

Control



Block contactors

Overview	1/2
3 pole contactors	1/8
4 pole contactors	1/16
Contactor relays	1/20
AF09 ... AF38 accessories and overload relays	1/21
A45 ... AF1650 accessories and overload relays	1/23
A50 ... AF750 overload relays.....	1/26
Mini contactors.....	1/27
Mini contactor overload relays & accessories	1/28

Manual motor starters

Manual motor starters	1/29
Manual motor starter accessories.....	1/30

Soft starters

Overview	1/32
PSR - PSE soft starts	1/33
PSS - PST soft starts	1/34

Push buttons & pilot devices

Compact range	1/35
Modular range	1/39

Electronic products & relays

Electronic products & relays	1/45
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New Range Contactors



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1SBC100155C0201

Block Contactors



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1SBC100122C0202

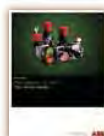
Electronic Products & Relays



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2CDC110004C0206

Pilot Devices



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1SFC151004C0201

Soft Starters

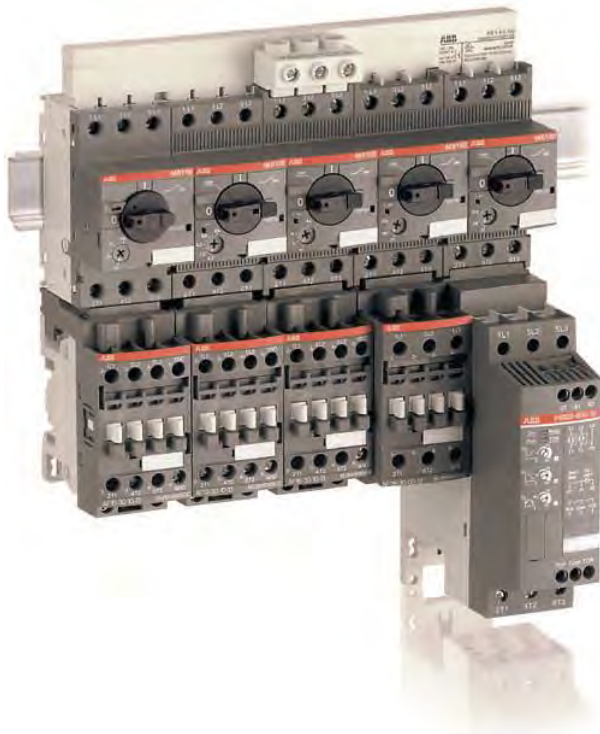


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1SFC132005C0201

Large choice of starting solutions in kit form

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Short-circuit and overload protection

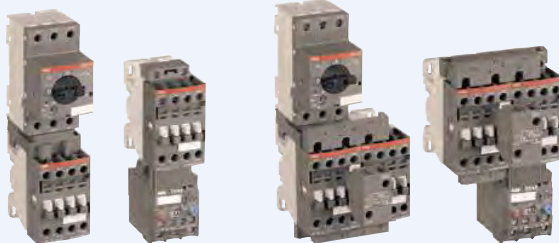
- Type 1 or type 2 coordination guaranteed with manual motor starters
- Choice of thermal or electronic overload relays

Simple construction

- All starters in 45 mm width module

Time/cost saving

- Same frame size for AC or DC control supply
- Easy, fast and secure assembly, fitting and wiring of components



Direct-on-line and reversing starters

- Protection by manual motor starters or by fuses with overload relays
- Reversing starters in 90 mm width including mechanical and electrical interlocking



Softstarters

- Protection by manual motor starters or by fuses with overload relays



Star-delta starters

- Protection by fuses with overload relays

Standardized busbars and optimized interconnection accessories

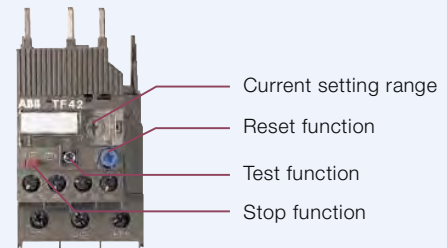
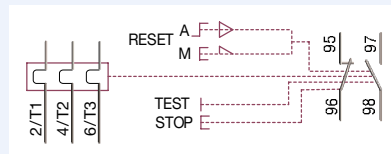
- Same 3-phase busbar and feeder range up to 100 A for manual motor starters
- Direct 35 mm rail mounting: no additional mounting plate required
- Complete range of connection links with manual motor starters and connection sets to build reversing and star-delta starters
- Easy installation and dismantling of contactors: no unwiring of manual motor starters





Protect your motors with thermal or electronic overload relays

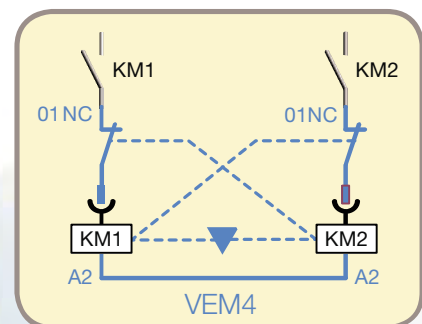
- One range of TF42 thermal overload relays, trip class 10
- One range of EF19 and EF45 electronic overload relays up to 45 A, 7 setting ranges, trip class 10E, 20E, 30E
- Adjustable current setting ranges
- Overload protection with phase loss sensitivity
- Temperature compensation:
 - up to +60 °C for thermal overload relays
 - up to +70 °C for electronic overload relays
- Automatic or manual reset, sealable
- Stop and test function



Interlock your reversing contactors quickly in 90 mm width:

- Easy with VM4 mechanical interlock unit
- Simple with VEM4 set including mechanical interlock unit and electrical interlock block with A2-A2 connection
- 50% wiring cost savings in one click!

Fixing the electrical interlock block to the contactor front face connects the 2 built-in N.C. interlocking contacts with the two coil supplies



MS116 and MS132 manual motor starters

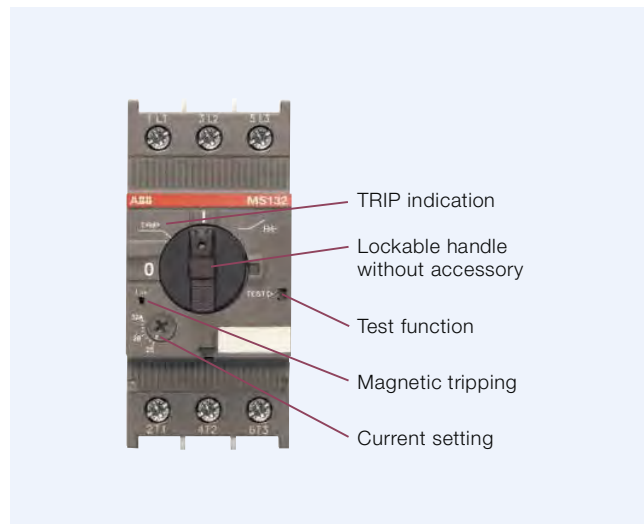
Harmonized design in 45 mm width

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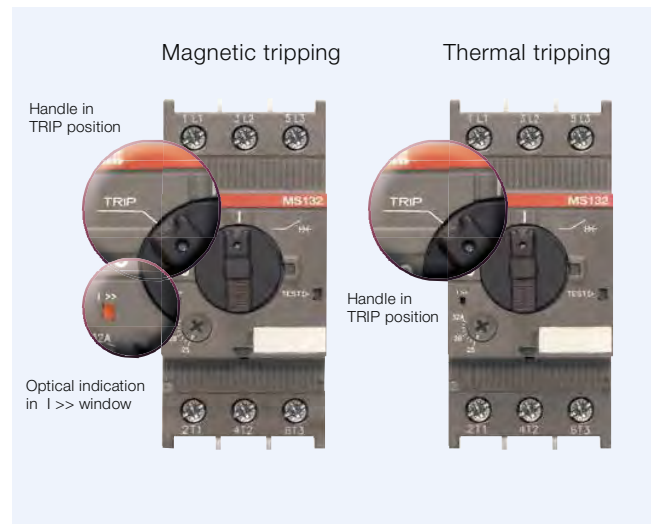


Types	MS116	MS132
Setting range	0.1 ... 16 A	0.1 ... 32 A
Switch position	ON / OFF	ON / OFF / TRIP
Magnetic trip indication	–	yes
Lockable handle without accessories	–	yes
Max. breaking capacity I_{cs}	up to 50 kA	up to 100 kA
Trip class	10A	10

ON/OFF switch functionality



Clear tripping identification



One range of accessories for MS116 and MS132

- Common auxiliary contacts, signaling contacts and auxiliary trip units
- Common busbar systems



AF09 ... AF38 3-pole contactors

Simple design with 2 frame sizes in 45 mm width

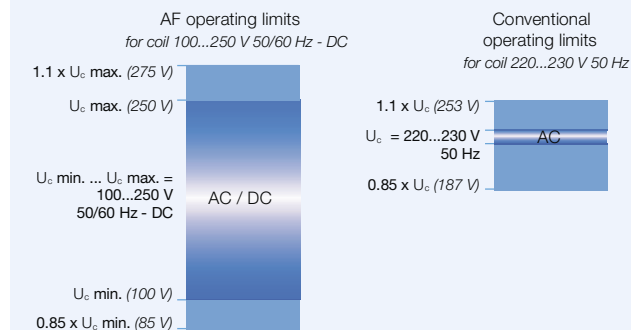


Types	AF09	AF12	AF16	AF26	AF30	AF38
Rated operational power 400 V AC-3	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
Rated operational current AC-1 (40 °C)	25 A	28 A	30 A	45 A	50 A	50 A
UL 3-phase motor power 480 V	5 hp	7.5 hp	10 hp	15 hp	20 hp	20 hp

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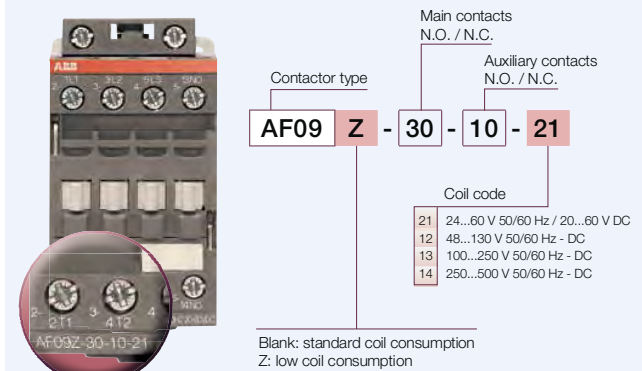
A unique contactor for AC or DC control supply

- Manages large control voltage variations
- Includes an electronic coil interface with extended operating limits $0.85 \times U_c \text{ min.} \dots 1.1 \times U_c \text{ max.}$



Only four coils for easier selection

Control voltages covering 24...500 V 50/60 Hz and 20...500 V DC



Reduced panel energy consumption

- With low holding AC and DC coil consumption
- From 30% (AF coil) to 80% (AF.Z coil) reduction of AC pull-in consumption

Built-in surge protection

- No extra surge suppressor required

Improve your equipment reliability with AF.Z contactors

- Withstands control voltage short dips
- Withstands control voltage sags according to SEMI F47-0706 standards
- Additional AF.Z coils available for control voltages between 12...20 V DC and 48...250 V 50/60 Hz - DC

Direct control by PLC-output 500 mA, 24 V DC

No use of interface relay



Switching of auxiliary and control circuits

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Optimize your auxiliary contact block configuration

- AF09...AF16 3-pole contactors equipped with a built-in auxiliary contact N.O. or N.C.
- Up to 6 additional auxiliary contacts:
 - front-mounted 1 or 4-pole CA4 blocks
 - side-mounted 2-pole CAL4 blocks
- Reduced panel dimension using up to 2 side-mounted 2-pole CAL4 blocks

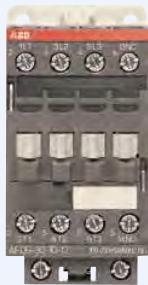
Make your control circuit safe

- **Mirror contact** according to IEC 60947-4-1 Annex F 2.1 
- **Mechanically linked contacts** according to IEC 60947-5-1 Annex L 3.0 

