 with extended (A/B) addressing								
Number of inputs			4	2	–	4	4	4
Input cabling			Standard (1 x M12 input)				"Y" (2 x M12 inputs)	
Number of outputs			–	2 solid-state, 2A	3 solid-state, 2A	3 solid-state, 2A	–	3 solid-state, 2A
Type of addressing			Extended (A/B)					
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)					
Supply by 24 VDC external source (black AUX cable)			–	Outputs	–	Outputs	–	Outputs
AS-Interface profile			S.0.A.7.0	S.B.A.7.0	S.8.A.7.0	S.7.A.7.0	S.0.A.7.2	S.7.A.7.E
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	18 mA	48 mA	45 mA	48 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm	45x42x80 mm	60x30.5x151 mm
Connection	IDC	Interface	ASI67FFP40E	ASI67FFP22E	ASI67FFP03E	ASI67FFP43E	ASI67FFP40EY	ASI67FFP43EY
		Standard connection base	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB03	ASI67FFB01 (1)	ASI67FFB03
	M12 connector	Interface + Connection base	ASI67FMP40E	ASI67FMP22E	ASI67FMP03E	ASI67FMP43E	ASI67FMP40EY	ASI67FMP43EY

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.



Interface			Digital				
V2.1 with standard addressing							
Number of inputs			4	2	–	4	4
Input cabling			Standard (1 x M12 input)				"Y" (2 x M12 inputs)
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard				
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)				
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.E	S.3.0.F.E	S.8.0.F.E	S.7.0.F.E	S.7.1.F.E
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA	49 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm	60x30.5x151 mm
Connection	IDC	Interface	ASI67FFP40D	ASI67FFP22D	ASI67FFP04D	ASI67FFP44D	ASI67FFP44DY
		Standard connection base	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB03	ASI67FFB03
	M12 connector	Interface + Connection base	ASI67FMP40D	ASI67FMP22D	ASI67FMP04D	ASI67FMP44D	ASI67FMP44DY

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.



8

Interface			Digital			
V2.1 (V1 compatible) with standard addressing						
Number of inputs			4	2	–	4
Input cabling			Standard (1 x M12 input)			
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard			
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)			
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.F	S.3.0.F.F	S.8.0.F.F	S.7.0.F.F
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm
Connection	IDC	Interface	ASI67FFP40A	ASI67FFP22A	ASI67FFP04A	ASI67FFP44A
		Standard connection base	ASI67FFB01	ASI67FFB01	ASI67FFB01	ASI67FFB01

AS-Interface

Dedicated components
For control



Starter in insulated enclosure (1) V1		Control by		
		Black rotary knob (blue bkgnd.)	Pushbuttons	Red rotary knob (yellow bkgnd.)
Type of addressing		Standard	Standard	Standard
Supply by AS-Interface		Inputs, sensor supply (2)		Inputs, sensor supply
Supply by 24 VDC external source (black AUX cable)		(2)	(2)	Contactors
AS-Interface profile		S.7.D	S.7.D	S.7.F
Maximum consumption from AS-Interface		120 mA	120 mA	12 mA
Dimensions (WxDxH)		175x175x195 mm	175x175x195 mm	175x175x195 mm
References (3) (see table below)	Non reversing	LF1P●●D	LF1M●●D	LF7P●●D
	Reversing	LF2P●●D	LF2M●●D	LF8P●●D

Connection to AS-Interface and external supply (AUX) by accessory for flat cable: ASIDCPM12D03 (AS-Interface and AUX cables) or XZCG01205D (AS-Interface cable).

(1) For an LF1 or LF2 starter in a metal enclosure, add the letter M after the 3rd digit in the references listed above (example: LF1P02D becomes LF1MP02D).

(2) Contactors supplied by AS-Interface or external source, configurable directly on terminal block.

(3) To complete the reference, replace ●● by the numbers indicated in the table below. (Example: LF1P●●D becomes LF1P00D).

kW	A	●●	kW	A	●●
–	without MCB	00	0.75	1.6...2.5	07
0.06	0.16...0.25	02	1.1 / 1.5	2.5...4	08
0.09	0.25...0.40	03	2.2	4...6.3	10
0.12 / 0.18	0.40...0.63	04	3 / 4	6...10	14
0.25	0.63...1	05	5.5	9...14	16
0.37/ 0.55	1...1.6	06			

kW= Motor power ratings in category AC-3, 400/415V, in kilowatts.

A= Adjustable range of circuit-breaker thermal trips, in amperes.

8



Communication interface for	TeSys Model U V2.1	Tego Power V1
Type of addressing	Standard	Standard 2 addresses
Supply by AS-Interface	–	–
Supply by external source (AUX)	Coil	Contactors
AS-Interface profile	S.7.D.F.0	S.7.0
Maximum consumption from AS-Interface	30 mA280 mA	
Dimensions (WxDxH)	depending on LU model	35x129x254 mm
References	ASILUFC5	APP1CAS2
Recommended accessory for connection to AS-Interface cable (4)	ASIDCPFIL20	ASIDCPFIL20

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 8/9).

For dialogue



Keypads and Control stations V1	Control stations with 2 pushbuttons	
	Black and white	Illuminated
Type of addressing	Standard	Standard
Supply by AS-Interface	Buttons	Buttons and pilot lights
Supply by external source (AUX)	–	–
AS-Interface profile	S.3.F	S.3.F
Consumption from AS-Interface	< 40 mA	< 80 mA
Dimensions (WxDxH)	68x62x128 mm	68x68x128 mm
References	XALS2001	XALS2003
Recommended accessory for connection to AS-Interface cable (4)	ASIDCPM12D03	ASIDCPM12D03

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 8/9).



Interface V1	For 2 control units and 2 pilot lights
Number of pages available	–
Number of inputs	2
Number of outputs	2 solid state, 0.5A
Type of addressing	Standard
Supply by AS-Interface	Inputs and pilot lights
AS-Interface profile	S.3.F
Maximum consumption from AS-Interface	80 mA
Dimensions (WxDxH)	52x15x38 mm
References	XALSZ1

Direct screw terminal connection to AS-Interface or by accessory for flat cable: XZCG0122, (other accessories, see page 8/9).



8

Indicator banks, Ø 70 mm (7) V1	Base units and cover		Illuminated units		Audible unit
			"Flash" discharge tube	Steady light	
Type of addressing	Standard	Standard	–	–	–
Connection to AS-Interface cable and AUX (male M12 connector)	yes	yes, remote L=1m	–	–	–
Supply by AS-Interface	(5)	(5)	–	–	–
Supply by external source (AUX)	(5)	(5)	–	–	–
AS-Interface profile	S.8.F	S.8.F	–	–	–
Consumption from AS-Interface, supply by AS-Interface / external	250 / 30 mA	250 / 30 mA	–	–	–
Light source	–	–	5 Joule	LED	–
Buzzer	–	–	–	–	70...80 db at 1m
References	XVBC21A	XVBC21B	XVBC6B● (6)	XVBC2B● (6)	XVBC9B
Recommended accessory for connection to AS-Interface cable & AUX	ASIDCPM12D03	XZCG0120		–	–

(5) Illuminated units supplied by AS-Interface or externally, configurable by shunt.

(6) To complete the reference, replace the ● by the following number designating the colour: green: 3, red: 4, orange: 5, blue: 6, clear: 7, yellow: 8.

(7) To obtain a complete indicator bank, order a base unit + the illuminated or audible units (5 units maximum).

AS-Interface — Installation system

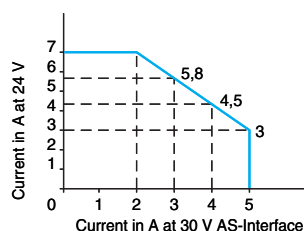
Master modules



Platform	Twido	Premium	Micro	Quantum
Maximum number of master modules per PLC	2	2, 4 or 8 depending on processor	1	8 (1)
Compatibility with AS-Interface interfaces and components	V1 / V2.1	V1 / V2.1	V1	V1
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block	by terminal block
Maximum number of addresses	62	62	31	31
Type of addressing	Standard/Extended (A/B)	Standard/Extended (A/B)	Standard	Standard
Compatibility with analogue interfaces	Yes	Yes	—	—
Compatibility with safety interfaces	Yes	Yes	Yes	Yes
AS-Interface profile	M.3	M.2.E	M.2	M.2
References	TWDNOI10M3	TSXSAY1000	TSXSAZ10	140EIA92100

(1) 4 per local rack, 4 per remote I/O, 2 per distributed I/O.

Power supply units



Type of supply	AS-Interface		AS-Interface + Auxiliary	
Input voltage	100...240 VAC	100...240 VAC	100...240 VAC	100...120 & 200...240 VAC
AS-Interface output voltage	30 VDC	30 VDC	30 VDC	30 VDC
Auxiliary output voltage	—	—	24 VDC	24 VDC
AS-Interface nominal power	73 W	146 W	73 W	61-153 W
Auxiliary nominal power	—	—	72 W	72-168 W
AS-Interface nominal current	2.4 A	4.8 A	2.4 A	5 A (2)
AUX nominal current	—	—	3 A	7 A (2)
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block	by terminal block
Dimensions (WxDxH)	54x120x120 mm	81x120x120 mm	81x120x120 mm	225x135x151.5 mm
References	without earth fault detection	ASIABL3002	ASIABL3004	ASIABLM3024
	with earth fault detection	ASIABLD3002	ASIABLD3004	—

(2) Power supply unit with constant maximum output, see curve above.

Cables and repeater



Type			Yellow AS-Interface cable	Black Auxiliary cable	Repeater (4)
Wire c.s.a.			2 x 1.5 mm²	2 x 1.5 mm²	–
References	Cable	L = 20 m	XZCB10201 (3)	XZCB10202 (3)	–
		L = 50 m	XZCB10501 (3)	XZCB10502 (3)	–
		L = 100 m	XZCB11001 (3)	XZCB11002 (3)	–
Reference of repeater			–	–	ASIRPT01

(3) Standard cable. For TPE cable (oil and vapour resistant) add the letter **H** to the end of the reference, example: XZCB10201 becomes **XZCB10201H**.
(4) Enables an AS-Interface network to be extended by 100 m. Direct connection to the AS-Interface yellow cable by IDC

Tap-offs for flat cable
(For connecting interfaces and components)



Connection to cable by IDC			AS-Interface IP54		AS-Interface + Auxiliary IP67	
Cable extremity			M12 connector (5)	Bared wires (6)	M12 connector (5)	Bared wires (7)
References	Cable	L = 0.3 m	–	–	ASIDCPM12D03	–
		L = 0.6 m	XZCG01205D	–	–	–
		L = 1 m	XZCG0121D	–	–	–
		L = 2 m	–	XZCG0122	ASIDCPM12D20	ASIDCPFIL20
		L = 5 m	–	–	–	ASIDCPFIL50

(5) Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.
(6) 2 x 0.34 mm² for product with terminal block.
(7) 4 x 0.34 mm² for product with terminal block.



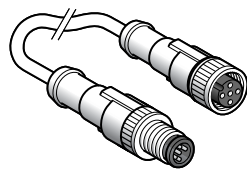
Connection to cable by IDC			AS-Interface	2 AS-Interface or 2 Auxiliary
Tap-off			1 x M12 connector 5-pin female, screw threaded	1 flat cable
References	Tap-off		XZCG0120	–
	IDC connection base		–	XZSDE1113
	Cover		–	XZSDP (8)

(8) For the complete product, include the connection base.

AS-Interface

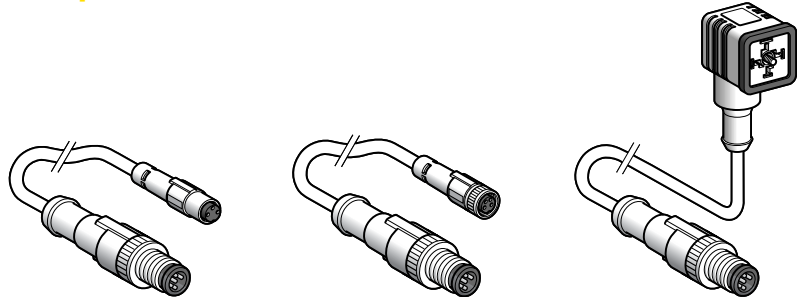
Installation system

Jumper cables M12 / M12



Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Female connector type, sensor side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1
	L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2

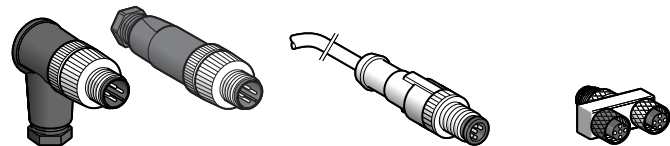
Jumper cables M12 / M8 or DIN



Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.
Female connector type, sensor side		M8, 3-pin, straight (1)	M8, 3-pin, straight, screw thread.	DIN 43650A, elbowed, screw thrd.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1
	L = 2 m	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2

(1) Clip together connector.

Connectors, splitter box



Type		Connectors	Pre-wired connectors	Splitter box
Male connector type, interface side		M12, 4-pin	M12, 5-pin, straight, screw thread.	1 x M12, 5-pin, straight, screw thrd.
Female connector type, sensor side		–	–	2 x M12, 5-pin, straight, screw thrd.
Cable		–	PUR, black	–
References	Straight connector, screw thread.	XZCC12MDM40B	–	FTXCY1212
	Elbowed connector, screw thread.	XZCC12MCM40B	–	–
	Cable L = 0.5 m	–	XZCP1564L05	–
	Cable L = 2 m	–	XZCP1564L2	–

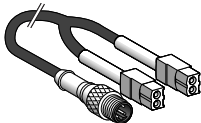
Tools

Adjustment and addressing terminals

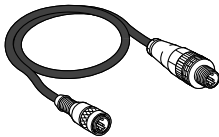
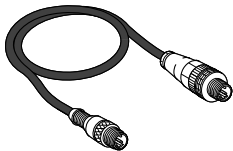


Display	25 mm LCD screen	13 mm LCD screen
Degree of protection	IP40	IP20
AS-Interface voltage / current measurement	yes	no
Addresses stored in memory	yes	no
Access to functions	direct by selector switch	by pull-down menu
Compatibility	V1/V2	V1/V2
Operating time	2500 addressing operations	250 read/write operations
References	ASITERV2	XZMC11
Reference with set of 7 leads + protective cover for terminal	ASITERV2SET	–

Addressing accessories for terminals ASITERV2 and XZMC11



Product connection	Infrared addressing	Socket
For products	ASISSL...	ABE8... / APP1 / ASILUF... / XBZS43 / ASI20M
References	ASITERIR1	XZMG12



Product connection	M12, male	M12, female	Jack plug
For products	(2)	ASI67FMP XVB... / XAL... / LF...	ASI20M... / ASI67FFP...
References	ASITERACC1M	ASITERACC1F	ASITERACC

(2) Possibility to connect AS-Interface cable using T connector XZCG0120.

Machine safety

Preventa

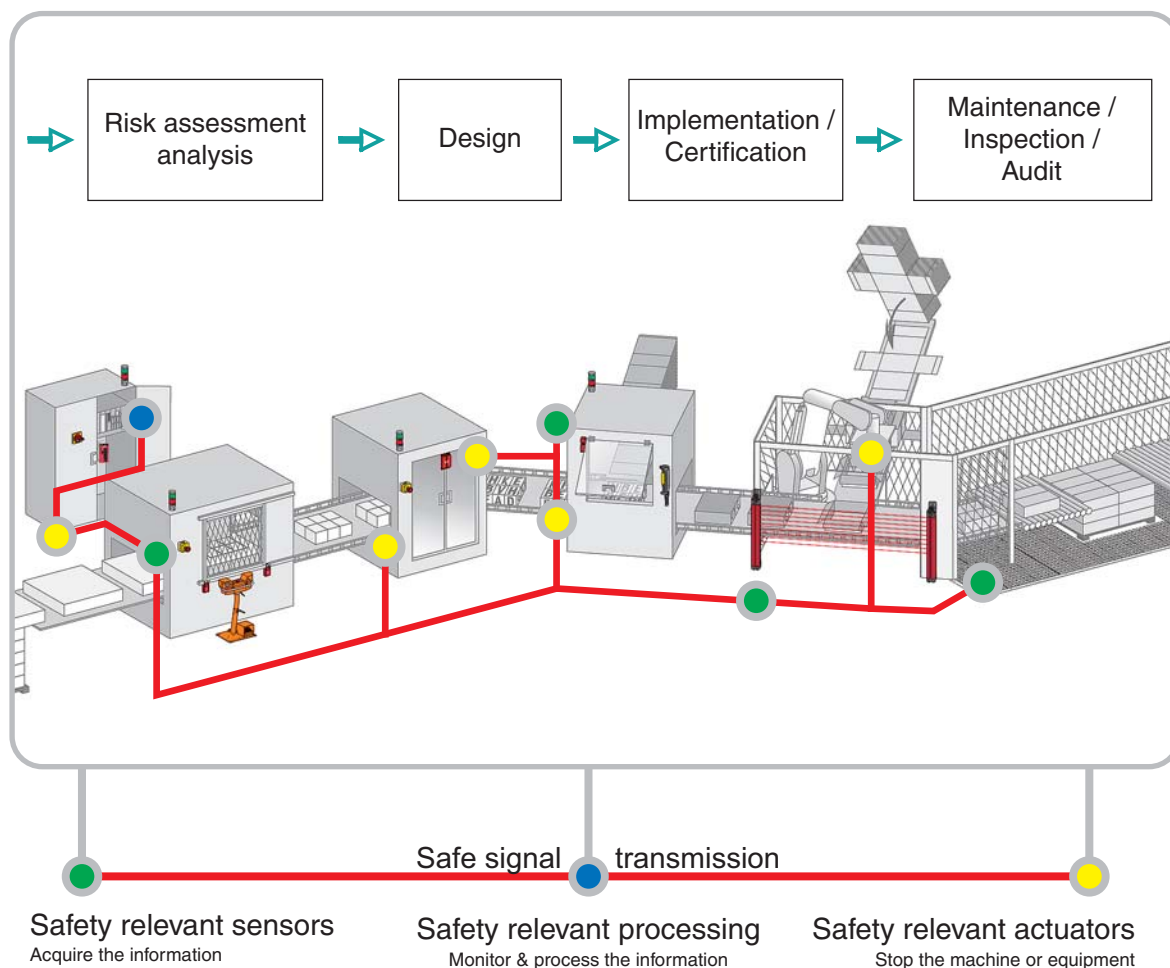
Ingenious and innovative, Preventa safety solutions provide maximum protection for all the safety functions of your automation system.