Free choice of your coil terminal access



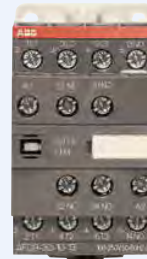
Top-mounted coil terminal block



Coil terminal block transferable to bottom position



Additional LDC4 coil terminal block mounted in bottom position



Front-mounted 2-pole CAT4 auxiliary contact block for front coil connection

Protect your equipment against accidental contact



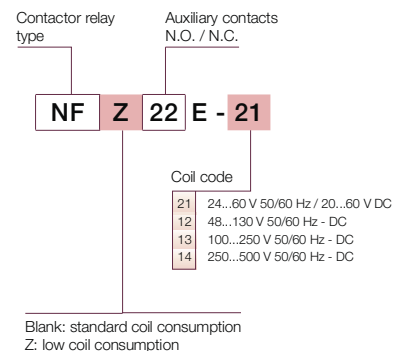
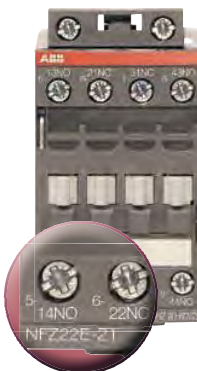
Sealable and transparent protective covers on contactors (BX4) and overload relays



Non-removable protective covers (BX4-CA) for auxiliary contact blocks

Complete choice of contactor relays

- Same advantages and accessories as AF contactors
- Only four coils for easier selection



PSR softstarters

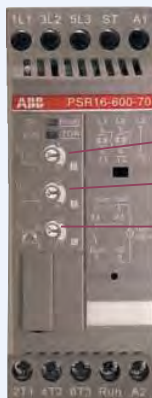
Compact design with 3 frame sizes



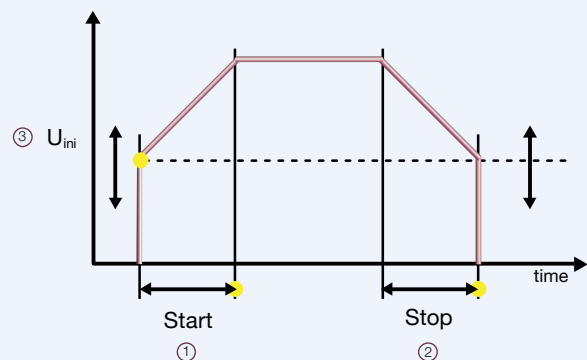
Types	PSR3 ... PSR16 PSE18	PSR-PSE25, PSR-PSE30	PSR-PSE37
Rated operational power 400 V AC-53a	1.5 ... 7.5 kW	11 ... 15 kW	18.5 kW
UL 3-phase motor power - 480 V	2 ... 10 hp	15 ... 20 hp	25 hp

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- Built-in by-pass contacts in main circuit
- Wide main voltage range: from 208 to 600 V
 - fewer variants
 - very robust and insensitive to voltage variations
- Wide supply voltage range: 100 ... 240 V AC or 24 V DC



- ① Ramp time START = 1 ... 20 sec
- ② Ramp time STOP = 0 ... 20 sec
- ③ Initial voltage U_{ini} = 40 ... 70 %
(also set "end voltage")



Easy to install and set up

- 35 mm rail or screw mounting
- All settings visible and adjustable on front face
- Run signal relay for all sizes
- Output signal for TOR (Top Of Ramp) for PSR25...PSR37
- 10 starts per hour standard, increased to 20 starts or more with addition of auxiliary cooling fan
- Remote control connection using Field Bus Plug as accessory

Compact starter solution in 45 mm width with manual motor starter up to 15 kW - 400 V



3-pole block contactors

for all industrial applications and motor starting

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IEC	AC-3 Rated Power	$\theta ? 55^{\circ}\text{C}, 400\text{ V}$	kW
UL/CSA	3-phase Motor Power	480 V	hp
AC Control Supply			Type
DC Control Supply			Type
AC / DC Control Supply			Type
IEC	AC-3 Rated Current	$\theta ? 55^{\circ}\text{C}, 400\text{ V}$	A
	AC-1 Rated Current	$\theta ? 40^{\circ}\text{C}, 690\text{ V}$	A
UL/CSA	General Use Rating	600 V	A
NEMA	NEMA Size		

* $\theta ? 60^{\circ}\text{C}$ for AF09...AF38 contactors

Main Accessories

Auxiliary Contact Blocks	Front mounting
	Side mounting
Timers	Pneumatic (Front mounting)
	Electronic
Interlocking Units (compact reversing contactors)	Mechanical
	With safety blocking
	Mechanical / Electrical
Connection Sets	For reversing contactors
Surge Suppressors	Varistor (AC/DC)
	RC Type (AC)
AF contactors have built-in surge protection	
	Transil diode (DC)

Standard

									
4	5.5	7.5	11	15	18.5	18.5	22	30	37
5	7.5	10	15	20	20	30	40	60	60
AF09	AF12	AF16	AF26	AF30	AF38	A40	A50	A63	A75
AF09	AF12	AF16	AF26	AF30	AF38	AL40	AE50	AE63	AE75
AF09	AF12	AF16	AF26	AF30	AF38	—	AF50	AF63	AF75
9	12	18	26	32	38	37	50	65	75
25	28	30	45	50	50	60	100	115	125
25	28	30	45	50	50	60	80	90	105
00	0	—	1	—	—	1P	2	—	3

CA4-10 (1 x N.O.), CA4-01 (1 x N.C.)		CA5-10 (1 x N.O.), CA5-01 (1 x N.C.)	
CAL4-11 (1 x N.O. + 1 x N.C.)		CAL5-11 (1 x N.O. + 1 x N.C.)	
		TP40DA, TP180DA Direct timing	
		TP40IA, TP180IA Inverse timing	
VM4			
VEM4		VE5-1	
BER16-4		BER40	BEM75-30
		RV5 (24...440 V)	RV5 (24...440 V)
		RC5-1 (24...440 V)	RC5-2 (24...440 V)
		RT5 (24...264 V)	RT5 (24...264 V)

Overload Relays

Thermal Relays		Class 10 (10A or 20 for TA42DU to TA80DU)
Electronic Relays		Class 10E, 20E, 30E
Accessories for Thermal Overload Relays	Remote tripping coil	
	Remote reset coil	
	Wall/separate mounting kit	

TF42 (0.10...38 A)			TA42DU (18...42 A)	TA75DU (18...80 A)
EF19 (0.10...18.9 A)	EF19 (0.10...18.9 A)	EF45 (0...45 A)	E45DU (0...45 A)	E80DU (27...80 A)
			DB80, DB45E, DB80E	

Manual Motor Starters

Manual Motor Starters	Thermal / magnetic protection	Class 10
		Class 20
		Magnetic only types
Accessories	For contactor mounting	
	Aux. trip units, aux. contacts, busbars	

MS116 for class 10A (0.10...16 A) I_{th} up to 50 kA		MS450 (40...50 A) I_{th} up to 50 kA	
MS132 (0.10...32 A) I_{th} up to 100 kA		MS495 (28...100 A) I_{th} up to 50 kA	
		MS497 (11...100 A) I_{th} up to 100 kA	
		MS451 (11...50 A) I_{th} up to 50 kA	
		MS496 (28...100 A) I_{th} up to 100 kA	
		MO450 (16...50 A) I_{th} up to 50 kA	MO495 (40...100 A) I_{th} up to 50 kA
		MO496 (16...100 A) I_{th} up to 100 kA	
BEA16-4		BEA38-4	BEA40/BEA450
BEA50/BEA450		BEA50/BEA450, BEA75/BEA495	
HKF1, HK1, UA1, AA1, PS1, S1, SK1		HK4, HKS4, UA4, AA4, PS4, S4, SK4	
CK1 (MS132 only)			



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	45	55	75	90	110	140	160	200	250	315	400	—	475	560	—
	60	75	100	125	150	200	250	350	400	500	600	—	800	900	—
	A95	A110	A145	A185	A210	A260	A300	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050
	AE95	AE110	AF145	AF185	AF210	AF260	AF300	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050
	AF95	AF110	AF145	AF185	AF210	AF260	AF300	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050
	96	110	145	185	210	260	305	400	460	580	750	—	860	1050	—
	145	160	250	275	350	400	500	600	700	800	1050	1260	1350	1650	2050
	125	140	230	250	300	350	400	550	650	750	900	1210	1350	1650	2100
	—	—	4	—	—	5	—	—	6	—	7	—	—	8	—

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CAL18-11 (1 x N.O. + 1 x N.C.)					
	VM300H / VM300V	VM750H / VM750V	VM1650H		
VE5-2					
BEM110-30	BEM185-30	BEM300-30	BEM460-30	BEM750-30	
RV5 (24...440 V)					
RC5-2 (24...440 V)					
RT5 (24...264 V)					

TA80DU (29...80 A)	TA200DU (65...200 A)	TA450DU/SU (130...310 A)			
TA110DU (65...110 A)		class 30 for SU			
E140DU (50...140 A)	E200DU (60...200 A)	E320DU (100...320 A)	E500DU (150...500 A)	E800DU (250...800 A)	E1250DU (375...1250 A)
		DS25-A			
		DR25-A			
DB80, DB200, D140E	DB200	DT450/A			

	Circuit Breakers				
	Tmax Circuit Breaker and accessories				



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AF09 ... AF16 3 pole contactors

AC/DC operated

1



AF09 ... AF16 Contactors

AC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700009	
						Order Code	Price
4	9	25	1	-	AF09-30-10-11 24-60V50/60HZ-DC	1SBL137001R1110	
					AF09-30-10-12 48-130V50/60HZ-DC	1SBL137001R1210	
					AF09-30-10-13 100-250V50/60HZ-DC	1SBL137001R1310	
					AF09-30-10-14 250-500V50/60HZ-DC	1SBL137001R1410	
					AF09Z-30-10-20 12-20VDC	1SBL136001R2010	
					AF09Z-30-10-21 24-60V50/60HZ 20-60VDC	1SBL136001R2110	
			-	1	AF09-30-01-11 24-60V50/60HZ-DC	1SBL137001R1101	
					AF09-30-01-12 48-130V50/60HZ-DC	1SBL137001R1201	
					AF09-30-01-13 100-250V50/60HZ-DC	1SBL137001R1301	
					AF09-30-01-14 250-500V50/60HZ-DC	1SBL137001R1401	
					AF09Z-30-01-20 12-20VDC	1SBL136001R2001	
					AF09Z-30-01-21 24-60V50/60HZ 20-60VDC	1SBL136001R2101	
5.5	12	28	1	-	AF12-30-10-11 24-60V50/60HZ 20-60VDC	1SBL157001R1110	
					AF12-30-10-12 48-130V50/60HZ-DC	1SBL157001R1210	
					AF12-30-10-13 100-250V50/60HZ-DC	1SBL157001R1310	
					AF12-30-10-14 250-500V50/60HZ-DC	1SBL157001R1410	
					AF12Z-30-10-20 12-20VDC	1SBL156001R2010	
					AF12Z-30-10-21 24-60V50/60HZ 20-60VDC	1SBL156001R2110	
			-	1	AF12-30-01-11 24-60V50/60HZ 20-60VDC	1SBL157001R1101	
					AF12-30-01-12 48-130V50/60HZ-DC	1SBL157001R1201	
					AF12-30-01-13 100-250V50/60HZ-DC	1SBL157001R1301	
					AF12-30-01-14 250-500V50/60HZ-DC	1SBL157001R1401	
					AF12Z-30-01-20 12-20VDC	1SBL156001R2001	
					AF12Z-30-01-21 24-60V50/60HZ 20-60VDC	1SBL156001R2101	
7.5	18	30	1	-	AF16-30-10-11 24-60V50/60HZ 20-60VDC	1SBL177001R1110	
					AF16-30-10-12 48-130V50/60HZ-DC	1SBL177001R1210	
					AF16-30-10-13 100-250V50/60HZ-DC	1SBL177001R1310	
					AF16-30-10-14 250-500V50/60HZ-DC	1SBL177001R1410	
					AF16Z-30-10-20 12-20VDC	1SBL176001R2010	
					AF16Z-30-10-21 24-60V50/60HZ 20-60VDC	1SBL176001R2110	
			-	1	AF16-30-01-11 24-60V50/60HZ 20-60VDC	1SBL177001R1101	
					AF16-30-01-12 48-130V50/60HZ-DC	1SBL177001R1201	
					AF16-30-01-13 100-250V50/60HZ-DC	1SBL177001R1301	
					AF16-30-01-14 250-500V50/60HZ-DC	1SBL177001R1401	
					AF16Z-30-01-20 12-20VDC	1SBL176001R2001	
					AF16Z-30-01-21 24-60V50/60HZ 20-60VDC	1SBL176001R2101	



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AF26 ... AF210 3 pole contactors

AC/DC operated



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AF26 ... AF210 Contactors

AC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700009	
						Order Code	Price
11	26	45	-	-	AF26-30-00-11 24-60V50/60HZ 20-60VDC	1SBL237001R1100	
					AF26-30-00-12 48-130V50/60HZ-DC	1SBL237001R1200	
					AF26-30-00-13 100-250V50/60HZ-DC	1SBL237001R1300	
					AF26-30-00-14 250-500V50/60HZ-DC	1SBL237001R1400	
					AF26Z-30-00-20 12-20VDC	1SBL236001R2000	
					AF26Z-30-00-21 24-60V50/60HZ 20-60VDC	1SBL236001R2100	
15	32	50	-	-	AF30-30-00-11 24-60V50/60HZ 20-60VDC	1SBL277001R1100	
					AF30-30-00-12 48-130V50/60HZ-DC	1SBL277001R1200	
					AF30-30-00-13 100-250V50/60HZ-DC	1SBL277001R1300	
					AF30-30-00-14 250-500V50/60HZ-DC	1SBL277001R1400	
					AF30Z-30-00-20 12-20VDC	1SBL276001R2000	
					AF30Z-30-00-21 24-60V50/60HZ 20-60VDC	1SBL276001R2100	
18.5	35	50	-	-	AF38-30-00-11 24-60V50/60HZ 20-60VDC	1SBL297001R1100	
					AF38-30-00-12 48-130V50/60HZ-DC	1SBL297001R1200	
					AF38-30-00-13 100-250V50/60HZ-DC	1SBL297001R1300	
					AF38-30-00-14 250-500V50/60HZ-DC	1SBL297001R1400	
					AF38Z-30-00-20 12-20VDC	1SBL296001R2000	
					AF38Z-30-00-21 24-60V50/60HZ 20-60VDC	1SBL296001R2100	
						Product Hierarchy 1700003	
22	50	100	1	1	AF50-30-11 48-130V AC/DC	1SBL357001R6911	
					AF50-30-11 100-250V AC/DC	1SFL357001R7011	
30	65	115	1	1	AF63-30-11 48-130V AC/DC	1SBL377001R6911	
					AF63-30-11 100-250V AC/DC	1SBL377001R7011	
37	75	125	1	1	AF75-30-11 48-130V AC/DC	1SBL417001R6911	
					AF75-30-11 100-250V AC/DC	1SBL417001R7011	
						Product Hierarchy 1700001	
45	96	145	1	1	AF95-30-11 48-130V AC/DC	1SFL437001R6911	
					AF95-30-11 100-250V AC/DC	1SFL437001R7011	
55	110	160	1	1	AF110-30-11 48-130V AC/DC	1SFL457001R6911	
					AF110-30-11 100-250V AC/DC	1SFL457001R7011	
75	145	250	1	1	AF145-30-11 48-130V AC/DC	1SFL477001R6911	
					AF145-30-11 100-250V AC/DC	1SFL477001R7011	
90	185	275	1	1	AF185-30-11 48-130V AC/DC	1SFL497001R6911	
					AF185-30-11 100-250V AC/DC	1SFL497001R7011	
110	210	350	1	1	AF210-30-11 48-130V AC/DC	1SFL517001R6911	
					AF210-30-11 100-250V AC/DC	1SFL517001R7011	

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AF260 ... AF1650 3 pole contactors

AC/DC operated

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AF260 ... A1650 Contactors

AC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700001	
						Order Code	Price
140	260	400	1		AF260-30-11 48-130V AC/DC	1SFL537001R6911	
					AF260-30-11 100-250V AC/DC	1SFL537001R7011	
160	305	500	1	1	AF300-30-11 48-130V AC/DC	1SFL557001R6911	
					AF300-30-11 100-250V AC/DC	1SFL557001R7011	
200	400	600	1	1	AF400-30-11 48-130V AC/DC	1SFL577001R6911	
					AF400-30-11 100-250V AC/DC	1SFL577001R7011	
250	460	700	1	1	AF460-30-11 48-130V AC/DC	1SFL597001R6911	
					AF460-30-11 100-250V AC/DC	1SFL597001R7011	
315	580	800	1	1	AF580-30-11 48-130V AC/DC	1SFL617001R6911	
					AF580-30-11 100-250V AC/DC	1SFL617001R7011	
400	750	1050	1	1	AF750-30-11 48-130V AC/DC	1SFL637001R6911	
					AF750-30-11 100-250V AC/DC	1SFL637001R7011	
475	860	1350	1	1	AF1350-30-11 100-250V AC/DC	1SFL657001R7011	
560	1050	1650	1	1	AF1650-30-11 100-250V AC/DC	1SFL677001R7011	



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A50 ... A95 3 pole contactors

AC operated



A50 ... A95 Contactors

IAC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700003	
						Order Code	Price
22	50	100	1	1	A50-30-11 110V 50/60Hz	1SBL351001R8411	
					A50-30-11 220-230V 50Hz	1SBL351001R8011	
					A50-30-11 230-240v 50Hz	1SBL351001R8811	
					A50-30-11 24V 50/60Hz	1SBL351001R8111	
					A50-30-11 400-415V 50Hz	1SBL351001R8611	
30	65	115	1	1	A63-30-11 48V 50/60Hz	1SBL371001R8311	
					A63-30-11 110V 50/60Hz	1SBL371001R8411	
					A63-30-11 220-230V 50Hz	1SBL371001R8011	
					A63-30-11 230-240v 50Hz	1SBL371001R8811	
					A63-30-11 24V 50/60Hz	1SBL371001R8111	
					A63-30-11 400-415V 50Hz	1SBL371001R8611	
37	75	125	1	1	A75-30-11 110V 50/60Hz	1SBL411001R8411	
					A75-30-11 220-230V 50Hz	1SBL411001R8011	
					A75-30-11 230-240v 50Hz	1SBL411001R8811	
					A75-30-11 24V 50/60Hz	1SBL411001R8111	
					A75-30-11 400-415V 50Hz	1SBL411001R8611	
45	96	145	1	1	Product Hierarchy 1700001		
					A95-30-11 48V 50Hz	1SFL431001R8311	
					A95-30-11 110V 50Hz	1SFL431001R8411	
					A95-30-11 220-230V 50Hz	1SFL431001R8011	
					A95-30-11 230-240V 50Hz	1SFL431001R8811	
					A95-30-11 24V 50Hz	1SFL431001R8111	
					A95-30-11 400-415V 50Hz	1SFL431001R8611	



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A110 ... A300 3 pole contactors

AC operated

1



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A110 ... A300 Contactors

AC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700001	
						Order Code	Price
55	110	160	1	1	A110-30-11 24V 50/60H	1SFL451001R8111	
					A110-30-11 110V 50/60Hz	1SFL451001R8411	
					A110-30-11 220-230V 50Hz	1SFL451001R8011	
					A110-30-11 230-240V 50Hz	1SFL451001R8811	
					A110-30-11 400-415V 50Hz	1SFL451001R8611	
75	145	250	1	1	A145-30-11 24V 50Hz	1SFL471001R8111	
					A145-30-11 48V 50Hz	1SFL471001R8311	
					A145-30-11 110V 50Hz	1SFL471001R8411	
					A145-30-11 220-230V 50Hz	1SFL471001R8011	
					A145-30-11 230-240V 50Hz	1SFL471001R8811	
					A145-30-11 400-415V 50Hz	1SFL471001R8611	
90	185	275	1	1	A185-30-11 110V 50Hz	1SFL491001R8411	
					A185-30-11 220-230V 50Hz	1SFL491001R8011	
					A185-30-11 230-240V 50Hz	1SFL491001R8811	
					A185-30-11 24V 50Hz	1SFL491001R8111	
					A185-30-11 400-415V 50Hz	1SFL491001R8611	
110	210	350	1	1	A210-30-11 24V 50Hz	1SFL511001R8111	
					A210-30-11 48V 50Hz	1SFL511001R8311	
					A210-30-11 110V 50Hz	1SFL511001R8411	
					A210-30-11 220-230V 50Hz	1SFL511001R8011	
					A210-30-11 230-240V 50Hz	1SFL511001R8811	
					A210-30-11 400-415V 50Hz	1SFL511001R8611	
140	260	400	1	1	A260-30-11 24V 50Hz	1SFL531001R8111	
					A260-30-11 110V 50Hz	1SFL531001R8411	
					A260-30-11 220-230V 50Hz	1SFL531001R8011	
					A260-30-11 230-240V 50Hz	1SFL531001R8811	
					A260-30-11 400-415V 50Hz	1SFL511001R8611	
160	305	500	1	1	A300-30-11 24V 50Hz	1SFL551001R8111	
					A300-30-11 110V 50Hz	1SFL551001R8411	
					A300-30-11 220-230V 50Hz	1SFL551001R8011	
					A300-30-11 230-240V 50Hz	1SFL551001R8811	
					A300-30-11 400-415 50Hz	1SFL551001R8611	

AE50 ... AE63 - AF50 ... AF750 3 pole contactors

DC operated



AE50 ... AE110 Contactors

AC-3 400V kW	AC-3 400V A	AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700003	
						Order Code	Price
22	50	100	1	1	AE50-30-11 24V DC	1SBL359001R8111	
30	65	115			AE63-30-11 24V DC	1SBL379001R8111	
37	75	125			AE75-30-11 24V DC	1SBL419001R8111	
						Product Hierarchy 1700001	
45	96	145	1	1	AE95-30-11 24V DC	1SFL439001R8111	
55	110	160			AE110-30-11 24V DC	1SFL459001R8111	

AF50 ... AF750 Contactors

22	50	100	1	1	AF50-30-11 20-60V DC	1SBL357001R7211	
30	65	115			AF63-30-11 20-60V DC	1SBL377001R7211	
37	75	125			AF75-30-11 20-60V DC	1SBL417001R7211	

						Product Hierarchy 1700001	
45	96	145	1	1	AF95-30-11 20-60V DC	1SFL437001R7211	
55	110	160			AF110-30-11 20-60V DC	1SFL457001R7211	
75	145	250			AF145-30-11 20-60V DC	1SFL477001R7211	
90	185	275			AF185-30-11 20-60V DC	1SFL497001R7211	
110	210	350			AF210-30-11 20-60V DC	1SFL517001R7211	
140	260	400			AF260-30-11 20-60V DC	1SFL537001R7211	
160	305	500			AF300-30-11 20-60V DC	1SFL557001R7211	
200	400	600			AF400-30-11 20-60V DC	1SFL577001R6811	
250	460	700			AF460-30-11 20-60V DC	1SFL597001R6811	
315	580	800			AF580-30-11 20-60V DC	1SFL617001R6811	
400	750	1050			AF750-30-11 20-60V DC	1SFL637001R6811	



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AF09 ... AF38 4 pole contactors

AC/DC operated

1



AF09 ... AF38 Contactors

IEC AC1 A	Main Poles		Auxiliary		Description	Product Hierarchy 1700009	
	NO	NC	NO	NC		Order Code	Price
25	2	2	-	-	AF09-22-00-11 24-60V50/60HZ 20-60VDC	1SBL137501R1100	
					AF09-22-00-12 48-130V50/60HZ-DC	1SBL137501R1200	
					AF09-22-00-13 100-250V50/60HZ-DC	1SBL137501R1300	
					AF09-22-00-14 250-500V50/60HZ-DC	1SBL137501R1400	
					AF09Z-22-00-21 24-60V50/60HZ 20-60VDC	1SBL136501R2100	
	4	0	-	-	AF09-40-00-11 24-60V50/60HZ 20-60VDC	1SBL137201R1100	
					AF09-40-00-12 48-130V50/60HZ-DC	1SBL137201R1200	
					AF09-40-00-13 100-250V50/60HZ-DC	1SBL137201R1300	
					AF09-40-00-14 250-500V50/60HZ-DC	1SBL137201R1400	
					AF09Z-40-00-20 12-20VDC	1SBL136201R2000	
					AF09Z-40-00-21 24-60V50/60HZ 20-60VDC	1SBL136201R2100	
30	2	2	-	-	AF16-22-00-11 24-60V50/60HZ 20-60VDC	1SBL177501R1100	
					AF16-22-00-12 48-130V50/60HZ-DC	1SBL177501R1200	
					AF16-22-00-13 100-250V50/60HZ-DC	1SBL177501R1300	
					AF16-22-00-14 250-500V50/60HZ-DC	1SBL177501R1400	
					AF16Z-22-00-21 24-60V50/60HZ 20-60VDC	1SBL176501R2100	
	4	0	-	-	AF16-40-00-11 24-60V50/60HZ 20-60VDC	1SBL177201R1100	
					AF16-40-00-12 48-130V50/60HZ-DC	1SBL177201R1200	
					AF16-40-00-13 100-250V50/60HZ-DC	1SBL177201R1300	
					AF16-40-00-14 250-500V50/60HZ-DC	1SBL177201R1400	
					AF16Z-40-00-20 12-20VDC	1SBL176201R2000	
					AF16Z-40-00-21 24-60V50/60HZ 20-60VDC	1SBL176201R2100	
45	2	2	-	-	AF26-22-00-11 24-60V50/60HZ 20-60VDC	1SBL237501R1100	
					AF26-22-00-13 100-250V50/60HZ-DC	1SBL237501R1300	
	4	0	-	-	AF26-40-00-11 24-60V50/60HZ 20-60VDC	1SBL237201R1100	
					AF26-40-00-12 48-130V50/60HZ-DC	1SBL237201R1200	
					AF26-40-00-13 100-250V50/60HZ-DC	1SBL237201R1300	
					AF26-40-00-14 250-500V50/60HZ-DC	1SBL237201R1400	
55	2	2	-	-	AF38-22-00-11 24-60V50/60HZ 20-60VDC	1SBL297501R1100	
					AF38-22-00-13 100-250V50/60HZ-DC	1SBL297501R1300	
	4	0	-	-	AF38-40-00-11 24-60V50/60HZ 20-60VDC	1SBL297201R1100	
					AF38-40-00-13 100-250V50/60HZ-DC	1SBL297201R1300	
					AF38Z-40-00-21 24-60V50/60HZ 20-60VDC	1SBL296201R2100	