Select Preventa:

- To export your machines to any location in the world, you expect solutions that are both *approved* and *conform* to international standards.
- To maintain productivity, you need solutions *quickly* to assist you, irrespective of the circumstances.
- You seek *universal* solutions to respond to the diversity of your customers' requirements and, at the same time, *optimise* your stock.

Full safety chain:

Since a perfect safety system does not exist, the latest standards relating to functional safety and voluntary application provide new risk management methods to be used from the design stage by applying principles such as the safety integrity level (SIL) as well as extensively using established operating safety concepts.



Contents

Safety standard 9/2 to 9/9

Automation 9/6 to 9/11

- Safety PLCs
- Safety controllers and modules

AS-Interface Safety at work 9/12 and 9/13

- Safety monitors and interfaces

Detection 9/14 to 9/21

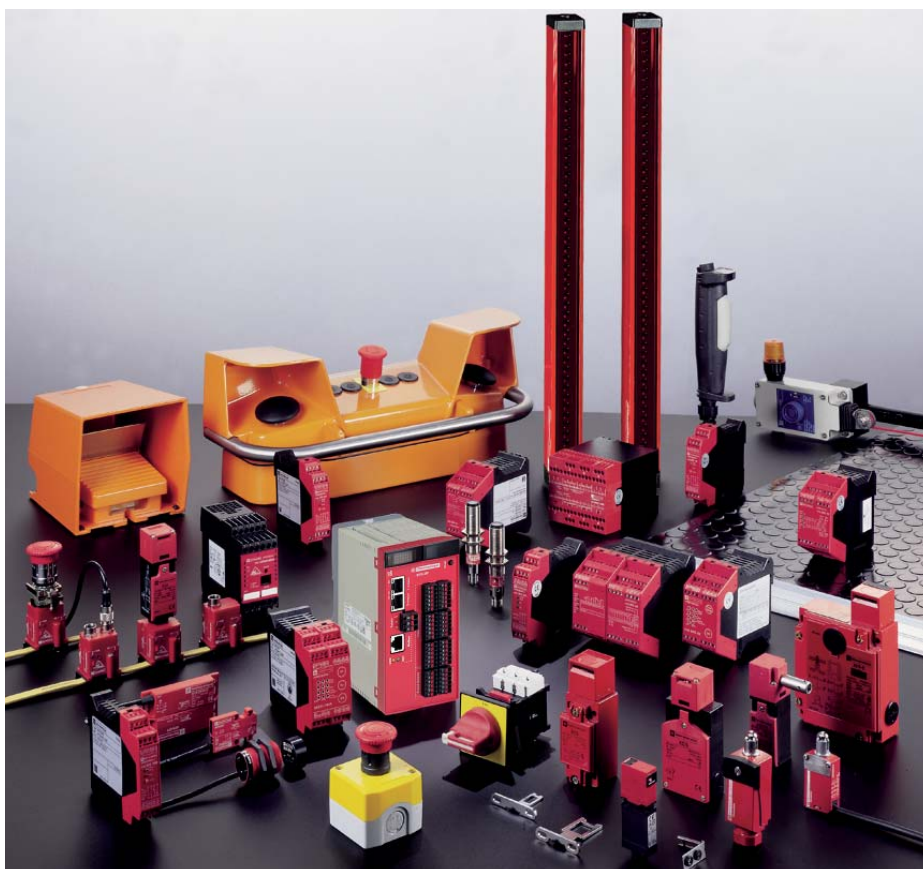
- Safety switches
- Safety limit switches and mats
- Safety light curtains

Operator dialogue 9/22 to 9/26

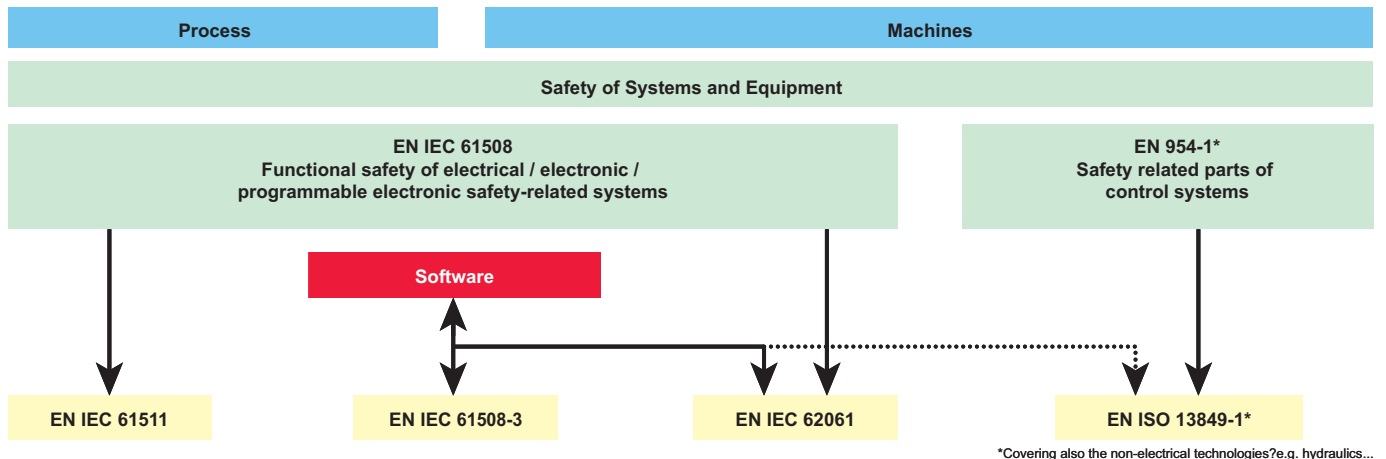
- Emergency stops
- Foot switches
- Two-hand control and enabling switches
- Products for explosive atmospheres
(see chapter 10 “Explosive Atmospheres”)

Motor control 9/27 to 9/29

- Switch disconnectors
- TeSys motor starters



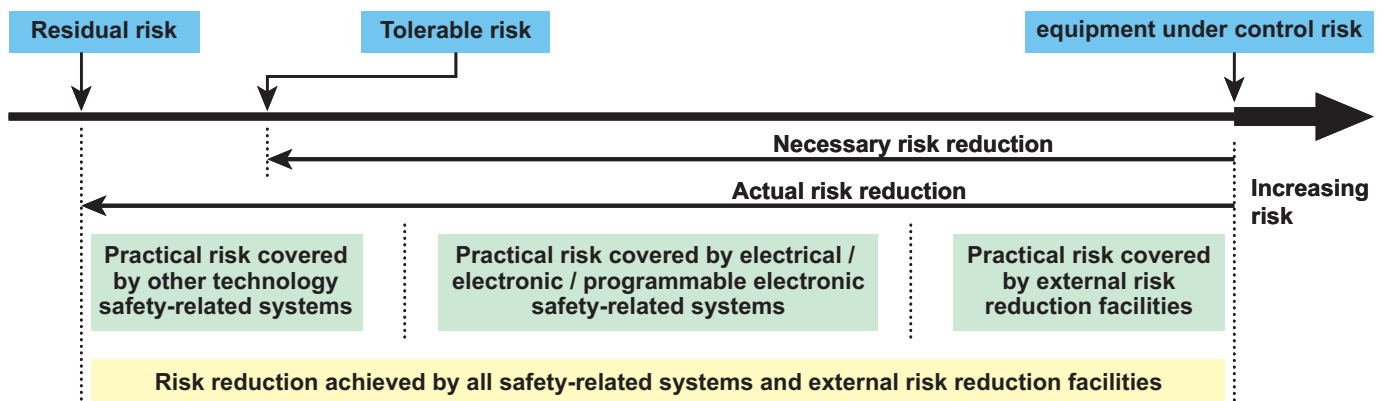
Functional Safety and Safety Integrity Level (SIL)



*Covering also the non-electrical technologies?e.g. hydraulics...

Risk reduction according to EN IEC 61508

- **Safety** is achieved by risk reduction (for those hazards that cannot be designed-out).
- **Residual risk** is the risk remaining after protective measures have been taken.
- **Protective measures** realised by E/E/PE safety related systems contribute to risk reduction.



For machinery, the probability of dangerous failures per hour of a control system is denoted in EN IEC 62061 as the PFHD

- The rate of failures λ can be expressed as follows:

$$\lambda = \lambda_s + \lambda_{dd} + \lambda_{du}$$

- The calculation of the PFHD for a system or subsystem depends on several parameters:

- the dangerous failure rate (λ_d) of the subsystem elements
- the fault tolerance (e.g. redundancy) of the system
- the diagnostic test interval (T2)
- the proof test interval (T1) or lifetime whichever is smaller
- the susceptibility to common cause failures (β)

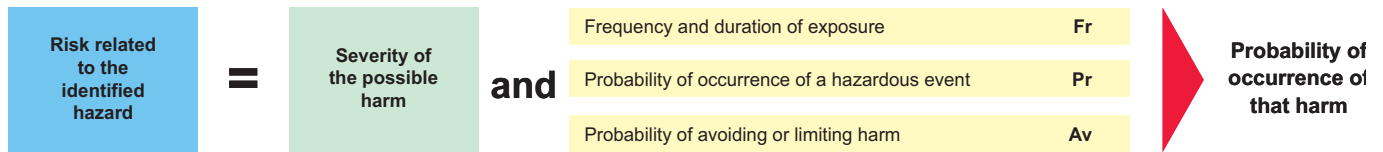
- For each of the four different logical architectures A to D there is a different formula to calculate the PFHD. (see EN IEC 62061)
(The principal relationship is: $\text{PFHD} = \lambda_d \times 1h$)

λ_s = rate of safe failures,
 λ_{dd} = rate of detected dangerous failures,
 λ_{du} = rate of undetected dangerous failures

In practice, detected dangerous failure are dealt with by fault reaction functions

Safety integrity level SIL	High demand or continuous mode of operation (Probability of a dangerous failure per hour) PFHD
3	10^{-8} to $< 10^{-7}$
2	10^{-7} to $< 10^{-6}$
1	10^{-6} to $< 10^{-5}$

Machinery: Risk estimation and SIL assignment of EN IEC 62061



Machinery: Determination of the required SIL. Example according to EN IEC 62061

Consequences		Severity (Se)
Irreversible: death, losing an eye or arm		4
Irreversible: broken limb(s), losing a finger(s)		3
Reversible: requiring attention from a medical practitioner		2
Reversible: requiring first aid		1

Frequency and duration of exposure (Fr)	
Frequency of exposure	Duration
1 h	> 10 min
> 1 h to 1 day	5
> 1 day to 2 weeks	4
> 2 weeks to 1 year	3
> 1 year	2

Probability of occurrence		Probability (Pr)
Very high		5
Likely		4
Possible		3
Rarely		2
Negligible		1

Probability of a voiding or limiting harm (Av)	
Impossible	
Rarely	
Probable	

Serial no.	Hazard	Se	Fr	Pr	Av	CI
1	Hazard x	4	5	4	3	12
2						

[illegible]

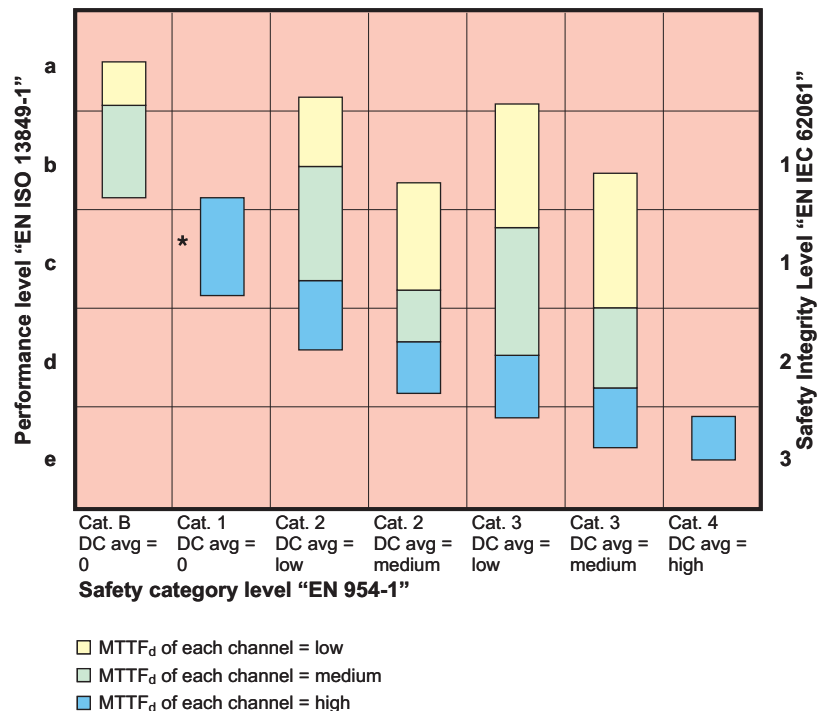
Safety of Machinery: *EN ISO 13849-1, definition of MTTF_d

■ The parameter for the failure rate in EN ISO 13849-1 is the Mean Time To Failure (MTTF). This time value indicates the number of years in which the first failure probably occurs.

- **MTTF = mean time to failure** [years]
 - The mean time after installation of devices to any first failure.
 - The general relation between λ and MTTF is:

$$MTTF = 1/\lambda$$

- **MTBF = mean time between failures**
 - Not relevant for devices which are not repaired.
- **MTTF_d = mean time to dangerous failure**
 - The MTTF_d is defined in EN ISO 13849-1 as the expectation of the mean time to dangerous failure of a safety related part of a control system.



* In several application the realisation of performance level c by category 1 may not be sufficient. In this case a higher category e.g. 2 or 3 should be chosen.

Safety of Machinery: *EN ISO 13849-1 Risk graph and parameters

S = Severity of injury

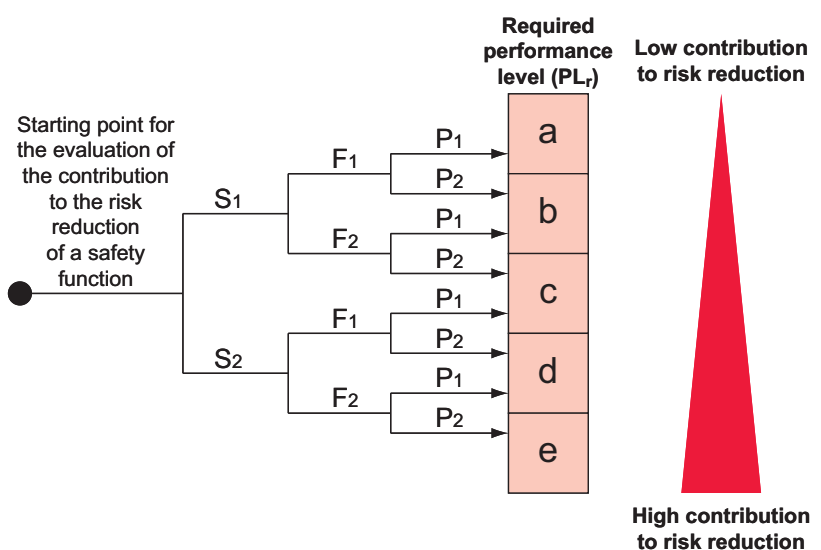
S1 = Slight (normally reversible injury)
S2 = Serious (normally irreversible) injury including death

F = Frequency and/or exposure time to the hazard

F1 = Seldom to less often and/or the exposure time is short
F2 = Frequent to continuous and/or the exposure time is long

P = Possibility of avoiding the hazard or limiting the harm

P1 = Possible under specific conditions
P2 = Scarcely possible



SafetySuite V2 software

SafetySuite V2 software incorporates 4 software applications for machine safety, it is available in 4 complete versions and 3 versions updated, adapted to your particular needs:



■ Protect Area Design

Safety light curtains and sensing mats configuration software.