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A45 ... A75 4 pole contactors

AC operated



A45 ... A75 Contactors

IEC AC1 A	Main Poles		Auxiliary		Description	Product Hierarchy 1700003	
	NO	NC	NO	NC		Order Code	Price
70	2	2	-	-	A45-22-00 24v 50Hz	1SBL331501R8100	
					A45-22-00 110v 50Hz	1SBL331501R8400	
					A45-22-00 220-230v 50Hz	1SBL331501R8000	
					A45-22-00 230-240v 50Hz	1SBL331501R8800	
					A45-22-00 400-415v 50Hz	1SBL331501R8600	
	4	0	-	-	A45-40-00 24v 50Hz	1SBL331201R8100	
					A45-40-00 110v 50Hz	1SBL331201R8400	
					A45-40-00 220-230V 50Hz	1SBL331201R8000	
					A45-40-00 230-240v 50Hz	1SBL331201R8800	
					A45-40-00 400-415v 50Hz	1SBL331201R8600	
100	4	0	-	-	A50-40-00 24v 50Hz	1SBL351201R8100	
					A50-40-00 110V 50/60Hz	1SBL351201R8400	
					A50-40-00 220-230V 50Hz	1SBL351201R8000	
					A50-40-00 230-240v 50Hz	1SBL351201R8800	
					A50-40-00 400-415v 50Hz	1SBL351201R8600	
125	2	2	-	-	A75-22-00 24v 50Hz	1SBL411501R8100	
					A75-22-00 110v 50Hz	1SBL411501R8400	
					A75-22-00 220-230v 50Hz	1SBL411501R8000	
					A75-22-00 230-240v 50Hz	1SBL411501R8800	
					A75-22-00 400-415v 50Hz	1SBL411501R8600	
	4	0	-	-	A75-40-00 24V 50Hz Contactor	1SBL411201R8100	
					A75-40-00 110V 50/60Hz	1SBL411201R8400	
					A75-40-00 220-230V 50Hz	1SBL411201R8000	
					A75-40-00 230-240v 50Hz	1SBL411201R8800	
					A75-40-00 400-415v 50Hz	1SBL411201R8600	



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EK110 ... EK1000 4 pole contactors

AC operated

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EK 175-40-11



EK 370-40-11



EK 1000-40-11

EK110 ... EK1000 Contactors

AC-1 40°C A	Aux NO	Aux NC	Description	Product Hierarchy 1700002	
				Order Code	Price
200	1	1	EK110-40-11 230-240V 50Hz	SK824440-AM	
250	1	1	EK150-40-11 230-240V 50Hz	SK824441-AM	
300	1	1	EK175-40-11 230-240V 50Hz	SK825440-AM	
350	1	1	EK210-40-11 230-240V 50Hz	SK825441-AM	
550	1	1	EK370-40-11 230-240V 50Hz	SK827040-AM	
800	1	1	EK550-40-11 230-240V 50Hz	SK827041-AM	
1000	1	1	EK1000-40-11 230-240V 50Hz	SK827044-AM	

Aux Contacts

CAL16-11A Side Mount Aux Block	SK829002-A	
CAL16-11B Side Mount Aux Block	SK829002-B	
CAL16-11C Side Mount Aux Block	SK829002-C	
CAL16-11D Side Mount Aux Block	SK829002-D	

Mechanical Interlocks

VH145	SK829071-A	
VH300	SK829071-B	
VH800	SK829070-F	

Terminal Shrouds

LT150-EK EK110 / EK150	SK178001-HB	
LT210-EK EK175 / EK210	SK178001-KB	
LT550-EK EK370 / EK550	SK178001-LB	

Connection Sets

BSS100 Connection Sets	SK829090-B	
BSS145 Connection Sets	SK829090-F	
BSS210 Connection Sets	SK829090-G	
BSS550 Connection Sets	SK829090-E	
BSS1000 Connection Sets	SK829090-H	

Suppressors

RC-EH300/415 110-415V AC Suppressor	SK829007-B	
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Other voltages available please consult us.



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AE45 ... AE75 4 pole contactors

DC operated



AE45 ... AE75 Contactors

IEC AC1 A	Main Poles		Auxiliary		Description	Product Hierarchy 1700003	
	NO	NC	NO	NC		Order Code	Price
70	2	2	-	-	AE45-22-00 24V DC	1SBL339501R8100	
	4	0			AE45-40-00 24V DC	1SBL339201R8100	
100	4	0			AE50-40-00 24V DC	1SBL359201R8100	
125	2	2			AE75-22-00 24V DC	1SBL419501R8100	
	4	0			AE75-40-00 24V DC	1SBL339201R8100	

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NF contactor relays

AC/DC operated

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NF Contactor Relays				Product Hierarchy 1700009	
NO	NC	IEC AC-15 Ratings	Part No	Order Code	Price
2	2	27-127v 50/60Hz 6A 220-240v 50/60Hz 4A 400- 440v 50/60Hz 3A 500v 50/60Hz 2A 690v 50/60Hz 2A	NF22E-11 24-60V50/60HZ 20-60VDC	1SBH137001R1122	
			NF22E-12 48-130V50/60HZ-DC	1SBH137001R1222	
			NF22E-13 100-250V50/60HZ-DC	1SBH137001R1322	
			NF22E-14 250-500V50/60HZ-DC	1SBH137001R1422	
3	1		NFZ22E-21 24-60V50/60HZ 20-60VDC	1SBH136001R2122	
			NF31E-12 48-130V50/60HZ-DC	1SBH137001R1231	
			NF31E-13 100-250V50/60HZ-DC	1SBH137001R1331	
			NF31E-14 250-500V50/60HZ-DC	1SBH137001R1431	
4	-		NFZ31E-21 24-60V50/60HZ 20-60VDC	1SBH136001R2131	
			NF40E-12 48-130V50/60HZ-DC	1SBH137001R1240	
			NF40E-13 100-250V50/60HZ-DC	1SBH137001R1340	
			NFZ40E-21 24-60V50/60HZ 20-60VDC	1SBH136001R2140	
6	2			NF62E-13 100-250V50/60HZ-DC	1SBH137001R1362



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AF09 ... AF38 main accessories for 3 & 4 pole contactors and relays



Auxilliary contacts

Front mounted instantaneous auxiliary contacts

For Contactor	NO	NC	Part No.	Product Hierarchy 1700009	
				Order Code	Price
AF09 ... AF38	1	0	CA4-10	1SBN010110R1010	
	1	0	CA4-10-T	1SBN010110T1010	
	0	1	CA4-01	1SBN010110R1001	
	0	1	CA4-01-T	1SBN010110T1001	
AF09 ... AF16-30-10	2	2	CA4-22M	1SBN010140R1122	
	3	1	CA4-31M	1SBN010140R1131	
	1	3	CA4-13M	1SBN010140R1113	
	0	4	CA4-04M	1SBN010140R1104	
AF26 ... AF38-30-00	2	2	CA4-22E	1SBN010140R1022	
	3	1	CA4-31E	1SBN010140R1031	
	4	0	CA4-40E	1SBN010140R1040	
	0	4	CA4-04E	1SBN010140R1004	
AF09 ... AF16-30-10	2	2	CA4-22U	1SBN010140R1322	
	3	1	CA4-31U	1SBN010140R1331	
	4	0	CA4-40U	1SBN010140R1340	

Front mounted auxiliary contacts with NO leading and NC lagging

AF09 ... AF38	1	0	CC4-10	1SBN010111R1010	
	0	1	CC4-01	1SBN010111R1001	

Side mounted instantaneous auxiliary contacts

AF09 ... AF38	1	1	CAL4-11	1SBN010120R1011	
	1	1	CAL4-11-T	1SBN010120T1011	

Front mounted instantaneous auxiliary contacts with A1/A2 terminal blocks

AF09 ... AF16-30-10	1	1	CAT4-11E	1SBN010151R1011	
AF26 ... AF38-30-00	1	1	CAT4-11M	1SBN010151R1111	
AF09 ... AF16-30-10	1	1	CAT4-11U	1SBN010151R1311	



Mechanical and electrical interlock sets

Mechanical and Electrical Interlock Unit	VEM4	1SBN030111R1000	
Mechanical Interlock Unit	VM4	1SBN030105T1000	

Connecting accessories for starting (3 pole contactors)

Connecting Link	BEA16-4	1SBN081306T1000	
Connecting Link	BEA38-4	1SBN082306T2000	
Connection kit for PSR24-30 and MS132	PSR30-MS132	1SFA896212R1001	
Connection Set for Manual Motor	BEA26-4	1SBN082306T1000	
Connection Set for Reversing Starter	BER16-4	1SBN081311R1000	
Connection Set for Reversing Starter	BER38-4	1SBN082311R1000	
Connection Set for Star-Delta Starter	BEY16-4	1SBN081313R2000	
Connection Set for Star-Delta Starter	BEY38-4	1SBN082713R2000	



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Thermal & electronic overload relays for AF09 ... AF38 3-pole contactors

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Electronic Overload Relays

Setting [A]	Part No	Product Hierarchy 1700006	
		Order Code	Price
0.10...0.32 A	EF19-0.32	1SAX121001R1101	
0.30...1.00 A	EF19-1.0	1SAX121001R1102	
0.80...2.70 A	EF19-2.7	1SAX121001R1103	
1.90...6.30 A	EF19-6.3	1SAX121001R1104	
5.70...18.9 A	EF19-18.9	1SAX121001R1105	

9.00...30.0 A	EF45-30	1SAX221001R1101	
15.0...45.0 A	EF45-45	1SAX221001R1102	

Thermal Overload Relays

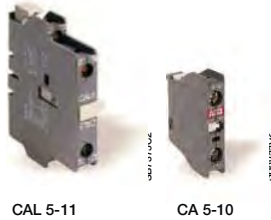
0.10...0.13 A	TF42-0.13	1SAZ721201R1005	
0.13...0.17 A	TF42-0.17	1SAZ721201R1008	
0.17...0.23 A	TF42-0.23	1SAZ721201R1009	
0.23...0.31 A	TF42-0.31	1SAZ721201R1013	
0.31...0.41 A	TF42-0.41	1SAZ721201R1014	
0.41...0.55 A	TF42-0.55	1SAZ721201R1017	
0.55...0.74 A	TF42-0.74	1SAZ721201R1021	
0.74...1.00 A	TF42-1.0	1SAZ721201R1023	
1.00...1.30 A	TF42-1.3	1SAZ721201R1025	
1.30...1.70 A	TF42-1.7	1SAZ721201R1028	
1.70...2.30 A	TF42-2.3	1SAZ721201R1031	
2.30...3.10 A	TF42-3.1	1SAZ721201R1033	
3.10...4.20 A	TF42-4.2	1SAZ721201R1035	
4.20...5.70 A	TF42-5.7	1SAZ721201R1038	
5.70...7.60 A	TF42-7.6	1SAZ721201R1040	
7.60...10.0 A	TF42-10	1SAZ721201R1043	
10.0...13.0 A	TF42-13	1SAZ721201R1045	
13.0...16.0 A	TF42-16	1SAZ721201R1047	
16.0...20.0 A	TF42-20	1SAZ721201R1049	
20.0...24.0 A	TF42-24	1SAZ721201R1051	
24.0...29.0 A	TF42-29	1SAZ721201R1052	
29.0...35.0 A	TF42-35	1SAZ721201R1053	
35.0...38.0 A	TF42-38	1SAZ721201R1055	



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Main accessories for A45 ... AF1650 3 & 4 pole contactors



Auxilliary Contacts [Add on Contacts A45 - A75](#)