SafetySuite V2 comprising Protect Area Design (full version) and demo versions of the 3 other software applications.

Reference: **SISCD104200**



■ ASI SWIN

AS-Interface safety monitor configuration software.

SafetySuite V2 comprising Protect Area Design and ASI SWIN (full versions) and demo versions of the other 2 software applications.

Reference: **ASISWIN2**

ASISWIN update version comprising the new ASISWIN 2+, only if the previous version of Safety Suite V1 with ASISWIN2 version 2.0.3 (ref: ASISWIN) have been already installed.

Reference: **SSVASISWINUP**



■ XPS MCWIN

XPS MC safety controllers configuration software.

SafetySuite V2 comprising Protect Area Design, ASI SWIN and XPS MCWIN (full versions) and demo version of XPS MFWIN.

Reference: **XPSMCWIN**

XPSMCWIN update version comprising the new XPSMCWIN 2.10, only if the previous version of Safety Suite V1 with XPSMCWIN version 2.0 (ref: XPSMCWIN) have been already installed.

Reference: **SSVXPSMCWINUP**



■ XPS MFWIN

XPS MF safety PLCs programming software.

SafetySuite V2 comprising Protect Area Design, ASI SWIN, XPS MCWIN and XPS MFWIN (full versions).

Reference: **SSV1XPSMFWIN**

XPSMFWIN update version comprising the new XPSMFWIN 4.1 build 6150, only if the previous version of Safety Suite V1 with XPSMFWIN version 4.1 (ref: SSV1XPSMFWIN) have been already installed.

Reference: **SSVXPSMFWINUP**

Preventa Automation Safety PLCs Compact

For all XPSMF PLCs

- Maximum category of the solution **Category 4**
(EN 954-1)
- Max performance level for the solution **PL e**
(EN ISO 13849-1)
- Max safety integrity level for the solution **SIL 3**
(EN IEC 62061)



Safety PLC type		Compact					
Number of inputs/outputs	Digital (configurable with XPSMFWIN software)	24					
	Pulsed (1)	2x4					
Memory capacity	Application	250 Kb					
	Data	250 Kb					
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)					
Communication	On Ethernet network with safe Ethernet protocol	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)
	On Modbus TCP/IP	—	Integrated (2xRJ45)	—	Integrated (2xRJ45)	—	Integrated (2xRJ45)
	On Modbus (Serial link)	—	—	Integrated (1xRJ45)	Integrated (1xRJ45)	—	—
	On Profibus DP	—	—	—	—	Integrated (SUB-D9)	Integrated (SUB-D9)
Input/output connections		Removable screw terminal blocks or removable cage clamp terminal blocks coded with locating device					
References		XPSMF4000	XPSMF4002	XPSMF4020	XPSMF4022	XPSMF4040	XPSMF4042

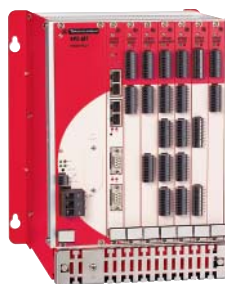
(1) They outputs are not safety outputs.

Compact



Safety PLC type		Compact				
Number of inputs	Digital	20	20	24	24	24
	Analogue	—	—	8	8	8
	Counting	—	—	2	2	2
Number of outputs	Digital	8	8	8	8	8
	Analogue	—	—	—	—	—
	Relay	—	—	—	—	—
Memory capacity	Application	250 Kb				
	Data	250 Kb				
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)				
Communication	On Ethernet network (Modbus TCP/IP)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)
	On Modbus (Serial link)	Integrated (SUB-D9)	—	—	Integrated (SUB-D9)	—
	On Profibus DP	—	—	—	—	Integrated (SUB-D9)
Input/output connections		Removable screw terminal blocks, coded with locating device				
References (2)		XPSMF3022	XPSMF31222	XPSMF3502	XPSMF3522	XPSMF3542

(2) Products referenced XPSMF30/MF31/MF35 are marked Himatrix F30, F31 and F35.



For all XPSMF PLCs

- Maximum category of the solution **Category 4**
(EN 954-1)
- Max performance level for the solution **PL e**
(EN ISO 13849-1)
- Max safety integrity level for the solution **SIL 3**
(EN IEC 62061)

Type		CPU	Power supply module	Rack with 6 slots	Software
Memory capacity	Application	500 Kb	—	—	For XPSMF PLCs
	Data	500 Kb	—	—	
Supply		—	External 24 VDC, integrated	—	
Communication	On Ethernet network (Modbus TCP/IP)	Integrated (4xRJ45)	—	—	Complete version
	On Modbus bus (Serial link)	Integrated (SUB-D9)	—	—	SSV1XPSMFWIN
Power connections		Screw terminal blocks	Screw terminal blocks	—	(1)
Dimensions W x D x H		—	—	257 x 239 x 310 mm	Update version
References		XPSMFCPU22	XPSMFPS01	XPSMFGEH01	SSVXPSMFWINUP



I/O module type		For modular safety PLC						
		Analogue		Digital			Relay	
Number of inputs	Digital	—	—	—	24	32	24	—
	Analogue	8	—	—	—	—	—	—
Number of outputs	Counting	—	—	2	—	—	—	—
	Digital	—	—	4	—	—	16	—
	Analogue	—	8	—	—	—	—	—
	Relay	—	—	—	—	—	—	8
Supply		Removable screw terminal blocks, coded with locating device						
References		XPSMFAI801	XPSMFAO801	XPSMFCIO2401	XPSMFDI2401	XPSMFDI3201	XPSMFDIO241601	XPSMFD0801

Decentralised safety I/O modules



Module type		Inputs/Ouputs Digital			
Number of inputs	Digital	16	8+2	16	20
Number of outputs	Digital	—	8	8	8
	Pulsed	4	2	2	—
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)			
Communication	On Safe Ethernet network (Modbus TCP/IP)	Integrated (2xRJ45)			
Input/output connections		Removable screw terminal blocks, coded with locating device			
References (2)		XPSMF1DI1601	XPSMF3DIO8801	XPSMF3DIO16801	XPSMF3DIO20802



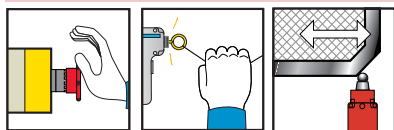
I/O module type		Inputs/Outputs Analogue	Outputs Digital		Relay
Number of inputs	Analogue	8	—	—	—
Number of outputs	Digital	—	4	16	—
	Analogue (not safety)	4	—	—	—
	Relay	—	—	—	8
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)			
Communication	On Safe Ethernet network (Modbus TCP/IP)	Integrated (2xRJ45)			
Input/output connections		Removable screw terminal blocks, coded with locating device			
References (2)		XPSMF3AIO8401	XPSMF2DO401	XPSMF2DO1601	XPSMF2DO801
				XPSMF2DO1602	

(1) To be ordered only if the previous version of have been already installed.

(2) Products referenced **XPSMF1/MF2/MF3** are marked **Himatrix F1, F2 and F3**.

For all XPSMC controllers

- Max performance level for the solution (EN ISO 13849-1) **PL e**
- Max safety integrity level for the solution (EN IEC 62061) **SIL 3**



Universal



Maximum category of the solution (EN 954-1)		Category 4			
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function	
	Additional	–		3 solid-state	
Display (number of LEDs)		30		12	
Width of housing		74 mm		45 mm	
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1) (2)	XPSMC32ZC (1) (2)	XPSMC32ZP (1) (2)	XPSMP11123P (3)
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coded magnetic switches enabling switch



Universal



Maximum category of the solution (EN 954-1)		Category 4			
For monitoring		magnetic switches and enabling switch			
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function	
	Additional	–		3 solid-state	
Display (number of LEDs)		30		12	
Width of housing		74 mm		45 mm	
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)
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safety mats and edging



Universal



Maximum category of the solution (EN 954-1)		Category 3			
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function	
	Additional	–		3 solid-state	
Display (number of LEDs)		30		12	
Width of housing		74 mm		45 mm	
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

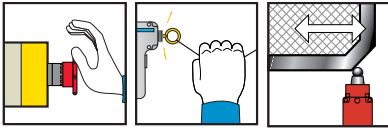
Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)
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(1) Version with 32 inputs. For version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(3) For fixed connector version, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

Safety modules for monitoring emergency stops and limit switches



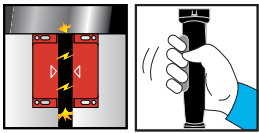
Maximum category of the solution (EN 954-1)		Category 3	Category 4				
Number of circuits	Safety	3N/O	3N/O	3N/O	7N/O	3N/O+3N/O time del.	2N/O+3N/O time del.
	Additional	1 solid-state	–	1N/C + 4 solid-state	2N/C + 4 solid-state	3 solid-state	4 solid-state
Display (number of LEDs)		2	3	4	4	11	4
Width of housing		22.5 mm	22.5 mm	45 mm	90 mm	45 mm	45 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage (1)	24 VDC	–	–	–	–	XPSAV11113P	–
	24 VAC/DC	XPSAC5121P	XPSAF5130P	XPSAK311144P	XPSAR311144P	–	XPSATE5110P
	230 VAC	–	–	–	–	–	XPSATE3710P

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSAV11113P becomes XPSAV11113).

coded magnetic switches enabling switch



Maximum category of the solution (EN 954-1)		Category 4		
For monitoring		2 coded magnetic switches maximum	6 coded magnetic switches maximum	enabling switch
Number of circuits	Safety	2N/O	2N/O	2N/O
	Additional	2 solid-state	2 solid-state	2 solid-state
Display (number of LEDs)		3	15	3
Width of housing		22.5 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSDMB1132P (1)	XPSDME1132P (1)	XPSVC1132P (1)
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(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSDMB1132P becomes XPSDMB1132).

safety mats and edging



Maximum category of the solution (EN 954-1)		Category 3
Number of circuits	Safety	3N/O
	Additional	1N/C + 4 solid-state
Display (number of LEDs)		4
Width of housing		45 mm

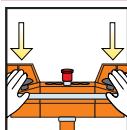
Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VAC/DC	XPSAK311144P (1)
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(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSAK311144P becomes XPSAK311144).

For all XPSMC controllers

- Max performance level for the solution (EN ISO 13849-1)PL e
- Max safety integrity level for the solution (EN IEC 62061)SIL 3



Universal

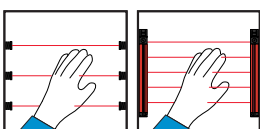


Maximum category of the solution (EN 954-1)		Category 4		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)
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light curtains



Universal



Maximum category of the solution (EN 954-1)		Category 4			2 light curtains monitoring max.
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2x3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Integral Muting function		Yes			No
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

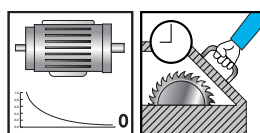
Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)	XPSLCM1150 (4)
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(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(3) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

(4) Removable terminal blocks

zero speed, time delay



Universal



Maximum category of the solution (EN 954-1)		Category 4		
For monitoring		Motor zero speed condition		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

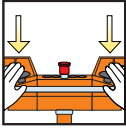
Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (5) (2)	XPSMC32ZC (5) (2)	XPSMC32ZP (5) (2)
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(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(5) Plug-in connector version only.

Safety modules for monitoring two-hand control



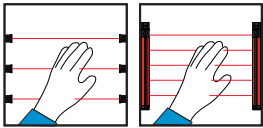
Maximum category of the solution (EN 954-1)		Category 1 (type IIIA to EN 574)	Category 4 (type IIIC to EN 574)	
Number of circuits	Safety	1N/O	2N/O	2N/O
	Additional	1N/C	1N/C	2 solid-state
Display (number of LEDs)		2	3	3
Width of housing		22.5 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	—	XPSBC1110	XPSBF1132P (1)
	24 VAC/DC	XPSBA5120	—	—

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSBF1132P becomes XPSBF1132).

light curtains



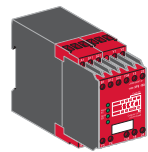
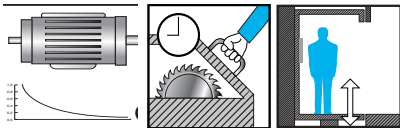
Maximum category of the solution (EN 954-1)		Category 2	Category 4		
Number of circuits	Safety	2N/O	3N/O	3N/O	7N/O
	Additional	4 solid-state	—	1N/C + 4 solid-state	1N/C + 4 solid-state
Display (number of LEDs)		4	3	4	4
Width of housing		45 mm	22.5 mm	45 mm	90 mm
Integral Muting function		Yes	No	No	No

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSCM1144P (1)	—	—	—
	24 VAC/DC	—	XPSAFL5130P (1)	XPSAK311144P (1)	XPSAR311144P (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

zero speed, time delay and lifts



Maximum category of the solution (EN 954-1)		Category 3		Category 4
For monitoring		Motor zero speed condition	Safety time delay	Lifts
Number of circuits	Safety	1N/O + 1N/C	1N/O time delay	1N/O pulse
	Additional	2 solid-state	2N/C + 2 solid-state	2N/C + 2 solid-state
Display (number of LEDs)		4	4	4
Width of housing		45 mm	45 mm	45 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSVNE1142P (1)	—	—	—
	24 VAC/DC	—	XPSTSA5142P (2)	XPSTSW5142P (2)	XPSDA5142

(1) Motor frequency ≤ 60 Hz.. For frequencies ≥ 60 Hz, please refer to the "Safety solution" catalogue.

(2) Removable terminal block version only.

- For all ASISAFEMON monitors
• Max performance level for the solution PL e (EN ISO 13849-1)
• Max safety integrity level for the solution..... SIL 3 (EN IEC 62061)



Maximum category of the solution (EN 954-1)		Category 4	
Number of circuits	Safety	2N/O	2 x 2N/O
	Auxiliary	1 solid-state	2 solid-state
Display (number of LEDs)		5	8
Width of housing		45 mm	45 mm
AS-Interface profile		S.7.F	S.7.F
Master module compatibility		V1 / V2.1	V1 / V2.1
References of monitor with	enhanced functions	ASISAFEMON1B	ASISAFEMON2B
	standard functions	ASISAFEMON1	ASISAFEMON2

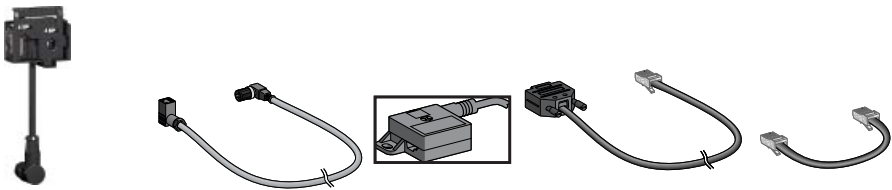
Configuration software, adjustment terminal and AS-Interface analyser



Type	“Safety Suite” configuration software (1)	Adjustment terminal (2)	AS-Interface Analyser
Multilingual	EN / FR / DE / ES / IT / PT	–	■ Analysis and diagnostics of AS-Interface line and Safety at Work
For use with	ASISAFEMON1/2, ASISAFEMON1B/2B	–	■ Complements the diagnostic functions of the local AS-Interface master
Media	CD-ROM PC	–	■ Maintenance or validation of AS-Interface lines
Environment	Windows	–	■ Print-out of AS-Interface line tests
Degree of protection	–	IP 20	
Supply	–	4 x LR6 batteries	
Dimensions W x D x H	–	70 x 50 x 170 mm	92 x 28 x 139 mm
References	Complete version	ASISWIN2	ASISA01
	Update version (3)	SSVASISWINUP	–

(1) CD-ROM with hardware and software user guides.
(2) For addressing safety interfaces, use the infrared adaptor ASITERIR1 or the standard adaptor ASISAD1.
(3) To be ordered only if the previous version of have been already installed.

Accessories



Type	Adaptor for the adressing of safety interfaces	Infrared adaptor for adjustment terminal	Tap-off for AS-Interface cable	Cable for monitor parametering, RS 232	Cable for monitor to monitor transfer
Degree of protection	IP 67	IP 67	IP 67	IP 20	IP 20
Cable length	–	1 m	2 m	2 m	0.2 m
References	ASISAD1	ASITERIR1	XZCG0122	ASISPCPC	ASISCM

Safety interfaces

For Ø 22 Emergency stop



Interface type	For mushroom head pushbuttons				Control stations	
	Metal	(1)	Plastic	(1)	Plastic	
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 65	IP 65
Dimensions W x D x H (mm)	40 x 90 x 68	40 x 80 x 40	40 x 90 x 64	40 x 90 x 40	66 x 95 x 78	66 x 95 x 78
AS-Interface profile	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA	45 mA	45 mA	45 mA
Infrared addressing	Yes	No	Yes	No	No	No
Connection on AS-Interface	IDC (2)	Connector	IDC (2)	Connector	M12 connector	M12 connector
Reference with N/C + N/C contact (head not included)	ASISSLB4	ASISSLE4	ASISSLB5	ASISSLE5	ASISEA1C	ASISEK1C
Reference of head (Ø40 latching mushroom head, turn to release)	ZB4BS844 (3)	ZB4BS844 (3)	ZB4AS844 (3)	ZB5AS844 (3)	Integrated (4)	Integrated (5)

(1) For installation in enclosures.