Description	Product Hierarchy 1700003	
	Order Code	Price
CA5-04E Top Mount Aux Block	1SBN010040R1004	
CA5-04N Top Mount Aux Block	1SBN010040R1204	
CA5-10 Top Mount Aux Block	1SBN010010R1010	
CA5-22E Aux. Contacts	1SBN010040R1022	
CA5-22M Top Mount Aux Block	1SBN010040R1122	
CA5-22N Top Mount Aux Block	1SBN010040R1222	
CA5-31E Top Mount Aux Block	1SBN010040R1031	
CA5-31M Top Mount Aux Block	1SBN010040R1131	
CA5-40E Top Mount Aux Block	1SBN010040R1040	
CA5-40N Top Mount Aux Block	1SBN010040R1240	
CAL5-11B Side Mount Aux Block	1SBN010420R3311	
CAL5-11 Side Mount Aux Block	1SBN010020R1011	
CB5-10 Start Contact	1SBN010013R1010	
BA5.50 pkt 50 markers for a range cont	1SBN110000R1000	

[Add on Contacts A95 ... A110](#)

Product Hierarchy 1700001		
CAL18-11 Side Mount Aux Block	1SFN010720R1011	
CAL18-11B Side Mount Aux Block	1SFN010720R3311	

[Add on Timers A45 ... A75](#)

Product Hierarchy 1700003		
TP180DA Pneumatic Timer 10-180s On Delay	1SBN020300R1001	
TP180IA Pneumatic Timer 10-180s OffDelay	1SBN020301R1001	
TP40DA Pneumatic Timer 0.1-40s On Delay	1SBN020300R1000	
TP40IA Pneumatic Timer 0.1-40s Off Delay	1SBN020301R1000	

Star Delta Timers

TE5S-120 Star/Delta Timer 110/120V AC	1SBN020010R1002	
TE5S-24 Star/Delta Timer 24V AC/DC	1SBN020010R1001	
TE5S-240 Star/Delta Timer 220/240V AC	1SBN020010R1003	
TE5S-440 Star/Delta Timer 380/440V AC	1SBN020010R1004	

Mechanical Interlocks [A45 ... A110](#)

VE5-2	1SBN030210R1000	
WB75A 24V latching block	FPTN372726R1001	

[A110>](#)

Product Hierarchy 1700001		
VM300/460H	1SFN035100R1000	
VM300H	1SFN034700R1000	
VM750H	1SFN035700R1000	

Main accessories

for A45 ... AF1650 3 & 4 pole contactors

1



RV 5/50

Suppressors

Description	Product Hierarchy 1700003	
	Order Code	Price
RC5-2/133 50-133VAC	1SBN050200R1001	
RC5-2/250 110-250VAC	1SBN050200R1002	
RC5-2/50 24-50VAC	1SBN050200R1000	
RT5/150 77-150V DC	1SBN050020R1003	
RT5/32 12-32V DC	1SBN050020R1000	
RV5/250 110-250V AC/DC	1SBN050010R1002	
RV5/50 24-50V AC/DC	1SBN050010R1000	
RV5/440 250-440V AC/DC	1SBN050010R1003	
RA5-1 Interface Relay	1SBN060300R1000	



LT...-AC

1SFT98099-019C3

Terminal Shourds

	Product Hierarchy 1700001	
	Order Code	
LT185-AC	1SFN124701R1000	
LT185-AL	1SFN124703R1000	
LT185-AY	1SFN124704R1000	
LT200/A	1SAZ401901R1001	
LT200E E200DU	1SAX501904R0001	
LT300-AC	1SFN125101R1000	
LT300-AL	1SFN125103R1000	
LT320E E320DU	1SAX601904R0001	
LT460-AC	1SFN125701R1000	
LT460-AL	1SFN125703R1000	
LT500E E500DU	1SAX701904R0001	
LT750-AC	1SFN126101R1000	
LT750-AL	1SFN126103R1000	

Terminal Kits

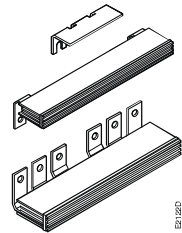
LW185 Terminal Enlargement	1SFN074707R1000	
LW300 Terminal Enlargement	1SFN075107R1000	
LD110 Terminal Extension (Pack 1)	1SFN074308R1000	
LX300 Terminal Extension	1SFN075110R1000	



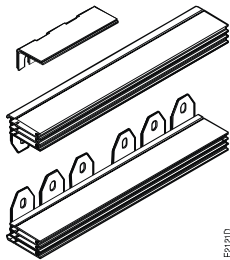
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Main accessories for A45 ... AF1650 3 & 4 pole contactors



BED 185



BED 400



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Connection Sets [A50 - A75](#)

Description

BEY40-2 Star/Delta Main/Delta/Star Connection Set
BED50 Star/Delta Connection Set A30-A63
BED75 Star/Delta Connection Set A50-A75
BES75-40 Reversing Contactors A(E)45-75

Product Hierarchy 1700003

Order Code

1SBN082813R2000
1SBN083503R1000
1SBN084103R1000
1SBN083302R1000

Connection Sets [A95>](#)

BED95 Star/Delta Connection Set
BED110 Star/Delta Connection Set
BED145A Star/Delta Connection Set
BED210 Star/Delta Connection Set
LY110 Connecting Strip 3P
LY185 Connecting Strip 3P

Product Hierarchy 1700001

1SFN084303R1000
1SFN084503R1000
1SFN084703R1000
1SFN085103R1000
1SFN074303R1000
1SFN074703R1000

Spare Coils [Spare Coils A45 - A75](#)

ZA75 110V 50HZ Coil
ZA75 230-240V 50HZ Coil
ZA75 24V 50/60HZ COIL
ZA75 400-415V 50HZ Coil

Product Hierarchy 1700003

1SBN153510R8406
1SBN153510R8806
1SBN153510R8106
1SBN153510R8606

Spare Coils [A110>](#)

ZA110 110V 50/60Hz Coil
ZA110 400-415V 50Hz Coil
ZA185 110V 50/60Hz Coil

Product Hierarchy 1700001

1SFN154310R8406
1SFN154310R8606
1SFN154710R8406

Spare Contact Sets [A50 - A95](#)

ZL50 Main Contact Set
ZL95 Main Contact Set

Product Hierarchy 1700003

1SBN163503R1000
1SFN164303R1000

Spare Contact Sets [A110>](#)

ZL110 Main Contact Set
ZL145 Main Contact Set
ZL185 Main Contact Set
ZL210 Main Contact Set
ZL260 Main Contact Set
ZL300 Main Contact Set
ZL400 Main Contact Set

Product Hierarchy 1700001

1SFN164503R1000
1SFN164703R1000
1SFN164903R1000
1SFN165103R1000
1SFN165303R1000
1SFN165503R1000
1SFN165703R1000

Spare Contact Sets [EH300>](#)

KZ300 Main Contact Set EH300
KZ550 Main Contact Set EH550

Product Hierarchy 1700001

SK826200-A
SK827200-C

Thermal & electronic overload relays for A50 ... AF750 3-pole contactors



TA 75 DU



TA 200 DU



TA 450 DU



E 320 DU

Thermal O/L Relays, Class 10A

A50 - A75 AL50 - AF75

For Contactors	Setting	Description	Product Hierarchy 1700006	
			Order Code	Price
A50 ... A75 AL50 ... AF75	18 - 25A	TA75DU-25	1SAZ321201R1001	
	22 - 32A	TA75DU-32	1SAZ321201R1002	
	29 - 42A	TA75DU-42	1SAZ321201R1003	
	36 - 52A	TA75DU-52	1SAZ321201R1004	
	45 - 63A	TA75DU-63	1SAZ321201R1005	
	60 - 80A	TA75DU-80	1SAZ321201R1006	

A95 - A300 AF95 - AF110

For Contactors	Setting	Description	Product Hierarchy 1700007	
			Order Code	Price
A95 ... A110 AF95 ... AF110	29 - 42A	TA80DU-42	1SAZ331201R1003	
	36 - 52A	TA80DU-52	1SAZ331201R1004	
	45 - 63A	TA80DU-63	1SAZ331201R1005	
	60 - 80A	TA80DU-80	1SAZ331201R1006	
	65 - 90A	TA110DU-90	1SAZ411201R1001	
	80 - 110A	TA110DU-110	1SAZ411201R1002	
A145 ... A185	66 - 90A	TA200DU-90	1SAZ421201R1001	
	80 - 110A	TA200DU-110	1SAZ421201R1002	
	100 - 135A	TA200DU-135	1SAZ421201R1003	
	110 - 150A	TA200DU-150	1SAZ421201R1004	
	130 - 175A	TA200DU-175	1SAZ421201R1005	
	150 - 200A	TA200DU-200	1SAZ421201R1006	
A210 ... A300	130 - 185A	TA450DU-185	1SAZ511201R1001	
	165 - 235A	TA450DU-235	1SAZ511201R1002	
	220 - 310A	TA450DU-310	1SAZ511201R1003	

A145 - A300 AF400 - AF750

A145 ... A185	60 - 200A	E200DU200	1SAX511001R1101	
A210 ... A300	100 - 320A	E320DU320	1SAX521001R1101	
AF400 ... AF460	150 - 500A	E500DU500	1SAX711001R1101	
AF580 ... AF750	250 - 800A	E800DU800	1SAX811001R1101	

Separate Mounting Kits

For Overload Relays	Description	Product Hierarchy 1700006	
		Order Code	Price
TA42, TA75, TA80 ...	DB80	1SAZ301110R0001	
E140DU	DB140E	1SAX301110R1002	

TA110 - TA450 E500

For Overload Relays	Description	Product Hierarchy 1700007	
		Order Code	Price
TA110, TA200 ...	DB200	1SAZ401110R0001	
TA450DU/SU ...	DT450/A300	1SAZ501902R1001	
E500DU	DT500/AF460L	1SAX701902R1001	



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Mini contactors

3 - 4 Pole contactors and relays



B6-30-10



B6-30-10F



B6-30-10P



B7-30-10



B7-40-10



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AC3 380/415v		Aux Contacts		Description	Product Hierarchy 1700004	
kW	A	NO	NC		Order Code	Price

Contactors

3 pole contactors • Flat Pin Terminals

4	16	-	1	B6-30-01 230AC	GJL1211001R8010	
				B6-30-01 110AC	GJL1211001R8014	
				B6-30-01 24AC	GJL1211001R0011	
				B6-30-01-F 220AC	GJL1211003R8010	
				B6-30-01-F 110AC •	GJL1211003R8014	
				B6-30-01-F 24AC •	GJL1211003R0011	
		1	-	B6-30-10 110AC	GJL1211001R8104	
				B6-30-10 230AC	GJL1211001R8100	
				B6-30-10 24AC	GJL1211001R0101	
				B6-30-10 400AC	GJL1211001R8105	

4 pole contactors • Flat Pin Terminals

4	16	-	-	B6-40-00 110AC	GJL1211201R8004	
				B6-40-00 230AC	GJL1211201R8000	
				B6-40-00 24AC	GJL1211201R0001	
				B6-40-00-F 230AC •	GJL1211203R8000	

3 pole contactors

5.5	20	-	1	B7-30-01 230AC	GJL1311001R8010	
				B7-30-10 110AC	GJL1311001R8104	
		1	-	B7-30-10 230AC	GJL1311001R8100	
				B7-30-10 24AC	GJL1311001R0101	

3 pole DC contactors • Flat Pin Terminals

4	16	-	1	BC6-30-01 110DC	GJL1213001R0014	
				BC6-30-01 24DC	GJL1213001R0011	
				BC6-30-01-F 24DC •	GJL1213003R0011	
5.5	20	1	-	BC6-30-10 24DC	GJL1213001R0101	
				BC6-30-10-1.4 24DC	GJL1213001R8101	
				BC7-30-10 24DC	GJL1313001R0101	

Compact reversing contactors

-		-	1	VB6-30-01 110AC	GJL1211901R8014	
				VB6-30-10 110AC	GJL1211901R8104	
		1	-	VB6-30-10 230AC	GJL1211901R8100	
				VB6-30-10 24AC	GJL1211901R0101	
				VB6A-30-10 230AC	GJL1211911R8100	
				VBC6-30-10 24DC	GJL1213901R0101	
		-	-	VB6A-40-00 220-240V 40-450HZ	GJL1211911R8000	

Mini contactor relays

-		2	2	K6-22Z 110AC	GJH1211001R8224	
				K6-22Z 230AC	GJH1211001R8220	
		3	1	K6-31Z 230AC	GJH1211001R8310	
		2	2	KC6-22Z 110DC	GJH1213001R0224	
				KC6-22Z 24DC	GJH1213001R0221	

Mini contactors

Thermal overloads and accessories

1



Thermal Overload Relays

Setting [A]	Part No	Product Hierarchy 1700006	
		Order Code	Price
0.10...0.13 A	T16-0.13	1SAZ711201R1005	
0.13...0.17 A	T16-0.17	1SAZ711201R1008	
0.17...0.23 A	T16-0.23	1SAZ711201R1009	
0.23...0.31 A	T16-0.31	1SAZ711201R1013	
0.31...0.41 A	T16-0.41	1SAZ711201R1014	
0.41...0.55 A	T16-0.55	1SAZ711201R1017	
0.55...0.74 A	T16-0.74	1SAZ711201R1021	
0.74...1.00 A	T16-1.0	1SAZ711201R1023	
1.00...1.30 A	T16-1.3	1SAZ711201R1025	
1.30...1.70 A	T16-1.7	1SAZ711201R1028	
1.70...2.30 A	T16-2.3	1SAZ711201R1031	
2.30...3.10 A	T16-3.1	1SAZ711201R1033	
3.10...4.20 A	T16-4.2	1SAZ711201R1035	
4.20...5.70 A	T16-5.7	1SAZ711201R1038	
5.70...7.60 A	T16-7.6	1SAZ711201R1040	
7.60...10.0 A	T16-10	1SAZ711201R1043	
10.0...13.0 A	T16-13	1SAZ711201R1045	
13.0...16.0 A	T16-16	1SAZ711201R1047	

Accessories

Description	Product Hierarchy 1700003	
	Order Code	Price
LB6 Soldering receptacle 5-POL.	GJL1201902R0001	
BSM6-30 Reversing connecting link	GJL1201908R0001	
RV-BC6/60 Varistor	GHV2501902R0002	
CAF6-02M Top Mount Aux Block	GJL1201330R0011	
CAF6-11M Top Mount Aux Block	GJL1201330R0003	
CAF6-20M Top Mount Aux Block	GJL1201330R0007	
LB6 Soldering receptacle 5-POL.	GJL1201902R0001	
BSM6-30 Reversing connecting link	GJL1201908R0001	



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Manual motor starters

MS116 ... M495



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Manual Motor Starter

MS116	Setting	Product Hierarchy 1800001	
		Order Code	Price
MS116-0.16	0.1 ... 0.16A	1SAM250000R1001	
MS116-0.25	0.16 ... 0.25A	1SAM250000R1002	
MS116-0.4	0.25 ... 0.4A	1SAM250000R1003	
MS116-0.63	0.4 ... 0.63A	1SAM250000R1004	
MS116-1.0	1.0 ... 1.0A	1SAM250000R1005	
MS116-1.6	1.0 ... 1.6A	1SAM250000R1006	
MS116-2.5	1.6 ... 2.5A	1SAM250000R1007	
MS116-4	2.5 ... 4A	1SAM250000R1008	
MS116-6.3	4.0 ... 6.3A	1SAM250000R1009	
MS116-10	6.3 ... 10A	1SAM250000R1010	
MS116-12	8.0 ... 12A	1SAM550000R1010	
MS116-16	10 ... 16A	1SAM250000R1011	
MS116-20	16 ... 20A	1SAM250000R1013	
MS116-25	20 ... 25A	1SAM250000R1014	
MS116-32	25 ... 32A	1SAM250000R1015	

MS132	Setting	Product Hierarchy 1800001	
		Order Code	Price
MS132-0.16	0.1 ... 0.16A	1SAM350000R1001	
MS132-0.25	0.16 ... 0.25A	1SAM350000R1002	
MS132-0.4	0.25 ... 0.4A	1SAM350000R1003	
MS132-0.63	0.4 ... 0.63A	1SAM350000R1004	
MS132-1.0	1.0 ... 1.0A	1SAM350000R1005	
MS132-1.6	1.0 ... 1.6A	1SAM350000R1006	
MS132-2.5	1.6 ... 2.5A	1SAM350000R1007	
MS132-4.0	2.5 ... 4A	1SAM350000R1008	
MS132-6.3	4.0 ... 6.3A	1SAM350000R1009	
MS132-10	6.3 ... 10A	1SAM350000R1010	
MS132-12	8.0 ... 12A	1SAM350000R1012	
MS132-16	10 ... 16A	1SAM350000R1011	
MS132-20	16 ... 20A	1SAM350000R1013	
MS132-25	20 ... 25A	1SAM350000R1014	
MS132-32	25 ... 32A	1SAM350000R1015	

MS450 - 495	Setting	Product Hierarchy 1800001	
		Order Code	Price
MS450-40	28 ... 40A	1SAM450000R1005	
MS450-45	36 ... 45A	1SAM450000R1006	
MS450-50	40 ... 50A	1SAM450000R1007	
MS495-63	45 ... 63A	1SAM550000R1007	
MS495-75	57 ... 75A	1SAM550000R1008	
MS495-100	80 ... 100A	1SAM550000R1010	

Manual motor starters

Accessories

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Accessories

MS116 ... MS132

	Product Hierarchy 1800001	
	Order Code	Price
AA1-24 Shunt Trip 24V	1SAM201910R1001	
AA1-110 Shunt Trip 100V	1SAM201910R1002	
AA1-230 Shunt Trip 220-240V	1SAM201910R1003	
UA1-24	1SAM201904R1001	
UA1-120	1SAM201904R1004	
UA1-230	1SAM201904R1005	
HKF1-11 Front	1SAM201901R1001	
HK1-11 Side	1SAM201902R1001	
HK1-20 Side	1SAM201902R1002	
HK1-02 Side	1SAM201902R1003	
SK1-11 Signal	1SAM201903R1001	
SK1-20 Signal	1SAM201903R1002	
SK1-02 Signal	1SAM201903R1003	
BEA7/116 Connection Module	1SBN080906R1000	
BEA16/116 Connection Module	1SBN081406R1000	

MS450 ... MS495

HK4-11 Front Mount Aux Block	1SAM401901R1001	
BEA40/450 Connection Module	1SBN083206R1000	
PSR60-105 & MS495 Connection kit	1SAM450000R1006	



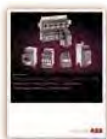
3-phase busbar up to 65A

					Product Hierarchy 1800001	
MS116	MS132	No. MMS	Aux Contacts	Part no	Order Code	Price
•	•	2	0	PS1-2-0-65	1SAM201906R1102	
•	•	3	0	PS1-3-0-65	1SAM201906R1103	
•	•	4	0	PS1-4-0-65	1SAM201906R1104	
•	•	5	0	PS1-5-0-65	1SAM201906R1105	
•	•	2	1	PS1-2-1-65	1SAM201906R1112	
•	•	3	1	PS1-3-1-65	1SAM201906R1113	
•	•	4	1	PS1-4-1-65	1SAM201906R1114	
•	•	5	1	PS1-5-1-65	1SAM201906R1115	
•	•	2	2	PS1-2-2-65	1SAM201906R1122	
•	•	3	2	PS1-3-2-65	1SAM201906R1123	
•	•	4	2	PS1-4-2-65	1SAM201906R1124	
•	•	5	2	PS1-5-2-65	1SAM201906R1125	



3-phase feeder terminals

				Product Hierarchy 1800001	
65A	Remarks	mm ²	Part no	Order Code	Price
•	flat	25mm ²	S1-M1-25	1SAM201907R1101	
•	high		S1-M2-25	1SAM201907R1102	



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Manual motor starters

Accessories

Accessories	Part No	Product Hierarchy 1800001	
		Order Code	Price
Shaft 85mm	OXS6X85	1SCA101647R1001	
Shaft 105mm	OXS6X105	1SCA108043R1001	
Shaft 130mm	OXS6X130	1SCA101655R1001	
Shaft 180mm	OXS6X180	1SCA101659R1001	
MSHD-LB Handle,IP64,black for MS116	MSHD-LB	1SAM201920R1001	
MSHD-LY Handle,IP64,red/yellow for MS116	MSHD-LY	1SAM201920R1002	
MSHD-LTB Hndl w.trip,IP64,black,MS/MO132	MSHD-LTB	1SAM201920R1011	
MSHD-LTY w.trip,IP64,red/yelw,MS/MO132	MSHD-LTY	1SAM201920R1012	
MSMNO Driver w/o coding w.ScrewMS116&132	MSMN	1SAM101923R0002	
MSMN Driver w. Screw for MS116 & MS132	MSMNO	1SAM101923R0012	

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Soft starters

Overview

Efficient PSE Range – World's first compact softstarter with Torque control

The latest addition to the ABB softstarter family is the efficient PSE range. This softstarter has been equipped with all the most important features making it a very efficient choice. During the development process, great focus has been put into making sure that both the softstarter and the process are even more reliable. Further more, the softstarter has been equipped with built-in by-pass to reduce the wiring and also with a back-lit display to provide a hassle free and easy set-up and monitoring.

The complete range of Softstarters

The ABB softstarter portfolio now consists of 4 different ranges making it possible to find a suitable softstarter for almost all possible applications and motor sizes all the way up to 1800A. The softstarter family consists of the Compact PSR, the Flexible PSS, the Efficient PSE and the Advanced PST(B) range.

Semiconductor fuses changed to knife type

The Bussmann semiconductor fuses, recommended to be used together with PSS, PSE and PST(B) softstarters have been changed from screw fixing (DIN43 653) to knife fixing (DIN43 620). This will make it possible to use the standard OS type switch fuses from ABB.



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Soft starters

Basic PSR and PSE



PSR3 ... PSR16

PSR Basic Softstarts

Description	Part No	Product Hierarchy 1800002	
		Order Code	Price
Basic Softstarter 3A	PSR3-600-70	1SFA896103R7000	
Basic Softstarter 6A	PSR6-600-70	1SFA896104R7000	
Basic Softstarter 9A	PSR9-600-70	1SFA896105R7000	
Basic Softstarter 12A	PSR12-600-70	1SFA896106R7000	
Basic Softstarter 16A	PSR16-600-70	1SFA896107R7000	
Basic Softstarter 25A	PSR25-600-70	1SFA896108R7000	
Basic Softstarter 30A	PSR30-600-70	1SFA896109R7000	
Basic Softstarter 37A	PSR37-600-70	1SFA896110R7000	
Basic Softstarter 45A	PSR45-600-70	1SFA896111R7000	
Basic Softstarter 60A	PSR60-600-70	1SFA896112R7000	
Basic Softstarter 72A	PSR72-600-70	1SFA896113R7000	
Basic Softstarter 85A	PSR85-600-70	1SFA896114R7000	
Basic Softstarter 105A	PSR105-600-70	1SFA896115R7000	
Connection Kit PSR3- 6 with MS116 or MS132	PSR16-MS116	1SFA896211R1001	
Connection kit PSR25-30 with MS132 12 to 32	PSR30-MS132	1SFA896212R1001	
Connection Kit PSR37-45 and MS450	PSR45-450	1SFA896213R1001	
Connection Kit PSR60-105 and MS495	PSR105-MS495	1SAM501903R1001	
Fan for PSR3 to PSR45	PSR-FAN3-45A	1SFA896311R1001	
Fan for PSR60 to PSR105	PSR-FAN60-105A	1SFA896313R1001	

1

PSE Basic Softstarts with Overload

Description	Part No	Product Hierarchy 1800002	
		Order Code	Price
Basic Softstarter with Overload 18A	PSE18-600-70	1SFA897101R7000	
Basic Softstarter with Overload 25A	PSE25-600-70	1SFA897102R7000	
Basic Softstarter with Overload 30A	PSE30-600-70	1SFA897103R7000	
Basic Softstarter with Overload 37A	PSE37-600-70	1SFA897104R7000	
Basic Softstarter with Overload 45A	PSE45-600-70	1SFA897105R7000	
Basic Softstarter with Overload 60A	PSE60-600-70	1SFA897106R7000	
Basic Softstarter with Overload 72A	PSE72-600-70	1SFA897107R7000	
Basic Softstarter with Overload 85A	PSE85-600-70	1SFA897108R7000	
Basic Softstarter with Overload 105A	PSE105-600-70	1SFA897109R7000	
Basic Softstarter with Overload 142A	PSE142-600-70	1SFA897110R7000	
Basic Softstarter with Overload 170A	PSE170-600-70	1SFA897111R7000	
Basic Softstarter with Overload 210A	PSE210-600-70	1SFA897112R7000	
Basic Softstarter with Overload 250A	PSE250-600-70	1SFA897113R7000	
Basic Softstarter with Overload 300A	PSE300-600-70	1SFA897114R7000	
Basic Softstarter with Overload 370A	PSE370-600-70	1SFA897115R7000	
External Keypad for PSE Range	PSEK	1SFA897100R1001	