(2) IDC: Insulation Displacement Connector.

(3) Head to be ordered separately. For other heads, please refer to www.schneider-electric.com.

(4) Turn to release latching mushroom head.

(5) Key release (n° 455) latching mushroom head.

For other safety products with M12 connector outputs or ISO M16/20

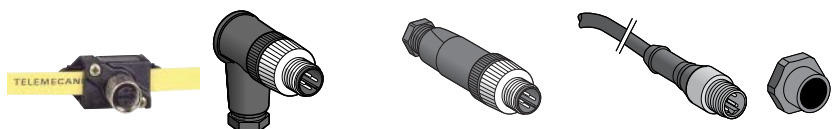


Type of entry	2 x M12 entries (5)	1 x M12 entry	1 x ISO M16 entry (6)
Degree of protection	IP 67	IP 67	IP 67
Dimensions W x D x H	40 x 40 x 58 mm	40 x 40 x 58 mm	40 x 40 x 57.5 mm
AS-Interface profile	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA
Infrared addressing	Yes	Yes	Yes
Connection on AS-Interface	IDC (1)	IDC (1)	IDC (1)
References	ASISSLC2	ASISSLC1	ASISLLS

(5) For connection using 2 pre-wired connectors, or 1 pre-wired connector + 1 connector.

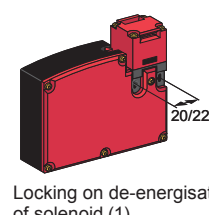
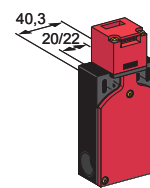
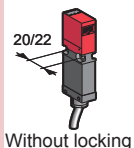
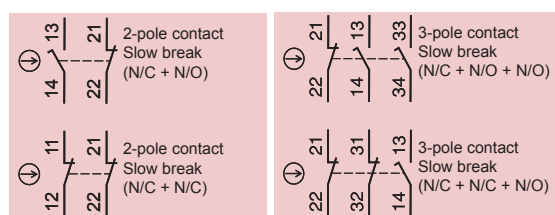
(6) For 1 x ISO M20 entry, use adaptor shown below.

Accessories



Type	Tap-off for AS-Interface cable	Connectors		Pre-wired connector	Adaptor (sold in lots of 5)
Description	M12 female, threaded	elbowed	straight	straight	ISO M16/M20
Degree of protection	IP 67	IP 67	IP 67	IP 67	IP 67
Length of cable	—	—	—	2 m	—
References	XZCG0120	XZCC12MCM40B	XZCC12MDM40B	XZCP1541L2	DE9RI2016

ISO entry
(to EN 50262)



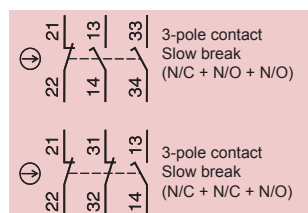
Locking on de-energisation of solenoid (1)

Plastic, double insulated switches		Type XCSMP pre-cabled, L = 2 m	Type XCSPA and TA 1xISO M16 entry. (2) 2xISO M16 entries. (2)		Type XCSTE 1 x ISO M16 cable entry (2)
Actuation speed (min → max)		0,05 m/s → 1,5 m/s	0,1 m/s → 0,5 m/s		0,1 m/s → 0,5 m/s
Degree of protection		IP 67	IP 67		IP 67
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15, C 300 / DC 13, Q 300	AC 15, A 300 / DC 13, Q 300		AC 15, B 300 / DC 13, Q 300
Dimensions (body + head) W x D x H		30 x 15 x 87 mm	30 x 30 x 93,5 mm	52 x 30 x 114,5 mm	110 x 33 x 93,5 mm
Solenoid supply voltage		—	—	—	24 VAC/DC
Complete switch	"N/C+N/O" stag. slow break	XCSMP59L2 (3) ⊕	XCSPA592 ⊕	—	XCSTE5312 ⊕
	"N/C+N/C" slow break	XCSMP79L2 (3) ⊕	XCSPA792 ⊕	—	XCSTE7312 ⊕
	"N/C+N/C+N/C" slow break	XCSMP70L2 (3) ⊕	XCSPA892 ⊕	XCSTA592 ⊕	—
	"N/C+N/C+N/C" snap action	—	—	—	—
	"N/C+N/C+N/C" slow break	XCSMP80L2 (3) ⊕	XCSPA992 ⊕	XCSTA792 ⊕	—
	"N/C+N/C+N/C" snap action	—	XCSPA492 ⊕	—	—

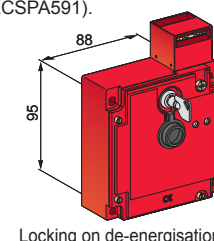
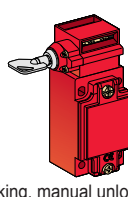
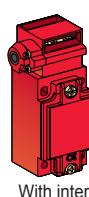
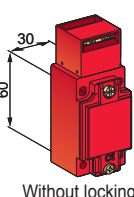
(1) For locking on energisation of solenoid, please refer to www.schneider-electric.com.

(2) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSPA592 becomes XCSPA591).

(3) For other models, please refer to www.schneider-electric.com.



ISO entry
(to EN 50262)



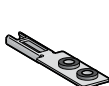
Locking on de-energisation of solenoid (1)

Metal switches		Type XCSA/B/C 1 x ISO M20 cable entry (2)			Type XCSE 2 x ISO M20 cable entries (2)		
Actuation speed (min → max)		0.1 m/s → 0.5 m/s			0.1 m/s → 0.5 m/s		
Degree of protection		IP 67			IP 67		
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300			AC 15, B 300 / DC 13, Q 300		
Dimensions (body + head) W x D x H		40 x 44 x 113.5 mm	52 x 44 x 113.5 mm	52 x 44 x 113.5 mm	98 x 44 x 146 mm		
Solenoid supply voltage		—	—	—	24 VAC/DC	110/120 VAC/DC	220/240 VAC/DC
Complete switch	N/C + N/O + N/O slow break	XCSA502 ⊕	XCSB502 ⊕	XCSC502 ⊕	XCSE5312 ⊕	XCSE5332 ⊕	XCSE5342 ⊕
	N/C + N/C + N/O slow break	XCSA702 ⊕	XCSB702 ⊕	XCSC702 ⊕	XCSE7312 ⊕	XCSE7332 ⊕	XCSE7342 ⊕

(1) For locking on energisation of solenoid, please refer to www.schneider-electric.com.

(2) With entry for n° 13 (Pg 13.5) cable gland, replace the last digit in the reference by 1 (example: XCSA502 becomes XCSA501).

Accessories



Straight actuator



Right-angled actuator

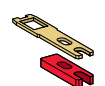


Pivoting actuator, RH door



Pivoting actuator, LH door

For safety switches XCSMP	Actuators			
References	XCSZ81	XCSZ84	XCSZ83	XCSZ85



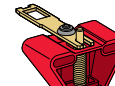
Straight actuator



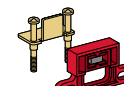
Wide actuator L=40 mm (1)



Right-angled actuator

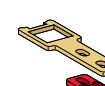


Pivoting actuator

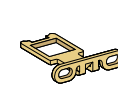


Guard/door retainer

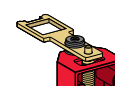
References	Actuators				Retaining device
(1) For L = 29 mm, reference = XCSZ15.	XCSZ11	XCSZ12	XCSZ14	XCSZ13	XCSZ21



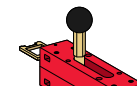
Straight actuator



Wide actuator



Pivoting actuator

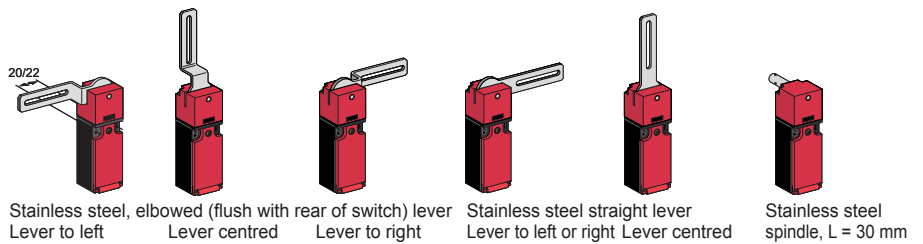
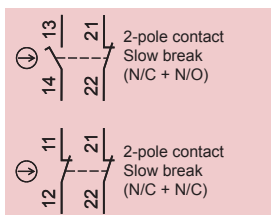


Door lock

For safety switches XCSA/B/C/E	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05

Safety switches with rotary lever or spindle

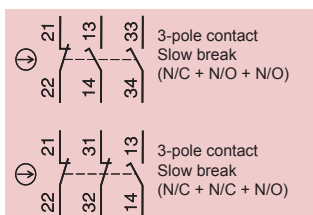
ISO entry
(to EN 50262)



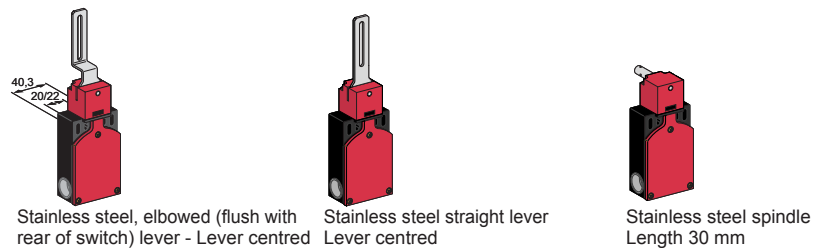
Plastic switches		Type XCSPL with rotary lever or XCSPR with spindle 1 x ISO M16 cable entry (1)				
Minimum torque (actuation / positive opening)		0,1 / 0,25 N.m				
Degree of protection		IP 67				
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (selon EN IEC 60947-5-1)				
Dimensions (body + head) W x D x H		30 x 30 x 160 mm				30 x 30 x 96 mm
Tripping angle		5°				
Complete switch	"N/C+N/O" stag. slow break	XCSPL592 →	XCSP582 →	XCSPL572 →	XCSPL562 →	XCSPR552 →
	"N/C+N/C" slow break	XCSPL791 (2) →	XCSP781 (2) →	XCSPL771 (2) →	XCSPL762 →	XCSPR752 →
	"N/C+N/C+N/C" slow break	—	—	—	XCSPL862 →	—
	"N/C+N/C+N/C" slow break	—	XCSPL981 (2) →	—	XCSPL962 →	XCSPR952 →

(1) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSPL592 becomes XCSPL591).

(2) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).



ISO entry
(to EN 50262)



Plastic switches		Type XCSTL with rotary lever or XCSTR with spindle 2 x ISO M16 cable entries (1)		
Minimum torque (actuation / positive opening)		0.1 / 0.45 N.m		
Degree of protection		IP 67		
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)		
Dimensions (body + head) W x P x H		52 x 30 x 180 mm		52 x 30 x 117 mm
Tripping angle		5°		
Complete switch	N/C + N/O + N/O, 2 N/O staggered slow break	XCSTL582 →	XCSTL552 →	XCSTR552 →
	N/C + N/C + N/O, N/O staggered slow break	XCSTL782 →	XCSTL752 →	XCSTR752 →

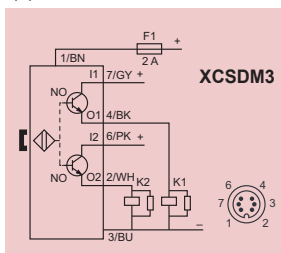
(1) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSTL582 becomes XCSTL581).

Detection

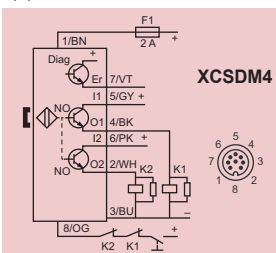
Coded magnetic technology

Plastic coded magnetic system

(1)



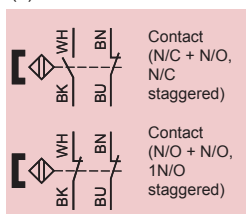
(1)



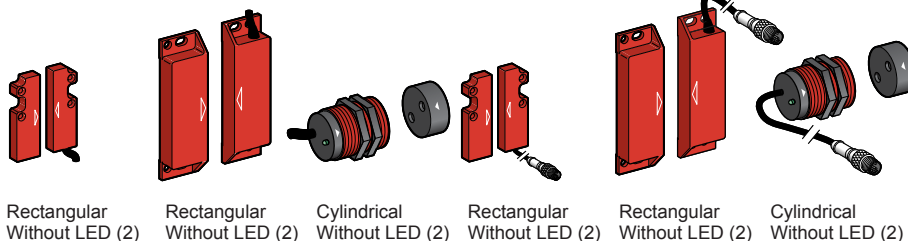
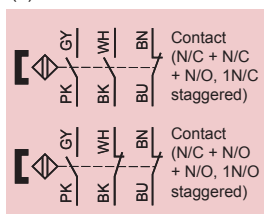
Type of system With integrated safety module			SIL2/Category 3 XCSDM3	SIL3/Category 4 XCSDM4
Switches for actuation			Face to face, face to side, side to side	
Degree of protection			Pre-cabled: IP66 / IP67, IP69K, connector: IP67	
Type of contact			2 solid-state output PNP/NO, 1,5 A / 24VDC (2 A up to 60°C)	
Rated operational characteristics			Ub: 24 VDC +10% - 20%	
Dimensions W x D x H			34 x 27 x 100 mm	
Operating zone			Sao= 10 mm / Sar= 20 mm	
References	Connection	for cable L= 2m	XCSDM379102	XCSDM480102
		for cable L= 5m	XCSDM379105	XCSDM480105
		for cable L= 10m	XCSDM379110	XCSDM480110
		for connector M12	XCSDM3791M12	XCSDM4801M12

Coded magnetic

(1)



(1)



Plastic switches		Type XCSDM coded magnetic					
		Pre-cabled, L = 2 m			Connector on flying lead, L = 10 cm (3)		
Switches for actuation		Face to face, face to side, side to side		Face to face	Face to face, face to side, side to side		Face to face
Degree of protection		IP 66 + IP 67			IP 66 + IP 67		
Type of contact		REED			REED		
Rated operational characteristics		Ue = 24 VDC, Ie = 100 mA			Ue = 24 VDC, Ie = 100 mA		
Dimensions W x D x H		16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38,5 mm	16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38.5 mm
Operating zone (4)		Sao = 5 / Sar = 15	Sao = 8 / Sar = 20		Sao = 5 / Sar = 15	Sao = 8 / Sar = 20	
Switch with coded magnet	N/C + N/O, N/C staggered	XCSDMC5902	XCSDMP5902	XCSDMR5902	XCSDMC590L01M8	XCSDMP590L01M12	XCSDMR590L01M12
	N/O + N/C, 1N/O staggered	XCSDMC7902	XCSDMR7902	XCSDMR7902	XCSDMC790L01M8	XCSDMP790L01M12	XCSDMR790L01M12
	N/C + N/C + N/O, 1N/C staggered	—	XCSDMP5002	—	—	XCSDMP500L01M12	—
	N/C + N/O + N/O, 1N/O staggered	—	XCSDMP7002	—	—	XCSDMP700L01M12	—

(1) NB. Contact states shown are with the magnet present.

(2) For version with LED indicator, replace the last 0 in the reference by 1 (example: XCSDMC5902 becomes XCSDMC5912).

(3) For associated pre-wired female connectors, please refer to the “Safety solution” catalogue.

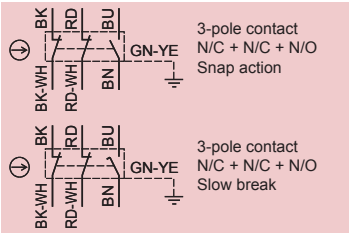
(4) Sao: assured operating distance. Sar: assured release distance.

Preventa

Limit switches

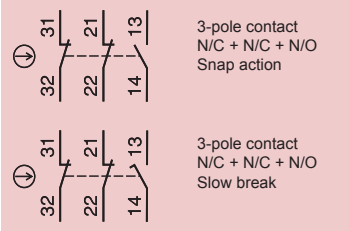
Detection

Safety limit switches



Miniature switches		Type XCSM, metal		
		pre-cabled, L = 1 m (1)		
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s
Minimum force or torque (actuation / positive opening)		8.5 N / 42.5 N	7 N / 35 N	0.5 N.m / 0.1 N.m
Degree of protection		IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68
Dimensions (body + head) W x D x H		30 x 16 x 60 mm	30 x 16 x 70.5 mm	30 x 32 x 92.5 mm
Complete switch	N/C + N/C + N/O snap action	XCSM3910L1 →	XCSM3902L1 →	XCSM3915L1 →
	N/C + N/C + N/O slow break	XCSM3710L1 →	XCSM3702L1 →	XCSM3715L1 →

(1) For a 2 m long cable, replace the last digit of the reference by 2 (example: XCSM3910L1 becomes XCSM3910L2).
For a 5 m long cable, replace the last digit of the reference by 5 (example: XCSM3910L1 becomes XCSM3910L5).