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Soft starters

Advanced PST

1



PST30...PST72

PST Advanced Softstarts with Overload

		Product Hierarchy 1600001	
Description	Part No	Order Code	Price
Advanced Softstarter 30A	PST30-600-70	1SFA894002R7000	
Advanced Softstarter 37A	PST37-600-70	1SFA894003R7000	
Advanced Softstarter 44A	PST44-600-70	1SFA894004R7000	
Advanced Softstarter 50A	PST50-600-70	1SFA894005R7000	
Advanced Softstarter 60A	PST60-600-70	1SFA894006R7000	
Advanced Softstarter 72A	PST72-600-70	1SFA894007R7000	
Advanced Softstarter 85A	PST85-600-70	1SFA894008R7000	
Advanced Softstarter 105A	PST105-600-70	1SFA894009R7000	
Advanced Softstarter 142A	PST142-600-70	1SFA894010R7000	
Advanced Softstarter 175A	PST175-600-70	1SFA894011R7000	
Advanced Softstarter 210A	PST210-600-70	1SFA894012R7000	
Advanced Softstarter 250A	PST250-600-70	1SFA894013R7000	
Advanced Softstarter 300A	PST300-600-70	1SFA894014R7000	
Advanced Softstarter 370A with Integrated Bypass	PSTB370-600-70	1SFA894015R7000	
Advanced Softstarter 470A with Integrated Bypass	PSTB470-600-70	1SFA894016R7000	
Advanced Softstarter 570A with Integrated Bypass	PSTB570-600-70	1SFA894017R7000	
Advanced Softstarter 720A with Integrated Bypass	PSTB720-600-70	1SFA894018R7000	
Advanced Softstarter 840A with Integrated Bypass	PSTB840-600-70	1SFA894019R7000	
Advanced Softstarter 1050A with Integrated Bypass	PSTB1050-600-70	1SFA894020R7000	
External Keypad kit for PST range	PSTEK	1SFA899003R1000	



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Pilot devices - compact 22mm

Pushbuttons



Pushbuttons BLACK plastic bezel				Product Hierarchy 1300001	
Type	Contacts		Part No	Order Code	Price
	N/O	N/C			
Flush momentary	1	-	CP1-10 ■-10	1SFA619100R101 ¹	
	2	-	CP1-10 ■-20	1SFA619100R102 ¹	
	-	1	CP1-10 ■-01	1SFA619100R104 ¹	
	-	2	CP1-10 ■-02	1SFA619100R105 ¹	
	1	1	CP1-10 ■-11	1SFA619100R107 ¹	
Flush maintained	1	-	CP2-10 ■-10	1SFA619101R101 ¹	
	2	-	CP2-10 ■-20	1SFA619101R102 ¹	
	-	1	CP2-10 ■-01	1SFA619101R104 ¹	
	-	2	CP2-10 ■-02	1SFA619101R105 ¹	
	1	1	CP2-10 ■-11	1SFA619101R107 ¹	
Extended momentary	1	-	CP3-10 ■-10	1SFA619102R101 ¹	
	2	-	CP3-10 ■-20	1SFA619102R102 ¹	
	-	1	CP3-10 ■-01	1SFA619102R104 ¹	
	-	2	CP3-10 ■-02	1SFA619102R105 ¹	
	1	1	CP3-10 ■-11	1SFA619102R107 ¹	
Extended maintained	1	-	CP4-10 ■-10	1SFA619103R101 ¹	
	2	-	CP4-10 ■-20	1SFA619103R102 ¹	
	-	1	CP4-10 ■-01	1SFA619103R104 ¹	
	-	2	CP4-10 ■-02	1SFA619103R105 ¹	
	1	1	CP4-10 ■-11	1SFA619103R107 ¹	

Select your colour by replacing ¹ with a digit from the chart below

Order example:

Ex 1: Type CP1-10■-10, to order color red replace ■ with R: CP1-10 R-10

Ex 2: Order code 1SFA619100R101¹

To order color red replace ¹ with 1: 1SFA619100R1011

Color codes								
	Red	Green	Yellow	Blue	White	Black	Grey	Clear
Type ■	R	G	Y	L	W	B	U	C
Order Code ¹	1	2	3	4	5	6	7	8



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Pilot devices - compact 22mm

Pushbuttons

1



Pushbuttons CHROME metal bezel				Product Hierarchy 1300001	
Type	Contacts		Part No	Order Code	Price
	N/O	N/C			
Flush momentary	1	-	CP1-30 ■-30	1SFA619100R301 ¹	
	2	-	CP1-30 ■-20	1SFA619100R302 ¹	
	-	1	CP1-30 ■-01	1SFA619100R304 ¹	
	-	2	CP1-30 ■-02	1SFA619100R305 ¹	
	1	1	CP1-30 ■-11	1SFA619100R307 ¹	
Flush maintained	1	-	CP2-30 ■-30	1SFA619101R301 ¹	
	2	-	CP2-30 ■-20	1SFA619101R302 ¹	
	-	1	CP2-30 ■-01	1SFA619101R304 ¹	
	-	2	CP2-30 ■-02	1SFA619101R305 ¹	
	1	1	CP2-30 ■-11	1SFA619101R307 ¹	
Extended momentary	1	-	CP3-30 ■-30	1SFA619102R301 ¹	
	2	-	CP3-30 ■-20	1SFA619102R302 ¹	
	-	1	CP3-30 ■-01	1SFA619102R304 ¹	
	-	2	CP3-30 ■-02	1SFA619102R305 ¹	
	1	1	CP3-30 ■-11	1SFA619102R307 ¹	
Extended maintained	1	-	CP4-30 ■-30	1SFA619103R301 ¹	
	2	-	CP4-30 ■-20	1SFA619103R302 ¹	
	-	1	CP4-30 ■-01	1SFA619103R304 ¹	
	-	2	CP4-30 ■-02	1SFA619103R305 ¹	
	1	1	CP4-30 ■-11	1SFA619103R307 ¹	

Select your colour by replacing ¹ with a digit from the chart below

Order example:

Ex 1: Type CP1-10 ■-10, to order color red replace ■ with R: CP1-10 R-10

Ex 2: Order code 1SFA619100R101¹

To order color red replace ¹ with 1: 1SFA619100R1011

Color codes

	Red	Green	Yellow	Blue	White	Black	Grey	Clear
Type ■	R	G	Y	L	W	B	U	C
Order Code ¹	1	2	3	4	5	6	7	8



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Pilot devices - compact 22mm

Illuminated pushbuttons



Illuminated pushbuttons with integrated LED BLACK plastic bezel

					Product Hierarchy 1300001	
Type	Voltage	N/O	N/C	Part No	Order Code	Price
Flush momentary	24V AC/DC	1	-	CP1-11 ■-10	1SFA619100R111 ¹	
Flush momentary red		-	1	CP1-11 R-01	1SFA619100R1141	
Extended momentary		1	-	CP3-11 ■-10	1SFA619102R111 ¹	
Extended momentary red		-	1	CP3-11 R-01	1SFA619102R1141	
Flush momentary	110-130V AC/DC	1	-	CP1-12 ■-10	1SFA619100R121 ¹	
Flush momentary red		-	1	CP1-12 R-01	1SFA619100R1241	
Extended momentary		1	-	CP3-12 ■-10	1SFA619102R121 ¹	
Extended momentary red		-	1	CP3-12 R-01	1SFA619102R1241	
Flush momentary	220V AC/DC	1	-	CP1-13 ■-10	1SFA619100R131 ¹	
Flush momentary red		-	1	CP1-13 R-01	1SFA619100R1341	
Extended momentary		1	-	CP3-13 ■-10	1SFA619102R131 ¹	
Extended momentary red		-	1	CP3-13 R-01	1SFA619102R1341	
Flush maintained	24V AC/DC	1	-	CP2-11 ■-10	1SFA619101R111 ¹	
Flush maintained red		-	1	CP2-11 R-01	1SFA619101R1141	
Extended maintained		1	-	CP4-11 ■-10	1SFA619101R111 ¹	
Extended maintained red		-	1	CP4-11 R-01	1SFA619101R1141	
Flush maintained	110-130V AC/DC	1	-	CP2-12 ■-10	1SFA619101R121 ¹	
Flush maintained red		-	1	CP2-12 R-01	1SFA619101R1241	
Extended maintained		1	-	CP4-12 ■-10	1SFA619101R121 ¹	
Extended maintained red		-	1	CP4-12 R-01	1SFA619101R1241	
Flush maintained	220V AC/DC	1	-	CP2-13 ■-10	1SFA619101R131 ¹	
Flush maintained red		-	1	CP2-13 R-01	1SFA619101R1341	
Extended maintained		1	-	CP4-13 ■-10	1SFA619101R131 ¹	
Extended maintained red		-	1	CP4-13 R-01	1SFA619101R1341	

Select your colour by replacing ¹ with a digit from the chart below

Order example:
Ex 1: Type CP1-10■-10, to order color red replace ■ with R: CP1-10 R-10
Ex 2: Order code 1SFA619100R101¹
 To order color red replace ¹ with 1: 1SFA619100R1011

Color codes								
	Red ●	Green ●	Yellow ●	Blue ●	White ○	Black ●	Grey ●	Clear ○
Type ■	R	G	Y	L	W	B	U	C
Order Code ¹	1	2	3	4	5	6	7	8



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Pilot devices - compact 22mm

Illuminated pushbuttons

1



Illuminated pushbuttons with integrated LED CHROME metal bezel

Type	Voltage	N/O	N/C	Part No	Product Hierarchy 1300001	
					Order Code	Price
Flush momentary	24V AC/DC	1	-	CP1-31 ■-10	1SFA619100R111[1]	
Flush momentary red		-	1	CP1-31 R-01	1SFA619100R1141	
Extended momentary		1	-	CP3-31 ■-10	1SFA619102R111[1]	
Extended momentary red		-	1	CP3-31 R-01	1SFA619102R1141	
Flush momentary	110-130V AC/DC	1	-	CP1-32 ■-10	1SFA619100R121[1]	
Flush momentary red		-	1	CP1-32 R-01	1SFA619100R1241	
Extended momentary		1	-	CP3-32 ■-10	1SFA619102R121[1]	
Extended momentary red		-	1	CP3-32 R-01	1SFA619102R3241	
Flush momentary	220V AC/DC	1	-	CP1-33 ■-10	1SFA619100R331[1]	
Flush momentary red		-	1	CP1-33 R-01	1SFA619100R1341	
Extended momentary		1	-	CP3-33 ■-10	1SFA619102R131[1]	
Extended momentary red		-	1	CP3-33 R-01	1SFA619102R1341	
Flush maintained	24V AC/DC	1	-	CP2-31 ■-10	1SFA619101R111[1]	
Flush maintained red		-	1	CP2-31 R-01	1SFA619101R1141	
Extended maintained		1	-	CP4-31 ■-10	1SFA619101R111[1]	
Extended maintained red		-	1	CP4-31 R-01	1SFA619101R1141	
Flush maintained	110-130V AC/DC	1	-	CP2-32 ■-10	1SFA619101R121[1]	
Flush maintained red		-	1	CP2-32 R-01	1SFA619101R1241	
Extended maintained		1	-	CP4-32 ■-10	1SFA619101R121[1]	
Extended maintained red		-	1	CP4-32 R-01	1SFA619101R1241	
Flush maintained	220V AC/DC	1	-	CP2-33 ■-10	1SFA619101R131[1]	
Flush maintained red		-	1	CP2-33 R-01	1SFA619101R1341	
Extended maintained		1	-	CP4-33 ■-10	1SFA619101R131[1]	
Extended maintained red		-	1	CP4-33 R-01	1SFA619101R1341	

Select your colour by replacing [1]
with a digit from the chart below

Order example:
Ex 1: Type CP1-10■-10, to order color red replace ■ with R: CP1-10 R-10
Ex 2: Order code 1SFA619100R101[], To order color red replace [] with 1: 1SFA619100R1011

Color codes								
	Red	Green	Yellow	Blue	White	Black	Grey	Clear
Type ■	R	G	Y	L	W	B	U	C
Order Code []	1	2	3	4	5	6	7	8

Pilot devices - compact 22mm

Selector switches



Selector switches 2 position BLACK plastic bezel

Type	Contacts		Part No	Product Hierarchy 1300001	
	N/O	N/C		Order Code	Price
Red Stay Put -BC	1	-	C2SS1-10 ■-10	1SFA619200R1011	
	2	-	C2SS1-10 ■-20	1SFA619200R1021	
	1	1	C2SS1-10 ■-11	1SFA619200R1071	
Black Stay Put -AC	1	0	C2SS2-10 ■-10	1SFA619201R1016	
	2	0	C2SS2-10 ■-20	1SFA619201R1026	
Red Stay Put -AC	1	1	C2SS2-10 ■-11	1SFA619201R1071	
Red Spring Return -BC	1	0	C2SS3-10 ■-10	1SFA619202R1011	
Black Spring Return -BC	2	0	C2SS3-10 ■-20	1SFA619202R1026	
Red Spring Return -BC	1	1	C2SS3-10 ■-11	1SFA619202R1071	