Compact switches		Type XCSD, metal			Type XCSP, plastic		
		1 x ISO M20 x 1.5 cable entry (2)			1 x ISO M20 x 1.5 cable entry (2)		
Maximum actuation speed		0.5 m/s		1.5 m/s	0.5 m/s		1.5 m/s
Minimum force or torque (actuation / positive opening)		15 N / 45 N	12 N / 36 N	10 N.m / 0.1 N.m	15 N / 45 N	12 N / 36 N	10 N.m / 0.1 N.m
Degree of protection		IP 66 + IP 67			IP 66 + IP 67		
Dimensions (body + head) W x D x H (mm)		34 x 34.5 x 89	34 x 34.5 x 99.5	34 x 43 x 121.5	34 x 34.5 x 89	34 x 34.5 x 99.5	34 x 43 x 121.5
Complete switch	N/C + N/C + N/O snap action	XCSD3910P20	XCSD3902P20	XCSD3918P20	XCSP3910P20	XCSP3902P20	XCSP3918P20
	N/C + N/C + N/O slow break	XCSD3710P20	XCSD3702P20	XCSD3718P20	XCSP3710P20	XCSP3702P20	XCSP3718P20

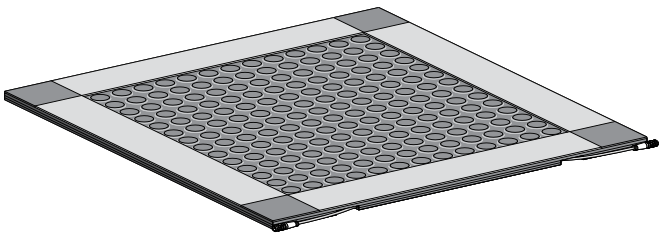
(2) For Pg 13.5 and 1/2" NPT cable entries, refer to www.schneider-electric.com.

Preventa

Detection

Mats

Safety mats ⁽¹⁾



(1) For simplification of installation, see the “Protect Area design” software configuration tool. Reference: SISCD104200

Maximum category usage (EN 954-1)	Category 3			
Degree of protection	IP 67			
Response time (s)	Mat itself: 20 ms, with module: XPSAK ≤ 40 ms, XPSMP < 30 ms			
Sensitivity	Single mat > 20 kg / Group of mats > 35 kg			
Maximum load	2000 N/cm²			
Connection (2)	By M8 jumper cable (1 male / 1 female), L = 100 mm			
Dimensions W x D x H	500 x 500 x 11 mm	500 x 750 x 11 mm	750 x 750 x 11 mm	750 x 1250 x 11 mm
References	XY2TP1	XY2TP2	XY2TP3	XY2TP4

(2) For associated jumper cable and pre-wired connector, please refer to www.schneider-electric.com

		Accessories								
Rails (set of 2)	Length	194 mm	394 mm	444 mm	494 mm	644 mm	694 mm	744 mm	1194 mm	1244 mm
References		XY2TZ10	XY2TZ20	XY2TZ30	XY2TZ40	XY2TZ50	XY2TZ60	XY2TZ70	XY2TZ80	XY2TZ90

Corners and rail connectors	External corners (set of 4)	Internal corner + external corner	Rail connectors, L = 56 mm with outlet for cable (set of 2)	Rail connectors, L = 6 mm (set of 2)
References	XY2TZ4	XY2TZ5	XY2TZ1	XY2TZ2

Light curtains

Type 2 conforming to IEC 61496-2



Light curtain functions

- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- LED display of operating modes

Type		Multi-beam, infrared transmission	
Slim range		Manual starting	Automatic starting
Nominal sensing distance (Sn)		0.3...15 m	
Detection capacity		30 mm "hand"	
Number of safety circuits		2 solid-state PNP	
Response time (depending on model)		14...24 ms	
Connection		M12 Connector	
Height protected (mm)	150	XUSLNG5D0150	XUSLNG5C0150
	300	XUSLNG5D0300	XUSLNG5C0300
	450	XUSLNG5D0450	XUSLNG5C0450
	600	XUSLNG5D0600	XUSLNG5C0600
	750	XUSLNG5D0750	XUSLNG5C0750
	900	XUSLNG5D0900	XUSLNG5C0900
	1050	XUSLNG5D1050	XUSLNG5C1050
	1200	XUSLNG5D1200	XUSLNG5C1200
	1350	XUSLNG5D1350	XUSLNG5C1350
	1500	XUSLNG5D1500	XUSLNG5C1500

		Accessories		
Cable length		3 m	10 m	30 m
Pre-wired connector for XUSLN (screened cable)	For receiver	XSZNCR03	XSZNCR10	XSZNCR30
	For transmitter	XSZNCT03	XSZNCT10	XSZNCT30

Type 2 conforming to IEC 61496-1 et 2



Light curtain functions

- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- LED display of operating modes
- Integral muting function.

Type		Single-beam, infrared transmission	
Height protected (conforming to prEN 999)		750...1200 mm (1 to 4 beams)	
Nominal sensing distance (Sn)		8 m	
Number of circuits	Safety	2N/O	
	Additional	4 solid-state	
Response time		< 25 ms	
Modules (integral muting function)	24 VDC	XPSCM1144P (1)	
Thru-beam pairs, axially aligned	Pre-cabled, L = 5m	PNP	XU2S18PP340L5 (2)
	M12 connector	PNP	XU2S18PP340D (2)

(1) For version with non removable terminal block, delete the letter P from the end of the reference. Example: XPSCM1144P becomes XPSCM1144).

(2) For alignment at 90° to the mounting axes, insert the letter W in the reference before the last letter. Example: XU2S18PP340L5 becomes XU2S18PP340WL5).

Preventa

Detection

Light curtains

Type 4 conforming to IEC 61496-2

Light curtain functions

- Auto/Manual/Manual 1st cycle
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- Test input (MTS: Monitoring Test Signal),
- Blanking (ECS/B),
- Floating Blanking (FB),
- Blanking + Floating Blanking,
- Alignment aid by LED display of each light beam broken,
- LED display of operating modes and alarms.



Type			Multi-beam, infrared transmission	
Compact range				
Nominal sensing distance (Sn)			0.3...7.5 m	0.3...9 m
Detection capacity			14 mm "finger"	30 mm "hand"
Number of circuits	Safety		2 solid-state PNP	2 solid-state PNP
	Auxiliary (alarm)		1 solid-state PNP	1 solid-state PNP
Response time (depending on model)			20...40 ms	20...30 ms
Connection			Flying lead with end M12 connector, L = 0.25 m	
Transmitter + receiver	Height protected (mm)	260	XUSLTQ6A0260	–
		350	XUSLTQ6A0350	XUSLTR5A0350
		435	XUSLTQ6A0435	–
		520	XUSLTQ6A0520	XUSLTR5A0520
		610	XUSLTQ6A0610	–
		700	XUSLTQ6A0700	XUSLTR5A0700
		870	XUSLTQ6A0870	XUSLTR5A0870
		955	XUSLTQ6A0955	–
		1045	XUSLTQ6A1045	XUSLTR5A1045
		1130	XUSLTQ6A1130	XUSLTR5A1130
		1215	XUSLTQ6A1215	XUSLTR5A1215
		1390	XUSLTQ6A1390	XUSLTR5A1390
		1570	–	XUSLTR5A1570
		1745	–	XUSLTR5A1745
		1920	–	XUSLTR5A1920
		2095	–	XUSLTR5A2095

Type 4 conforming to IEC 61496-2

Light curtain functions

- Auto/Manual/Manual 1st cycle
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- Test input (MTS: Monitoring Test Signal),
- Alignment aid by LED display of each light beam broken,
- LED display of operating modes and alarms,
- Coding of the beams



Type			Single-beam and multi-beam, infrared transmission	
Compact range			Transmitter/receiver	Transmitter/passive receiver
Nominal sensing distance (Sn)			0.8...20 ou 70 m (according to config)	0.8...8 m
Detection capacity			Body	
Number of circuits	Safety		2 solid-state PNP	
	Auxiliary (alarm or following)		1 solid-state PNP	
Response time (depending on model)			16...24 ms	
Connection			M12 Connector (1)	M12 Connector
Beam	Interval	Number		
	—	1	XUSLPZ1AM	—
	300 mm	4	XUSLPZ4A300M	—
		5	XUSLPZ5A300M	—
		6	XUSLPZ6A300M	—
		3	XUSLPZ3A400M	—
	400 mm	3	XUSLPZ3A400M	—
	500 mm	2	XUSLPZ2A500M	XUSLPB2A500M
		3	XUSLPZ3A500M	—
	600 mm	2	XUSLPZ2A600M	XUSLPB2A600M

(1) Light curtain with M12 connector output, for terminal block output, replace **M** from the end of the reference by **B**. Example : XUSLPZ1AM becomes XUSLPZ1AB

			Accessories				
Cable length			3 m	5 m	10 m	15 m	30 m
Pre-wired connector for (screened cable)	XUSLT	For receiver	—	XSZTCR05	XSZTCR10	XSZTCR15	XSZTCR30
		For transmitter	—	XSZTCT05	XSZTCT10	XSZTCT15	XSZTCT30
	XUSLM	For receiver	XSZMCR03	—	XSZMCR10	—	XSZMCR30
		For transmitter	XSZMCT03	—	XSZMCT10	—	XSZMCT30
	XUSLP	For receiver	—	XSZPCR05	XSZPCR10	XSZPCR15	XSZPCR30
		For transmitter	—	XSZPCT05	XSZPCT10	XSZPCT15	XSZPCT30

Selection guidance software



		Protect Area Design (2)
For light curtains		XUSLT, XUSLM
Reference		SISCD104200

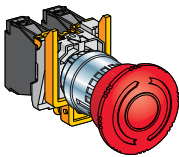
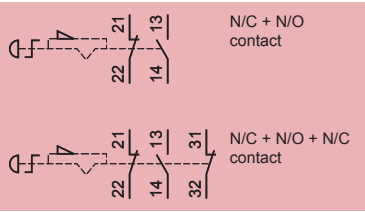
(2) "Protect Area Design" software is integrated in **SafetySuite V2**

Preventa

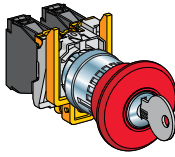
Operator dialogue

Emergency stops

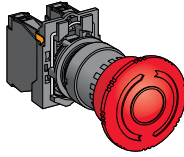
Ø 22 trigger action latching pushbuttons



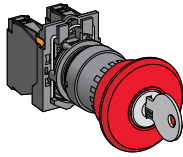
Turn to release



Key release
(key n° 455)



Turn to release

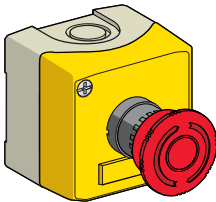
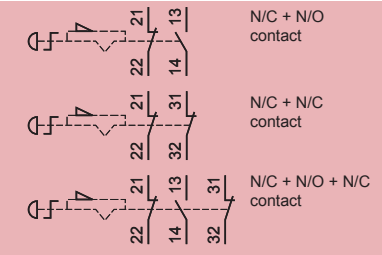


Key release
(key n° 455)

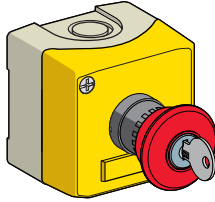
Pushbuttons		Metal		Plastic	
Mechanical life (millions of operating cycles)		0.3		0.3	
Shock / vibration resistance		10 gn / 5 gn		10 gn / 5 gn	
Degree of protection		IP 65		IP 65	
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)			
Dimensions Ø x Depth		Ø 40 x 82 mm	Ø 40 x 104 mm	Ø 40 x 81.5 mm	Ø 40 x 103 mm
Contact	N/C + N/O	XB4BS8445	XB5AS8445	XB5AS8445	XB5AS9445
	2 N/C + 1 N/O	XB4BS84441	–	–	ZB5AS944 + ZB5AZ141



Ø 22 trigger action latching pushbutton stations



Turn to release



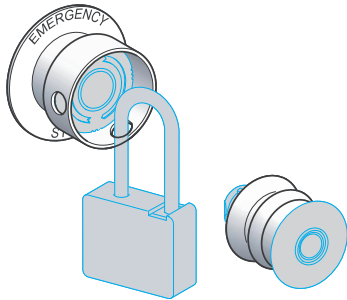
Key release (key n° 455)

Enclosure		Plastic	
		2 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland	
Mechanical life (millions of operating cycles)		0.1	0.1
Shock / vibration resistance		10 gn / 5 gn	10 gn / 5 gn
Degree of protection		IP 65	IP 65
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H		68 x 91 x 68 mm	68 x 113 x 68 mm
Contact	N/C + N/O	XALK178E	XALK188E
	N/C + N/C	XALK178F	XALK188F
	2 N/C + 1 N/O	–	XALK188G

Accessories



With legend holder



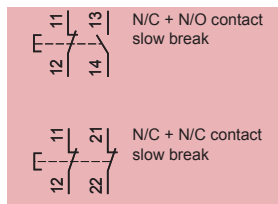
Type		Étiquettes		Padlocking kit	Bellows seals	
Colour		Red with white lettering	Yellow with black lettering	Yellow	Red Silicone	Black EPDM
Dimensions		30 x 40 mm (1)	Ø 60 mm			
Références	Marking:	"Emergency stop"	ZBY2130	ZBY9130	–	–
		"Arrêt d'urgence"	ZBY2330	ZBY9330	–	–
		"Not Aus"	ZBY2230	ZBY9230	–	–
			–	–	ZBZ3605	ZBZ48 ZBZ28

(1) circular appearance

Emergency stops

Cable (tripwire) operated

ISO entry
(to EN 50262)

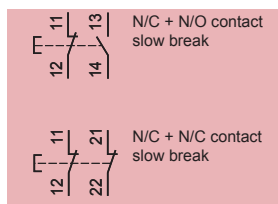


Booted pushbutton reset

Key release pushbutton reset (key n° 421)

For operating cable length ≤ 15 m		Latching, without indicator light 1 x ISO M20 cable entry (1)		with indicator light
Mechanical life (millions of operating cycles)		0.01		
Shock / vibration resistance		50 gn / 10 gn		
Degree of protection		IP 65		
Rated operational characteristics		AC-15, A300 / DC-13, Q300 (conforming to EN IEC 60947-5-1)		
Dimensions W x D x H		201 x 71 x 68 mm		
Operating cable length		≤ 15 m		
Operating cable anchoring point		To right or to left		
Contact	1 "N/C + N/O" slow break	XY2CH13250H29	XY2CH13450H29	XY2CH13253
	1 "N/C + N/C" slow break	XY2CH13270H29	XY2CH13470H29	XY2CH13273

(1) With entry for n° 13 (Pg 13.5) cable gland, delete H29 from the end of the reference (example: XY2-CH13250H29 becomes XY2-CH13250).



Booted pushbutton reset



Key release pushbutton reset (key n° 421)

For operating cable length ≤ 50 m		Latching, without indicator light 3 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland			
Mechanical life (millions of operating cycles)		0.01		0.01	
Shock / vibration resistance		50 gn / 10 gn		50 gn / 10 gn	
Degree of protection		IP 65		IP 65	
Rated operational characteristics		AC-15, A300 / DC-13, Q300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		229 x 82 x 142 mm		229 x 82 x 142 mm	
Operating cable length		≤ 50 m		≤ 50 m	
Operating cable anchoring point		To left		To left	
Contact	1 "N/C + N/O" slow break	XY2CE2A250	XY2CE1A250	XY2CE2A450	XY2CE1A450
	1 "N/C + N/C" slow break	XY2CE2A270	XY2CE1A270	XY2CE2A470	XY2CE1A470
	2 "N/C + N/O" slow break	XY2CE2A290 (2)	XY2CE1A290 (2)	XY2CE2A490 (2)	XY2CE1A290 (2)

(2) With 24V, 48 V, 130 V pilot lights, BA9S bulb not included, add 6 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A296).

With 230 V pilot lights, BA9S bulb included, add 7 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A297).

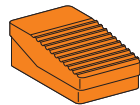
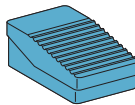
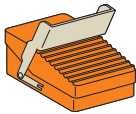
Preventa

Operator dialogue

Foot switches - metal

Single pedal switches

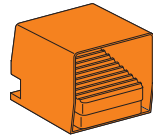
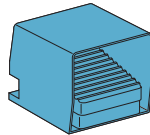
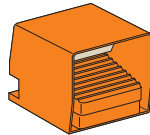
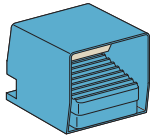
ISO entry
(to EN 50262)



Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Orange		Blue	Orange
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		104 x 172 x 59 mm			
Contact operation	1 step	1 N/C + N/O	XPER810	XPEM110	XPER110
		2 N/C + N/O	XPER811	XPEM111	XPER111
	2 step	2 N/C + N/O	XPER911	XPEM211	XPER211
		Analogue output	XPER929	–	XPER229

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

ISO entry
(to EN 50262)

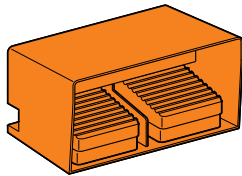
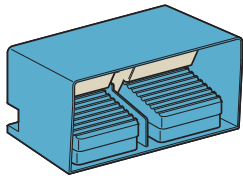


Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		160 x 186 x 152 mm			
Contact operation	1 step	1 N/C + N/O	XPEM510	XPER510	XPEM310
		2 N/C + N/O	XPEM511	XPER511	XPEM311
	1 step latching	1 N/C + N/O	–	–	XPEM410
	2 step	2 N/C + N/O	XPER711	XPER711	XPEM611
	Analogue output	2 N/C + N/O	XPEM529	XPER529	XPEM329
					–

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Double pedal switches

ISO entry
(to EN 50262)



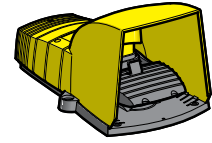
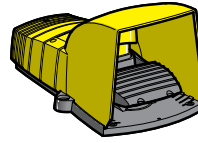
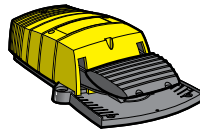
Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		295 x 190 x 155 mm			
Contact operation	1 step	2 x 1 N/C + N/O	XPEM5100D	XPER510D	XPEM3100D
		2 x 2 N/C + N/O	XPEM5110D	XPER5110D	XPEM3110D

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Foot switches - plastic

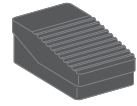
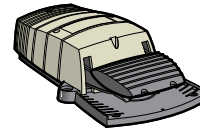
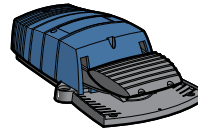
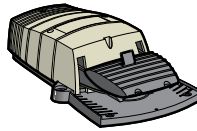
Single pedal switches

ISO entry
(to EN 50262)



Type			Without protective cover		With protective cover	
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			Without		With (positive operating action reqd.)	
Colour			Yellow		Yellow	Yellow
Mechanical life (millions of operating cycles)			5			
Degree of protection			IP 55			
Shock resistance			30 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm		160 x 280 x 162 mm	160 x 280 x 162 mm
Contact operation	1 step	1 N/C + N/O	XPEY110	XPEY310	XPEY510	
		2 N/C + N/O	—	XPEY311	XPEY511	
	2 step	2 N/C + N/O	XPEY211	XPEY611	XPEY711	

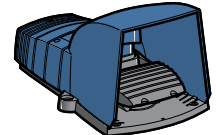
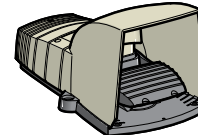
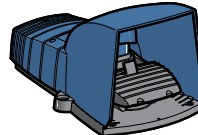
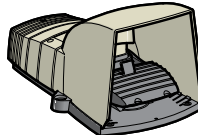
ISO entry
(to EN 50262)



Type			Foot switches without protective cover			1 entry (1)
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	Without
Colour			Grey+	Blue	Grey	Black
Mechanical life (millions of operating cycles)			10			2
Degree of protection			IP 66			IP 43
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm			94 x 161 x 54 mm
Contact operation	1 step	1 N/C + N/O	XPEG810	XPEB110	XPEG110	XPEA110
		2 N/C + N/O	—	XPEB111	XPEG111	XPEA111
	2 step	2 N/C + N/O	XPEG911	XPEB211	XPEG211	—

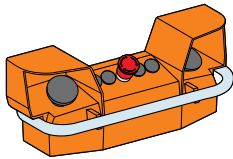
(1) Cable entry for ISO M16 or n° 9 (Pg 9) cable gland and for ISO M20 or n° 13 (Pg 13.5) cable gland.

ISO entry
(to EN 50262)

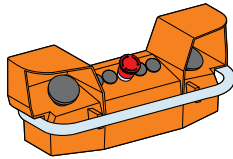


Type			Foot switches with protective cover			
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Grey	Blue	Grey	Blue
Mechanical life (millions of operating cycles)			10			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			180 x 280 x 162 mm			
Contact operation	1 step	1 N/C + N/O	XPEG510	XPEB510	XPEG310	XPEB310
		2 N/C + N/O	XPEG511	XPEB511	XPEG311	XPEB311
	2 step	2 N/C + N/O	XPEG711	XPEB711	XPEG611	XPEB611

ISO entry
(to EN 50262)



2 control pushbuttons and 1 mushroom head
Emergency stop or Lock out pushbutton



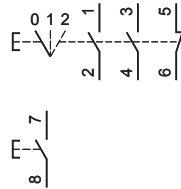
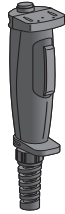
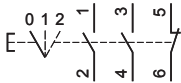
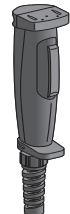
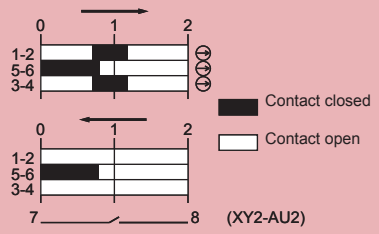
2 control pushbuttons and 1 mushroom head Emergency
stop or Lock out pushbutton, with pre-wired terminal block

Type	Two-hand control stations	
	2 cable entries for ISO M20 or n° 13 (Pg 13.5) cable gland, 1 cable entry for n° 21 (Pg 21) cable gland (2)	
Mechanical life (millions of operating cycles)	1	1
Degree of protection	IP 65	IP 65
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	455 x 170 x 188.5 mm	
Red emergency stop (N/C + N/C slow break)	XY2SB71 (1)	XY2SB72 (1)
Yellow lock out (N/C + N/O break before make)	XY2SB75	XY2SB76

- (1) To order a two-hand control station with pedestal XY2SB90, add 4 to the end of the reference (example: XY2SB71 becomes XY2SB714).
- (2) For entry for ISO M25 cable gland, also order adaptor DE9RA2125 + fixing nut DE9EC21 (sold in lots of 5).

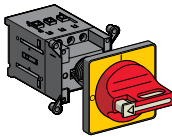
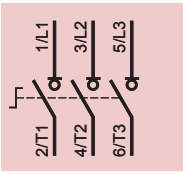
Enabling switch

Contact states

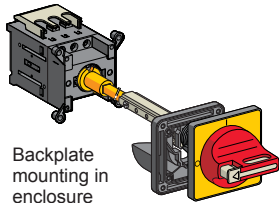


Type	Plastic grip	
	Entry for Ø 7 to 13 mm cable	
Number of contacts	3	3
Type of contacts	2 "NO" + 1 "NC"	2 "NO" + 1 "NC" 1 "NO" auxiliary
Description	3 positions	3 positions with button for N/O contact (auxiliary)
Shock / vibration resistance	10 gn / 6 gn	
Degree of protection	IP 66	IP 65
Rated operational characteristics	AC 15, C300 / DC 13, R300 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	46 x 58 x 261 mm	46 x 58 x 269 mm
References	XY2AU1	XY2AU2

For fixing accessories, please refer to www.schneider-electric.com.

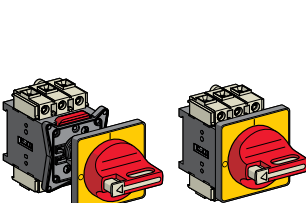
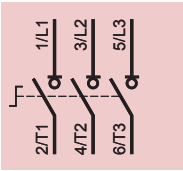


Door mounting

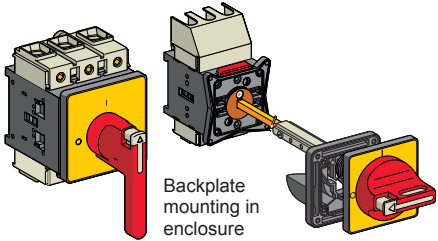


Backplate mounting in enclosure

Type		Mini-Vario for standard applications	
Front plate dimensions (mm)		60 x 60	60 x 60
Fixing		Ø 22.5 mm	Ø 22.5 mm
Degree of protection		IP 20	IP 20
Rated operational voltage (Ue)		690 V	690 V
Thermal current in open air (Ith)	12 A	VCDN12	VCCDN12
	20 A	VCDN20	VCCDN20



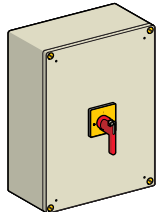
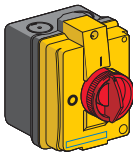
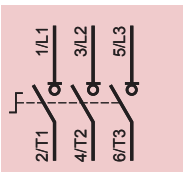
Door mounting



Backplate mounting in enclosure

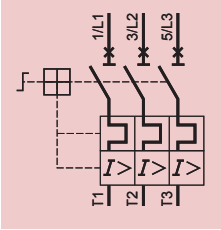
Type		Vario for high performance applications					
Front plate dimensions (mm)		60 x 60	60 x 60	90 x 90	60 x 60	60 x 60	90 x 90
Fixing		Ø 22.5 mm	4 screws	4 screws	Ø 22.5 mm	4 screws	4 screws
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Rated operational voltage (Ue)		690 V	690 V	690 V	690 V	690 V	690 V
Thermal current in open air (Ith)	12 A	VCD02	VCF02	–	VCCD02	VCCF02	–
	20 A	VCD01	VCF01	–	VCCD01	VCCF01	–
	25 A	VCD0	VCF0	–	VCCD0	VCCF0	–
	32 A	VCD1	VCF1	–	VCCD1	VCCF1	–
	40 A	VCD2	VCF2	–	VCCD2	VCCF2	–
	63 A	–	VCF3	–	–	VCCF3	–
	80 A	–	VCF4	–	–	VCCF4	–
	125 A	–	–	VCF5	–	–	VCCF5
	175 A	–	–	VCF6	–	–	VCCF6

Enclosed

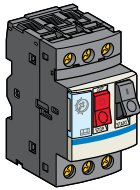


Type		Mini-Vario	Vario
Front plate dimensions (mm)		60 x 60	60 x 60
Dimensions W x D x H		82.5 x 106 x 131 mm	90 x 131 x 146 mm
Degree of protection		IP 55	IP 65
Rated operational voltage (Ue)		690 V	690 V
Thermal current in enclosure (Ithe)	10 A	VCFN12GE	VCF02GE
	16 A	VCFN20GE	VCF01GE
	20 A	VCFN25GE	VCF0GE
	25 A	VCFN32GE	VCF1GE
	32 A	VCFN40GE	VCF2GE
	50 A	–	VCF3GE (1)
	63 A	–	VCF4GE (1)
	100 A	–	VCF5GE
	140 A	–	VCF6GE

(1) Dimensions W x D x H: 150 x 152 x 170 mm.

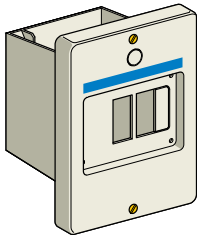
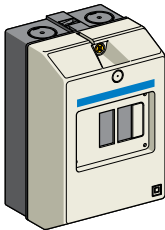


Complete circuit-breaker: circuit-breaker + enclosure + safety device.
Ex.: GV2ME01 + GV2MC02 + GV2K04.



Type		Thermal-magnetic motor circuit-breakers				
Motor power	kW (on 400 V)	–	0.06	0.09	0.12...0.18	0.25...0.37
Setting range	A	0.1...0.16	0.16...0.25	0.25...0.40	0.40...0.63	0.63...1
Current Id ± 20%	A	1.5	2.4	5	8	13
Current Ithe (in enclosure)	A	0.16	0.25	0.40	0.63	1
Reference		GV2ME01	GV2ME02	GV2ME03	GV2ME04	GV2ME05
Motor power	kW (on 400 V)	0.37...0.55	0.75	1.1...1.5	2.2	3...4
Setting range	A	1...1.6	1.6...2.5	2.5...4	4...6.3	6...10
Current Id ± 20%	A	22.5	33.5	51	78	138
Current Ithe (in enclosure)	A	1.6	2.5	4	6.3	9
Reference		GV2ME06	GV2ME07	GV2ME08	GV2ME10	GV2ME14
Motor power	kW (on 400 V)	5.5	7.5	9...11	11	15
Setting range	A	9...14	13...18	17...23	20...25	24...32
Current Id ± 20%	A	170	223	327	327	416
Current Ithe (in enclosure)	A	13	17	21	23	24
Reference		GV2ME16	GV2ME20	GV2ME21	GV2ME22	GV2ME32

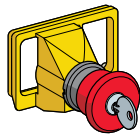
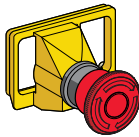
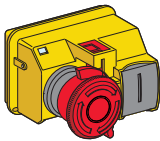
Enclosure



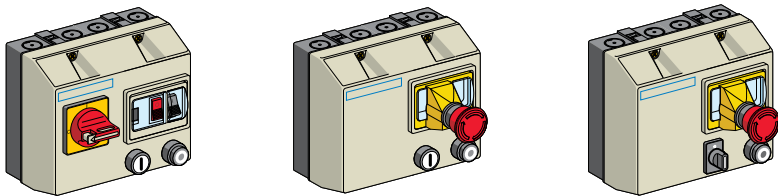
Type	Empty enclosure	
Mounting	Surface mounting	Flush mounting
Degree of protection	IP 55	IP 55 (front face)
Dimensions W x D x H (1)	93 x 145.5 x 147 mm	93 x 55 x 126 mm
References	GV2MC02	GV2MP02

(1) Dimensions with safety device GV2K04 fitted.

Safety device



Type	Safety devices		
With red mushroom head	Turn to release Padlockable in "Off" position	Turn to release	Key release (key n° 455)
References	GV2K04	GV2K031	GV2K021



Type				Non reversing		Reversing
Degree of protection				IP 657		IP 657
Standard motor power ratings (kW), category AC3				Basic reference, to be completed by code indicating voltage (1)		
220/230 V	400/415 V	440 V	lth setting range (A)			
—	0.06	0.06	0.16...0.25	LG1K065..02	LG7K06..02	LG8K06..02
0.06	0.09	0.12	0.25...0.40	LG1K065..03	LG7K06..03	LG8K06..03
—	0.18	0.18	0.40...0.63	LG1K065..04	LG7K06..04	LG8K06..04
0.12	0.25	0.25	0.63...1	LG1K065..05	LG7K06..05	LG8K06..05
0.25	0.55	0.55	1...1.6	LG1K065..06	LG7K06..06	LG8K06..06
0.37	0.75	1.1	1.6...2.5	LG1K065..07	LG7K06..07	LG8K06..07
0.75	1.5	1.5	2.5...4	LG1K065..08	LG7K06..08	LG8K06..08
1.1	2.2	3	4...6.3	LG1K065..10	LG7K06..10	LG8K06..10
1.5	4	4	6...10	LG1K095..14	LG7K09..14	LG8K09..14
3	5.5	5.5	9...14	LG1D122..16	LG7D12..16	LG8K12..16
4	7.5	9	13...18	LG1D182..20	LG7D18..20	—
4	9	9	17...23	LG1D182..21	LG7D18..21	—



With integral control transformer, 400/24 V

Type				Non reversing	Reversing
Degree of protection				IP 657	IP 657
Standard motor power ratings (kW), category AC3				Basic references	
380/400 V			lth setting range (A)	(The code Q7 (380/400 V) designates the power supply voltage to which the starter will be connected)	
0.06			0.16...0.25	LJ7K06Q702	LJ8K06Q702
0.09			0.25...0.40	LJ7K06Q703	LJ8K06Q703
0.18			0.40...0.63	LJ7K06Q704	LJ8K06Q704
0.25			0.63...1	LJ7K06Q705	LJ8K06Q705
0.55			1...1.6	LJ7K06Q706	LJ8K06Q706
0.75			1.6...2.5	LJ7K06Q707	LJ8K06Q707
1.5			2.5...4	LJ7K06Q708	LJ8K06Q708
2.2			4...6.3	LJ7K06Q710	LJ8K06Q710
4			6...10	LJ7K09Q714	LJ8K09Q714

Control circuit voltages available				
Volts 50/60 Hz	24 V	230 V	400 V	415 V
(1) Voltage code	B7	P7	V7	N7

The control circuit must be cabled by the user.

Explosive atmospheres

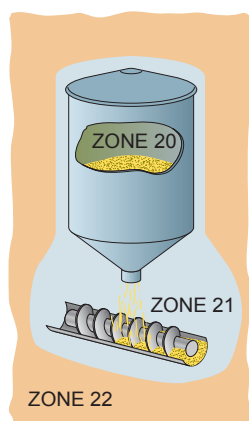


A reference for installations in ATEX Dust explosive atmospheres.

What is an explosive atmosphere according to the Directive?

It is the mixing with air, in atmospheric conditions, of flammable substances in the form of gas, vapour, mist or dust which, in the event of combustion, spreads throughout the non burning mix.

The products in this catalogue are certified by a European Union Commission notified body.



Implementation of European Directives

> Directive 99/92/EC

This requires that a risk analysis be performed for all industrial processes.

If there is any risk of an explosion:

- the zones are defined and physically identified,
- the installation is classified by governing bodies.

> Directive 94/9/EC

This requires certification of the products in accordance with the classification of the zones of use

> Dust zones

- Zone 20: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air, either permanently, for long periods or frequently.
- Zone 21: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air during normal operation occasionally.
- Zone 22: area where an explosive atmosphere in the form of combustible clouds of dust in the air is unlikely to occur during normal operation but, if it does occur, it is only for a short period.

Main sectors of activity subject to a higher risk of explosion or fire

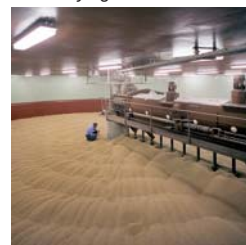
Flour mills



Wood and aluminium workshops



Grain drying areas



Bagging



Grain silos



Bulk conveying



A selection of certified products, conforming to the European Directive ATEX94/9/EC, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.

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Inductive proximity sensors

Universal, metal case



Sensor type		3-wire DC PNP, flush mountable in metal		
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0022X / 		
Nominal sensing distance S_n		4 mm	8 mm	15 mm
Operating zone		0...3.2 mm	0...6.4 mm	0...12 mm
Temperature range		- 20...+ 60°C		
Degree of protection (conforming to IEC 60529)		IP68		
Connection		Pre-cabled, PvR, L = 10 m		
Dimensions		M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)		10...58 VDC		
Maximum switching capacity		200 mA		
Overload and short-circuit protection		Yes		
LED output state indicator		Yes		
Voltage drop, closed state, at I nominal		≤ 2 V		
Switching frequency		2500 Hz	1000 Hz	500 Hz
References	NO function	XS612B1PAL10EX	XS618B1PAL10EX	XS630B1PAL10EX
	NC function	XS612B1PBL10EX	XS618B1PBL10EX	XS630B1PBL10EX

Analogue, metal case



Sensor type		Analogue, 2-wire AC/DC, flush mountable in metal		
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0022X / 		
Nominal sensing distance S_n		2 mm	5 mm	10 mm
Operating zone		0.2...2 mm	0.5...5 mm	1...10 mm
Temperature range		- 20...+ 60°C		
Degree of protection (conforming to IEC 60529)		IP67		
Connection		Pre-cabled, PvR, L = 2 m		
Dimensions		M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)		10...38 VAC/DC		
Linearity error		10%		
Operating frequency		1500 Hz	500 Hz	300 Hz
References	4...20 mA output	XS1M12AB120EX	XS1M18AB120EX	XS1M30AB120EX

Proximity sensors

Rotation monitoring, metal case



M30

Sensor type	3-wire DC PNP, flush mountable in metal	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0022X / II2 D-Ex tD A21 IP67 T90°C	
Nominal sensing distance Sn	10 mm	
Operating zone	0...8 mm	
Temperature range	– 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP67	
Connection	Pre-cabled, PvR, L = 2 m	
Dimensions	M30 x 81 mm	
Supply voltage (including ripple)	10...58 VDC	
Maximum switching capacity	200 mA	
Overload and short-circuit protection	Yes	
LED output state indicator	Yes	
Voltage drop, closed state, at I nominal	≤ 2 V	
Version	Slow	Fast
Maximum speed of passing object	6000 impulses/minute	48,000 impulses/minute
Adjustable frequency range	6...150 impulses/minute	120...3000 impulses/minute
References	NC function	
	XSAV11373EX	XSAV12373EX

Capacitive, metal case



M18



M30

Sensor type	3-wire DC PNP, flush mountable in metal	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0022X / II2 D-Ex tD A21 IP67 T90°C	
Nominal sensing distance Sn	5 mm	10 mm
Operating zone	0...3.6 mm	0...7.2 mm
Temperature range	– 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP67	
Connection	Pre-cabled, PVC, L = 2 m	
Dimensions	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)	10...38 VDC	
Maximum switching capacity	300 mA	
Overload and short-circuit protection	Yes	
LED output state indicator	Yes	
Voltage drop, closed state, at I nominal	≤ 2 V	
Switching frequency	100 Hz	
References	NO function	
	XT1M18PA372EX	XT1M30PA372EX
	NC function	
	XT1M18PB372EX	XT1M30PB372EX

Other characteristics: please refer to the “Global Detection” catalogue

Namur inductive sensors

Metal or plastic case



Sensor type	2-wire DC, flush mountable in metal							
Case type	Metal		Plastic					
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1							
Zone D (dust)	20 (to be used in conjunction with intrinsically safe enclosures, see page 5)							
EC type examination certificate number / marking	INERIS 04ATEX0016X /  II D-Ex iaD 20 IP66/67 T85°C							
Nominal sensing distance Sn	0.8 mm	1.5 mm		2 mm	5 mm	10 mm		
Operating zone	0...0.6 mm	0...0.8 mm	0...1.2 mm	0...1.6 mm	0...4 mm	0...8 mm		
Temperature range	– 20...+ 60°C							
Degree of protection (conforming to IEC 60529)	IP67							
Connection	Pre-cabled, PvR, L = 2 m							
Dimensions	M5 x 30 mm	M8 x 26.5 mm		M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm		
Supply voltage (including ripple)	7...12 VDC							
Maximum switching capacity	≤ 1 mA							
Overload and short-circuit protection	Yes							
Residual current, open state	≥ 3 mA							
Switching frequency	1500 Hz		1000 Hz	800 Hz	500 Hz	300 Hz		
References	NC function		XSMN08122EX	XSAN01122EX	XSPN01122EX	XSPN02122EX	XSPN05122EX	XSPN10122EX

Plastic case



Sensor type	2-wire DC, non flush mountable in metal				
Case type	Plastic				
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)	20				
EC type examination certificate number / marking	INERIS 04ATEX0016X / 				
Nominal sensing distance Sn	4 mm	8 mm	15 mm	15 mm	40 mm
Operating zone	0...3.2 mm	0...6.4 mm	0...12 mm	0...12 mm	0...32 mm
Temperature range	- 20...+ 60°C				
Degree of protection (conforming to IEC 60529)	IP67				
Connection	Pre-cabled, PvR, L = 2 m			Screw terminals	
Dimensions	M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm	40 x 40 x 122.5 mm	100 x 80 x 40 mm
Supply voltage (including ripple)	7...12 VDC				
Maximum switching capacity	≤ 1 mA				
Overload and short-circuit protection	Yes				
LED output state indicator	Yes				
Residual current, open state	≥ 3 mA				
Switching frequency	400 Hz	300 Hz	200 Hz	100 Hz	25 Hz
References	NC function		XSPN04122EX	XSPN08122EX	XSPN15122EX
				XSCN151229EX (1)	XSDN401229EX

(1) Flush mountable in metal



Intrinsically safe module

Processing module



Module type		Discrete					
		Inputs		Relay inputs/outputs			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50021-1&2, EN 50082-1&2					
Zone D (dust)		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)					
EC type examination certificate number / marking		LCIE 00ATEX6034X /  II(1) G/D-[EEx ia] IIC					
Zone 20	Number of input channels	2	4	2			2
	Number of output channels	–		1			1
	Type of output channel, load excitation	–		Low consumption solenoid valve, < 7 mA	High consumption solenoid valve, < 40 mA		
Outside zone				–	with hysteresis		–
					with hysteresis		
Outside zone	Number of recopying channels	2	4	2			2
	Switching voltage	5...230 VAC; 5...24 VDC					
	Switching current	10 mA...0.5 A (AC); 10 mA...0.5 A, L/R 48 ms (DC)					
Temperature range		– 20...+ 60°C					
Connection		Removable screw terminal blocks					
Mounting		On 35 mm DIN rail					
Dimensions, W x D x H		29.5 x 120 x 90 mm					
Supply voltage (including ripple)		24 VDC (0.95...1.1 Un)					
Consumption		5 W					
References		NY320N2RB1	NY340N4RB1	NY321L2RB1	NY321L1RB1	NY321H2RB1	NY321H1RB1



Module type		Discrete			
		Load excitation outputs			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50021-1&2, EN 50082-1&2			
Zone D (dust)		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)			
EC type examination certificate number / marking		LCIE 00ATEX6034X /  II(1) G/D-[EEx ia] IIC			
Zone 20	Number of load excitation channels	2		4	
	Maximum current	< 7 mA	< 40 mA	< 7 mA	< 40 mA
Outside zone	Control voltage	24 VDC ± 10%			
	Control current	State 1 = 6.5 < I < 9 mA and 21.6 < U < 26.4 V; State 0 = I ≤ 0.4 mA and U ≤ 1.2 V			
Temperature range		– 20...+ 60°C			
Connection		Removable screw terminal blocks			
Mounting		On 35 mm DIN rail			
Dimensions, W x D x H		29.5 x 120 x 90 mm			
Supply voltage (including ripple)		24 VDC (0.95...1.1 Un)			
Consumption		5 W			
References		NY302L0NB1	NY302H0NB1	NY304L0NB1	NY304H0NB1

Limit switches

Miniature, fixing by the body



Limit switch type	XCMD metal, pre-cabled			
With head for movement	Linear (plunger)			
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)	21 - 22			
EC type examination certificate number / marking	INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C			
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Retractable steel roller lever plunger
Mechanical durability (millions of operating cycles)	10			
Actuation speed	0.5 m/s			
Switches conforming to standard IEC 947-5-1 section 3				
Temperature range	- 20...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP66 and IP67			
Rated operational characteristics	AC15; C300 (Ue = 240 V, Ie = 0.75 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)			
Short-circuit protection	By 6 A cartridge fuse type gG (gl)			
Cable entry	Pre-cabled, adjustable direction, length = 5 m			
Fixing centres	20 mm			
Body dimensions, W x D x H	30 x 16 x 50 mm			
References	2 N/C + 2 N/O snap action	XCMD4110L5EX	XCMD4111L5EX	XCMD4102L5EX XCMD4124L5EX

Compact, fixing by the body



Limit switch type	XCKD metal conforming to standard EN 500047				
With head for movement	Linear (plunger)				
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)	21 - 22				
EC type examination certificate number / marking	INERIS 04ATEX0014X  II2 /D-Ex tD A21 IP66/67 T85°C				
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever plunger, vert. actuation in 1 direct.
Mechanical durability (millions of operating cycles)	15		10	15	
Actuation speed	0.5 m/s			1 m/s	
Switches conforming to standard IEC 947-5-1 section 3					
Temperature range	- 20...+ 60°C				
Degree of protection (conforming to IEC 60529)	IP66 and IP67				
Rated operational characteristics	AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
Short-circuit protection	By 6 A cartridge fuse type gG (gl)				
Cable entry	1 entry fitted with ISO M16 cable gland				
Fixing centres	20 mm				
Body dimensions, W x D x H	31 x 30 x 65 mm				
References	N/C + N/C + N/O snap action	XCKD3910P16EX	XCKD3911P16EX	XCKD3902P16EX XCKD3921P16EX	XCKD3927P16EX

Miniature, fixing by the head



XCMD metal, pre-cabled Rotary (lever)				Linear (plunger)		
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1						
21 - 22						
INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C						
Steel roller lever	Thermoplastic roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger
10						
1.5 m/s				0.5 m/s		0.1 m/s
						
– 20...+ 60°C						
IP66 and IP67						
AC15; C300 (Ue = 240 V, Ie = 0.75 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)						
By 6 A cartridge fuse type gG (gl)						
Pre-cabled, adjustable direction, length = 5 m						
20 mm				M12 x 1	M16 x 1	M12 x 1
30 x 16 x 50 mm						
XCMD4116L5EX	XCMD4115L5EX	XCMD4117L5EX	XCMD4145L5EX	XCMD41F0L5EX	XCMD41G1L5EX	XCMD41F2L5EX

Compact, fixing by the head



XCKD metal conforming to standard EN 500047							
Linear (plunger) Rotary (lever)				Multi-directional		Linear (plunger)	
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1							
21 - 22							
INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C							
Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	“Cat’s whisker”	M18 with metal end plunger	M18 with steel roller plunger
15	10				5	10	
1 m/s	1.5 m/s				1 m/s	0.5 m/s	
					–		
– 20...+ 60°C							
IP66 and IP67							
AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)							
By 6 A cartridge fuse type gG (gl)							
1 entry fitted with ISO M16 cable gland							
20 mm						M18 x 1	
30 x 16 x 50 mm							
XCKD3928P16EX	XCKD3918P16EX	XCKD3939P16EX	XCKD3945P16EX	XCKD3949P16EX	XCKD3906P16EX	XCKD39H0P16EX	XCKD39H2P16EX

Limit switches

Classic, fixing by the body



Limit switch type		XCKM metal, 3 cable entries				
With head for movement		Linear (plunger)			Rotary (lever)	Multi-directional
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)		21 - 22				
EC type examination certificate number / marking		INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C				
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)		20				10
Actuation speed		0.5 m/s			1.5 m/s	0.5 m/s
Switches conforming to standard IEC 947-5-1 section 3						–
Temperature range		– 20...+ 60°C				
Degree of protection (conforming to IEC 60529)		IP66				
Rated operational characteristics		AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
Short-circuit protection		By 6 A cartridge fuse type gG (gl)				
Cable entry		3 tapped entries for ISO M20 cable gland (1)				
Fixing centres		41 mm				
Body dimensions, W x D x H		63 x 30 x 64 mm				
References	N/C + N/C + N/O snap action	XCKM3910H29EX	XCKM3902H29EX	XCKM3921H29EX	XCKM3915H29EX	XCKM3906H29EX

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Application - hoisting, handling, conveying



Limit switch type	XCKMR metal, 3 cable entries	
With head for movement	Rotary (lever)	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0014X /  II2 D-Ex tD A21 IP66/67 T85°C	
Type of operator	Metal rod levers, "crossed"	Metal rod levers, "crossed" reversed head
Mechanical durability (millions of operating cycles)	2	
Actuation speed	1.5 m/s	
Switches conforming to standard IEC 947-5-1 section 3		
Temperature range	– 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP66	
Rated operational characteristics	AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 125 V, Ie = 0.55 A)	
Short-circuit protection	By 10 A cartridge fuse type gG (gl)	
Cable entry	3 tapped entries for ISO M20 cable gland (1)	
Fixing centres	61.5 mm	
Body dimensions, W x D x H	118 x 59 x 77 mm	
2 x N/C + N/C staggered, slow break contacts	XCKMR54D1H29EX	XCKMR54D2H29EX
2 x N/C + N/O snap action contacts, both actuated in each direction	—	
2 x N/C + N/O snap action contacts, 1 actuated in each direction	—	
2 x single-pole C/O snap action contacts	—	

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Other characteristics: please refer to the "Global Detection" catalogue

Other versions: please consult your Schneider Electric agency.



XCKJ metal, fixed body, conforming to standard EN 50041

Linear (plunger) | Rotary (lever)

Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0014X / II2 D-Ex tD A21 IP66/67 T85°C

Metal end plunger	Steel roller plunger	Steel roller lever	Thermoplastic roller lever	Variable length thermoplastic roller lever	Polyamide rod lever, Ø 6 x 200 mm
30	25	30		20	
0.5 m/s	1 m/s	1.5 m/s			
				–	
– 20...+ 60°C					
IP66					
AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)					
By 6 A cartridge fuse type gG (gl)					
1 entry fitted with ISO M20 cable gland					
30 x 60 mm					
40 x 44 x 77 mm					
XCKJ3961H29EX	XCKJ3967H29EX	XCKJ390513H29EX	XCKJ390511H29EX	XCKJ390541H29EX	XCKJ390559H29EX



XCR metal

Rotary (lever) | Conveyor belt shift monitoring switches

Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0024X / II2 D-Ex tD A21 IP65 T85°C

Square (6 mm) rod lever, spring return to off position	Thermoplastic roller (Ø 30 mm) lever, spring return to off position	Large thermoplastic roller (Ø 50 mm) lever, spring return to off position	Metal rod levers, "crossed", stay put	Galvanised steel operating lever	Stainless steel operating lever
10				0.3	
1.5 m/s					
				–	
– 20...+ 60°C					
IP65					
AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)					
By 10 A cartridge fuse type gG (gl)					
1 entry fitted with n° 13 cable gland					
85 x 75 mm					
85 x 75 x 95 mm					
–					
XCRA111EX	XCRA121EX	XCRA151EX	XCRE181EX (2)	–	
XCRB111EX	XCRB121EX	XCRB151EX	XCRF171EX (3)	–	
–				XCRT115EX	XCRT215EX

(2) "Crossed" rods (3) "T" rods



Type		Vacuum switches and vacu-pressure switches with setting scale		
Size		- 1 bar	- 0.2 bar	5 bar
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		-0.14...-1 bar	-0.02...-0.2 bar	-0.5...5 bar
Body dimensions, W x D x H		55 x 77.5 x 158 mm	150 x 155.5 x 145 mm	113 x 35 x 75 mm
Fluids controlled		Oil, water, air, up to +70°C	Oil, air, up to +160°C	Oil, water, air, up to +70°C
Possible differential (subtract from PH to give PB) (1)	Min. at low setting	0.13 bar	0.018 bar	0.5 bar
	Min. at high setting	0.13 bar	0.018 bar	0.5 bar
	Max. at high setting	0.8 bar	0.18 bar	6 bar
Single-pole snap action contact		XMLBM02V2S12EX	XMLBM03R2S12EX	XMLBM05A2S12EX

(1) For XMLBM02V2S12EX and XMLBM03R2S12EX vacuum switches add to PB to give PH



Type		Pressure switches with setting scale		
Size		10 bar	20 bar	35 bar
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0058 /  II 2 D-Ex tD A21 IP66 T85°C		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		0.7...10 bar	1.3...20 bar	3.5...35 bar
Body dimensions, W x D x H		35 x 75 x 113 mm		
Fluids controlled		Oil, water, air, up to +70°C		
Possible differential (subtract from PH to give PB)	Min. at low setting	0.57 bar	1 bar	1.7 bar
	Min. at high setting	0.85 bar	1.6 bar	2.55 bar
	Max. at high setting	7.5 bar	11 bar	20 bar
Single-pole snap action contact		XMLB010A2S12EX	XMLB020A2S12EX	XMLB035A2S12EX



Pressure switches with setting scale				
0.05 bar	0.35 bar	1 bar	2.5 bar	4 bar
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
21 - 22				
INERIS 04ATEX0058 /  II2D-Ex tD A21 IP66 T85°C				
1/4" BSP female				
Screw terminals, 1 entry fitted with ISO M20 cable gland				
- 20...+ 60°C				
IP66				
AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
By 10 A cartridge fuse type gG (gl)				
0.026...0.05 bar	0.045...0.35 bar	0.05...1 bar	0.3...2.5 bar	0.25...4 bar
200 x 204 x 145 mm	110 x 110 x 162 mm		55 x 77.5 x 158 mm	55 x 77.5 x 158 mm
Oil, air, up to +160°C			Oil, water, air, up to +70°C	
0.0014 bar	0.042 bar	0.04 bar	0.16 bar	0.2 bar
0.004 bar	0.05 bar	0.06 bar	0.21 bar	0.25 bar
0.04 bar	0.3 bar	0.75 bar	1.75 bar	2.4 bar
XMLBL05R2S12EX	XMLBL35R2S12EX	XMLB001R2S12EX	XMLB002A2S12EX	XMLB004A2S12EX



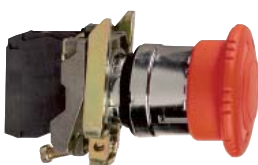
Pressure switches with setting scale			
70 bar	160 bar	300 bar	500 bar
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
21 - 22			
INERIS 04ATEX0058 /  II2 D-Ex tD A21 IP66 T85°C			
1/4" BSP female			
Screw terminals, 1 entry fitted with ISO M20 cable gland			
- 20...+ 60°C			
IP66			
AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)			
By 10 A cartridge fuse type gG (gl)			
7...70 bar	10...160 bar	22...300 bar	30...500 bar
35 x 75 x 113 mm			
Oil, up to +160°C			
4.7 bar	9.3 bar	19.4 bar	23 bar
8.8 bar	20.8 bar	37 bar	52.6 bar
50 bar	100 bar	200 bar	300 bar
XMLB070D2S12EX	XMLB160D2S12EX	XMLB300D2S12EX	XMLB500D2S12EX

Pushbuttons and mushroom heads

Contact functions



Type		Ø 22 pushbuttons with metal bezel					
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
Mechanical durability (millions of operating cycles)		5					
Temperature range		– 20...+ 60°C					
Degree of protection		IP65 and IP66					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Pushbutton type		Flush with transparent silicone boot					
Contact		N/O			N/C	N/O	
Colour of push		● white	● black	● green	● red	● yellow	● blue
References	Insertion of legend not possible	–	XB4BP21EX	XB4BP31EX	XB4BP42EX	XB4BP51EX	XB4BP61EX
	Insertion of legend possible	XB4BP181EX	–	XB4BP381EX	XB4BP482EX	XB4BP581EX	XB4BP681EX
Pushbutton type		Flush with coloured silicone boot					
Contact		N/O			N/C	N/O	
Colour of silicone boot		● white	● black	● green	● red	● yellow	● blue
References		XB4BPS11EX	XB4BPS21EX	XB4BPS31EX	XB4BPS42EX	XB4BPS51EX	XB4BS61EX
Ø 40 mushroom head pushbutton type		Spring return					
Contact		N/O			N/C	N/O	
Colour of push		● black	● green	● red	● yellow	● blue	
References		XB4BC21EX	XB4BC31EX	XB4BC42EX	XB4BC51EX	XB4BC61EX	



Type		Ø 40 mushroom head Emergency stop pushbuttons		
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1, IEC/EN 60947-5-5		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66		
Mechanical durability (millions of operating cycles)		0.3		
Temperature range		– 20...+ 60°C		
Degree of protection		IP65		
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)		
	Mounting centres	30 x 40 mm		
Depth below head		43 mm		
Connection		Screw clamp terminals		
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Ø 40 latching mushroom head pushbutton type		Push-pull with trigger action	Key release (n° 455)	Turn to release
Contact(s)		N/C + N/O	N/C	N/C
Colour of push		● red	● red	● red
References		XB4BT845EX	XB4BS142EX	XB4BS542EX

Other characteristics: please refer to the "Human-Machine Interface components" catalogue

Other versions: please consult your Schneider Electric agency.

Selector switches and key switches

Contact functions



Type		Ø 22 selector switches and key switches with metal bezel	
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)		21 - 22	
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66	
Mechanical durability (millions of operating cycles)		3	
Temperature range		– 20...+ 60°C	
Degree of protection		IP65	
Mounting	Panel cut-out	Ø 22.5 mm (22.4 $^{+0.4}_0$ recommended)	
	Mounting centres	30 x 40 mm	
Depth below head		43 mm	
Connection		Screw clamp terminals	
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)	
Short-circuit protection		By 10 A cartridge fuse type gG (gl)	
Selector switch type		Standard handle	
Contacts		N/C + N/O	N/O + N/O
Colour		● black	● black
References	2 position stay put	XB4BD25EX	–
	3 position stay put	–	XB4BD33EX
	3 position spring return to centre	–	XB4BD53EX
Selector switch type		Long handle	
Contact(s)		N/O	N/O + N/O
Colour		● black	● black
References	2 position stay put	XB4BJ21EX	–
	3 position stay put	–	XB4BJ33EX
	3 position spring return to centre	–	XB4BJ53EX
Key switch type		Key n° 455	
Contact(s)		N/O	N/O + N/O
Colour		● black	● black
References	2 position stay put, key withdrawal in LH position	XB4BG21EX	–
	2 position stay put, key withdrawal in both positions	XB4BG41EX	–
	2 position spring return, key withdrawal in LH position	XB4BG61EX	–
	3 position stay put, key withdrawal in centre position	–	XB4BG33EX
	3 position stay put, key withdrawal in all 3 positions	–	XB4BG03EX

Other characteristics: please refer to the "Human-Machine Interface components" catalogue

Illuminated pushbuttons and pilot lights

Contact and light functions (integral LED)



Type		Ø 22 illuminated pushbuttons with metal bezel					
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II2 D-Ex tD A21 IP65/66					
Mechanical durability (millions of operating cycles)		5					
Service life		100,000 hours at ambient temperature					
Temperature range		– 20...+ 60°C					
Degree of protection		IP65					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Light source		Integral LED					
Illuminated pushbutton type, with integral LED		Flush with transparent silicone boot					
Contact		N/O		N/C	N/O		
Colour of push		● white	● green	● red	● yellow	● blue	
References	LED voltage 24 VAC/DC	XB4BP183B5EX	XB4BP383B5EX	XB4BP483B5EX	XB4BP583B5EX	XB4BP683B5EX	
	48...120 VAC	XB4BP183G5EX	XB4BP383G5EX	XB4BP483G5EX	XB4BP583G5EX	XB4BP683G5EX	
	240 VAC	XB4BP183M5EX	XB4BP383M5EX	XB4BP483M5EX	XB4BP583M5EX	XB4BP683M5EX	
	24...120 VAC/DC	XB4BP183BG5EX	XB4BP383BG5EX	XB4BP483BG5EX	XB4BP583BG5EX	XB4BP683BG5EX	



Type		Ø 22 pilot lights with metal bezel					
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II2 D-Ex tD A21 IP65/66					
Service life		100,000 hours at ambient temperature					
Temperature range		– 20...+ 60°C					
Degree of protection		IP65					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Light source		Integral LED					
Pilot light type		Pilot lights with integral LED, plain lens					
Colour of LED		● white	● green	● red	● yellow	● blue	
References	LED voltage 24 VAC/DC	XB4BVB1EX	XB4BVB3EX	XB4BVB4EX	XB4BVB5EX	XB4BVB6EX	
	48...120 VAC	XB4BVG1EX	XB4BVG3EX	XB4BVG4EX	XB4BVG5EX	XB4BVG6EX	
	240 VAC	XB4BVM1EX	XB4BVM3EX	XB4BVM4EX	XB4BVM5EX	XB4BVM6EX	
	24...120 VAC/DC	XB4BVBG1EX	XB4BVBG3EX	XB4BVBG4EX	XB4BVBG5EX	XB4BVBG6EX	

Control stations

Complete stations, metal or plastic



Type		Complete control stations			
Type of operators		Ø 22 flush pushbuttons			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0023 / II2 D-Ex tD A21 IP65 T85°C			
Temperature range		- 20...+ 60°C			
Degree of protection		IP65			
Connection		1 entry fitted with ISO M20 cable gland			
Rated operational characteristics of contact blocks		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Function		1 function, Start or Stop	2 functions, Start - Stop	3 functions	
Composition		1 spring return pushbutton	2 spring ret. pushbuttons	3 spring ret. pushbuttons	
Contact(s)		N/O	N/C	N/O + N/C	N/O + N/C + N/O
Colour of pushbutton(s)		● green	● red	● green + ● red	● green + ● red + ● black
Metal control stations	Dimensions, W x D x H	80 x 77 x 80 mm		80 x 77 x 130 mm	80 x 77 x 175 mm
	Fixings: 4 x Ø 5.6 mm, centres	50 x 65 mm		50 x 115 mm	50 x 160 mm
References		XAWF100EX	XAWF110EX	XAWF210EX	XAWF310EX
Plastic control stations	Dimensions, W x D x H	85 x 70 x 146 mm		85 x 70 x 226 mm	
	Fixings: 4 x Ø 5.6 mm, centres	70 x 105 mm		70 x 108 mm	
References		XAWG100EX	XAWG110EX	XAWG210EX	XAWG310EX



Type		Complete control stations				
Type of operator		Ø 22 selector switch or key switch with metal bezel		Ø 40 mushroom head Emergency stop		
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)		21 - 22				
EC type examination certificate number / marking		INERIS 04ATEX0023 /  II2 D-Ex tD A21 IP65 T85°C				
Temperature range		– 20...+ 60°C				
Degree of protection		IP65				
Connection		1 entry fitted with ISO M20 cable gland				
Rated operational characteristics of contact blocks		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)				
Short-circuit protection		By 10 A cartridge fuse type gG (gl)				
Function		1 function, Start/Stop			Emergency stop	
Composition		1 selector switch (1) standard black handle	1 key switch (1) key n° 455	1 Ø 40 mushroom head turn to release	1 Ø 40 mushroom head key release	1 push/pull Ø 40 with trigger action
Contact		N/O + N/C	N/O + N/C	N/C + N/C	N/C + N/C	N/C + N/C
Colour of operator		● black	● black	● red	● red	● red
Metal control stations		80 x 77 x 80 mm				
Dimensions, W x D x H		50 x 65 mm				
Fixings: 4 x Ø 5.6 mm, centres						
References		XAWF130EX	XAWF140EX	XAWF174EX	XAWF184EX	XAWF198EX
Plastic control stations		80 x 70 x 146 mm				
Dimensions, W x D x H		70 x 105 mm				
Fixings: 4 x Ø 5.6 mm, centres						
References		XAWG130EX	XAWG140EX	XAWG174EX	XAWG184EX	XAWG198EX

(1) 2 position stay put

Other characteristics: please refer to the "Human-Machine Interface components" catalogue

Emergency stops and foot switches

Cable (tripwire) operated Emergency stops



For operating cable up to 50 m long		Latching, without indicator light			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0015 /  II 2 D-Ex tD A21 IP65 T85°C			
Mechanical durability (millions of operating cycles)		0.01			
Temperature range		– 20...+ 60°C			
Degree of protection		IP65			
Connection		3 entries for ISO M20 cable gland			
Rated operational characteristics		AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Dimensions, W x D x H		229 x 82 x 142 mm		229 x 105 x 142 mm	
Reset		By booted pushbutton		By key release pushbutton (key n° 421)	
Operating cable length		≤ 50 m		≤ 50 m	
Operating cable anchoring point		To left	To right	To left	To right
References	N/C + N/O slow break	XY2CE2A250EX	XY2CE1A250EX	XY2CE2A450EX	XY2CE1A450EX
	N/C + N/C slow break	XY2CE2A270EX	XY2CE1A270EX	XY2CE2A470EX	XY2CE1A470EX

Foot switches, metal



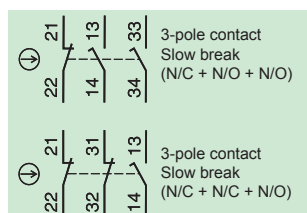
Type		Single pedal switches			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0025 /  II 2 D-Ex tD A21 IP65 T85°C			
Mechanical durability (millions of operating cycles)		5			
Temperature range		– 20...+ 60°C			
Degree of protection		IP66			
Connection		2 entries for n° 16 (Pg 16) cable gland (1)			
Rated operational characteristics		AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Dimensions, W x D x H		104 x 172 x 59 mm			
Colour		Blue		Orange	
Contact operation		1 step	2 step	1 step	2 step
References	1 N/C + N/O	XPEM110EX	–	XPER110EX	–
	2 N/C + N/O	XPEM111EX	XPEM211EX	XPER111EX	XPER211EX

(1) 1 entry fitted with blanking plug, 1 entry fitted with n° 16 (Pg 16) cable gland



Preventa

Safety switches and actuators

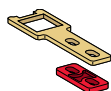


ISO entry
(to EN 50262)



Metal switches type		XCSA/B/C, 1 x ISO M20 cable entry		
With head		Without locking	Interlocking, unlocking by button	Interlocking, unlocking by key lock
Conformity		Directive ATEX 94/9/CE, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0014X / II 2 D-Ex tD A21 IP67 T85°C		
Actuation speed (min → max)		0,1 m/s → 0,5 m/s		
Degree of protection		IP 67		
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300		
Temperature range		-20...+60°C		
Dimensions (body + head) W x D x H		40 x 44 x 113.5 mm	52 x 44 x 113.5 mm	52 x 44 x 113.5 mm
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Complete switch	N/C + N/O + N/O	XCSA502EX	XCSB502EX	XCSC502EX
	N/C + N/C + N/O	XCSA702EX	XCSB702EX	XCSC702EX

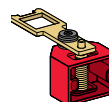
Accessories



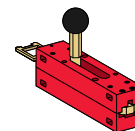
Straight actuator



Wide actuator



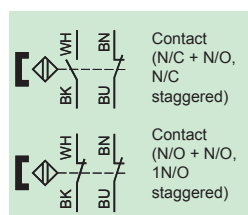
Pivoting actuator



Door lock

For safety switches XCSA/B/C/E	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05

Coded magnetic



Plastic switches type		XCSDM coded magnetic, Pre-cabled, L = 2 m		
		Rectangular without LED		
Conformity		Directive ATEX 94/9/CE, EN 50281-1.1 & 1.2, EN/IEC 61241-0, EN/IEC 61241-1, EN/IEC 60304, EN 1088, EN954-1		
Zone D (dust)		0-1-2/20-21-22*(according to protection mode, mD or ia).		
EC type examination certificate number / marking		INERIS 04ATEX0036 / II GD-Ex tD A21 IP67 T135°C		
Switches for actuation		Face to face, face to side, side to side		
Degree of protection		IP 66 + IP 67		
Type of contact		REED		
Rated operational characteristics		Ue = 24 VDC, Ie = 100 mA		
Temperature range		-20...+60°C		
Dimensions W x D x H		16 x 7 x 51 mm		
Operating zone (4)		Sao = 5 / Sar = 15		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Switch with coded magnet	N/C + N/O, N/C staggered	XCSDMC5902EX		
	N/O + N/O, 1N/O staggered	XCSDMC7902EX		

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Automation platform

Weighing system for Modicon Premium



Module type		ISP Plus
		Supplied calibrated
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50039, EN 50284, EN 50281-1-1
Zone D (dust)		Mounted outside zone (to be used in conjunction with products for zone 21 or 22)
EC type examination certificate number / marking		LCIE 03ATEX6399X / II(2)G or/and D-EEEx ib IIC T6 or IIB T6
Connection		By connectors: Sub-D 15-way male for sensors and Sub-D 9-way male for transfer of weights
Load cell inputs		50 measurements (for 1 to 8 load cells)
Outputs		2 discrete and 1 RS 485 for display
References	Without display	TSXISPY101
	With display TSXXBTH100	TSXISPY111

Intrinsically safe I/O modules for Modicon Quantum



Module type	Inputs/outputs				
	Discrete		Analogue		
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50284, EN 50281-1-1				
Zone D (dust)	Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)				
EC type examination certificate number / marking	SIRA 02ATEX2345X /  II(1) G/D-[EEx ia] IIC				
Connection	By screw terminal block 140XTS33200 (to be ordered separately)				
Number of inputs	8	–	8		–
Number of outputs	–	8	–		8
Signal inputs	–	–	Thermal probes Thermocouple (1)	0...25/20 mA 4...25 mA	
Resolution			12 bits + sign	0...25,000 points	15 bits
References	140DII33000	140DIO33000	140AII33000	140AII33010	140AIO33000

(1) Type J, K, E, T, S, R, B, mV

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Design: IGS-CP
Photos: Schneider Electric - Image bank
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