Selector switches 3 position BLACK plastic bezel

Black Stay Put -ABC	2	-	C3SS1-10 ■-20	1SFA619210R1026	
Red Stay Put -ABC	1	1	C3SS1-10 ■-11	1SFA619210R1071	
Red Spring Return -ABC	2	-	C3SS2-10 ■-20	1SFA619211R1021	
Black Spring Return -ABC	1	1	C3SS2-10 ■-11	1SFA619211R1076	
Red Spring Return -BC	2	-	C3SS3-10 ■-20	1SFA619212R1021	
	1	1	C3SS3-10 ■-11	1SFA619212R1071	



Selector switches 2 position CHROME metal bezel

Type	Contacts		Part No	Product Hierarchy 1300001	
	N/O	N/C		Order Code	Price
Red Stay Put -BC	1	-	C2SS1-30 ■-10	1SFA619200R3011	
	2	-	C2SS1-30 ■-20	1SFA619200R3021	
	1	1	C2SS1-30 ■-11	1SFA619200R3071	
Black Stay Put -AC	1	0	C2SS2-30 ■-10	1SFA619201R3016	
	2	0	C2SS2-30 ■-20	1SFA619201R3026	
Red Stay Put -AC	1	1	C2SS2-30 ■-11	1SFA619201R3071	
Red Spring Return -BC	1	0	C2SS3-30 ■-10	1SFA619202R3011	
Black Spring Return -BC	2	0	C2SS3-30 ■-20	1SFA619202R3026	
Red Spring Return -BC	1	1	C2SS3-30 ■-11	1SFA619202R3071	

Selector switches 3 position CHROME metal bezel

Black Stay Put -ABC	2	-	C3SS1-30 ■-20	1SFA619210R3026	
Red Stay Put -ABC	1	1	C3SS1-30 ■-11	1SFA619210R3071	
Red Spring Return -ABC	2	-	C3SS2-30 ■-20	1SFA619211R3021	
Black Spring Return -ABC	1	1	C3SS2-30 ■-11	1SFA619211R3076	
Red Spring Return -BC	2	-	C3SS3-30 ■-20	1SFA619212R3021	
	1	1	C3SS3-30 ■-11	1SFA619212R3071	



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1

Pilot devices - compact 22mm

Emergency stops, pilot lights & enclosures

1



Emergency stop buttons

			Product Hierarchy 1300001		
Type	Contacts		Part No	Order Code	Price
30mm Twist Release Red	N/O	N/C			
	-	1	CE3T-10R-01	1SFA619500R1041	
	-	2	CE3T-10R-02	1SFA619500R1051	
40mm Twist Release Red	1	1	CE3T-10R-11	1SFA619500R1071	
	-	1	CE4T-10R-01	1SFA619550R1041	
	-	2	CE4T-10R-02	1SFA619550R1051	
40mm Key Release Red	1	1	CE4T-10R-11	1SFA619550R1071	
	-	1	CE4K-10R-01	1SFA619552R1051	
	-	2	CE4K-10R-02	1SFA619552R1071	

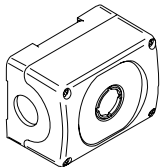


Pilot light complete

		Product Hierarchy 1300001	
Type	Part No	Order Code	
Integrated Led 24V AC/DC	CL502	1SFA619402R5021	
Integrated Led 110-130V AC	CL513	1SFA619402R5131	
Integrated Led 220V DC	CL520	1SFA619402R5201	
Integrated Led 230V AC	CL523	1SFA619402R5231	

Pilot light lens only

Red	CL-100 R	1SFA619402R1001	
Green	CL-100 G	1SFA619402R1002	
Yellow	CL-100 Y	1SFA619402R1003	
Blue	CL-100 B	1SFA619402R1004	
White	CL-100 W	1SFA619402R1005	
Clear	CL-100 C	1SFA619402R1008	



Enclosures

		Product Hierarchy 1300001	
Type	Part No	Order Code	
Enclosure 1 hole - yellow	CEPY1-0	1SFA619821R1000	
Enclosed E-Stop (twist release 2NO)	CEPY1-1001	1SFA619821R1001	
Enclosed E-Stop with shroud (twist release 2NC)	CEPY1-2001	1SFA619821R2001	
E-Stop shroud for compact enclosure	CA1-8053	1SFA619920R8053	



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Pilot devices - modular 22mm

Standard pushbuttons



Standard pushbuttons BLACK plastic bezel

			Product Hierarchy 1300001		
Type			Part No	Order Code	Price
Flush	Momentary	Non illuminated	MP1-10 ■	1SFA611100R100[1]	
	Maintained		MP2-10 ■	1SFA611101R100[1]	
	Momentary	Illuminated	MP1-11 ■	1SFA611100R110[1]	
	Maintained		MP2-11 ■	1SFA611101R110[1]	
Extended	Momentary	Non illuminated	MP3-10 ■	1SFA611102R100[1]	
	Maintained		MP4-10 ■	1SFA611103R100[1]	
	Momentary	Illuminated	MP3-11 ■	1SFA611102R110[1]	
	Maintained		MP4-11 ■	1SFA611103R110[1]	

Standard pushbuttons CHROME plastic bezel

Flush	Momentary	Non illuminated	MP1-20 ■	1SFA611100R200[1]	
	Maintained		MP2-20 ■	1SFA611101R200[1]	
	Momentary	Illuminated	MP1-21 ■	1SFA611100R210[1]	
	Maintained		MP2-21 ■	1SFA611101R210[1]	
Extended	Momentary	Non illuminated	MP3-20 ■	1SFA611102R200[1]	
	Maintained		MP4-20 ■	1SFA611103R200[1]	
	Momentary	Illuminated	MP3-21 ■	1SFA611102R210[1]	
	Maintained		MP4-21 ■	1SFA611103R210[1]	

Standard pushbuttons CHROME metal bezel

Flush	Momentary	Non illuminated	MP1-30 ■	1SFA611100R300[1]	
	Maintained		MP2-30 ■	1SFA611101R300[1]	
	Momentary	Illuminated	MP1-31 ■	1SFA611100R310[1]	
	Maintained		MP2-31 ■	1SFA611101R310[1]	
Extended	Momentary	Non illuminated	MP3-30 ■	1SFA611102R300[1]	
	Maintained		MP4-30 ■	1SFA611103R300[1]	
	Momentary	Illuminated	MP3-31 ■	1SFA611102R310[1]	
	Maintained		MP4-31 ■	1SFA611103R310[1]	

Select your colour by replacing [1] with a digit from the chart below

How to order standard operators:			Color codes			Contact blocks including holder with 3 blocks		
			Description	Type	Order Code	Description	Type	Order Code
• Non- illuminated operator + holder + contact block(s)		Contact blocks / lamp block	Red	R	1	1 NO	MCBH-10	1SFA611605R1101
			Green	G	2	1 NC	MCBH-01	1SFA611605R1110
			Yellow	Y	3	2 NC	MCBH-02	1SFA611605R1120
• Illuminated operator + holder + contact block(s) + lamp block		Holder Operator (with locking nut)	Blue	L	4	2 NO	MCBH-20	1SFA611605R1102
			White	W	5	1 NO+1 NC	MCBH-11	1SFA611605R1111
			Black	B	6	1 NO+2 NC	MCBH-12	1SFA611605R1121
			Grey	U	7	Contact blocks		
			Clear	C	8	1 NO	MCB-10	1SFA611610R1001
						1 NC	MCB-01	1SFA611610R1010
Ordering example:			Separate holder for 3 blocks					
Ex 1: Type CP1-10■-10, to order color red replace ■ with R: CP1-10 R-10			Holder			MCBH-00	1SFA611605R1100	
Ex 2: Order code 1SFA619100R101, to order color red replace with 1: 1SFA619100R1011								



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Pilot devices - modular 22mm

Double pushbuttons & selector switches

1



Double pushbuttons BLACK plastic bezel

			Product Hierarchy 1300001		
Type			Part No	Order Code	Price
Flush	No text	Non illuminated	MPD1-11B	1SFA611130R1106	
	I/O		MPD2-11B	1SFA611131R1106	
Extended lower button	No text	Non illuminated	MPD12-11B	1SFA611141R1106	
	I/O		MPD13-11B	1SFA611142R1106	
	Start/stop		MPD15-11B	1SFA611144R1106	
	No text	Illuminated	MPD12-11C	1SFA611141R1108	
	I/O		MPD13-11C	1SFA611142R1108	
	Start/stop		MPD15-11C	1SFA611142R1108	



Selectors switches BLACK plastic bezel

			Product Hierarchy 1300001		
Type			Part No	Order Code	Price
Three position	ABC	Short handle	M3SSC1-10B	1SFA611250R1006	
	BC		M3SSC3-10B	1SFA611252R1006	
	ABC	Long handle	M3SSC4-10B	1SFA611253R1006	
	BC		M3SSC6-10B	1SFA611255R1006	
Two position	BC maintained	Short handle	M2SS1-10 ■	1SFA611200R100 [1]	
	BC momentary		M2SS2-10 ■	1SFA611202R100 [1]	
	BC maintained	Long handle	M2SS4-10 ■	1SFA611203R100 [1]	
Two position illuminated	BC maintained	Short handle	M2SS1-11 ■	1SFA611200R110 [1]	
	AC maintained		M2SS2-11 ■	1SFA611201R110 [1]	
	BC momentary	Long handle	M2SS3-11 ■	1SFA611202R110 [1]	
	BC maintained		M2SS4-11 ■	1SFA611203R110 [1]	

Selectors switches CHROME metal bezel

Three position	ABC	Short handle	M3SSC1-10B	1SFA611250R3006	
	BC		M3SSC3-10B	1SFA611252R3006	
	ABC	Long handle	M3SSC4-10B	1SFA611253R1006	
	BC		M3SSC6-10B	1SFA611255R3006	
Two position	BC maintained	Short handle	M2SS1-10 ■	1SFA611200R300 [1]	
	BC momentary		M2SS2-10 ■	1SFA611202R300 [1]	
	BC maintained	Long handle	M2SS4-10 ■	1SFA611203R300 [1]	
Two position illuminated	BC maintained	Short handle	M2SS1-11 ■	1SFA611200R310 [1]	
	AC maintained		M2SS2-11 ■	1SFA611201R310 [1]	
	BC momentary	Long handle	M2SS3-11 ■	1SFA611202R310 [1]	
	BC maintained		M2SS4-11 ■	1SFA611203R310 [1]	

How to order standard operators:			Color codes			Contact blocks including holder with 3 blocks		
			Description	Type ■	Order Code	Description	Type	Order Code
• Non- illuminated operator + holder + contact block(s)		Contact blocks / lamp block Holder	 Red	R	1	1 NO	MCBH-10	1SFA611605R1101
			 Green	G	2	1 NC	MCBH-01	1SFA611605R1110
			 Yellow	Y	3	2 NC	MCBH-02	1SFA611605R1120
			 Blue	L	4	2 NO	MCBH-20	1SFA611605R1102
• Illuminated operator + holder + contact block(s) + lamp block		Operator (with locking nut)	 White	W	5	1 NO+1 NC	MCBH-11	1SFA611605R1111
			 Black	B	6	1 NO+2 NC	MCBH-12	1SFA611605R1121
			 Grey	U	7	Contact blocks		
			 Clear	C	8	1 NO	MCB-10	1SFA611610R1001
Ordering example:								
Ex 1: Type CP1-10■-10, to order color red replace ■ with R: CP1-10 R-10								
Ex 2: Order code 1SFA619100R1011, to order color red replace 1 with 1: 1SFA619100R1011								
			Separate holder for 3 blocks					
			Holder	MCBH-00	1SFA611605R1100			

Select your colour by replacing [1] with a digit from the chart below

Pilot devices - modular 22mm

Emergency, machine stops & mushroom pushbuttons



Emergency stops

Type		Part No	Product Hierarchy 1300001	
			Order Code	Price
30mm Red Non illuminated	Twist release	MPET3-10R	1SFA611520R1001	
	Pull release	MPEP3-10R	1SFA611521R1001	
	Key release	MPEK3-10R	1SFA611522R1101	
40mm Red Non illuminated	Twist release	MPET4-10R	1SFA611523R1001	
	Pull release	MPEP4-10R	1SFA611524R1001	
	Key release	MPEK4-10R	1SFA611525R1101	
40mm Red Illuminated	Twist release	MPMT3-11R	1SFA611510R1101	
	Pull release	MPMP3-11R	1SFA611511R1101	
60mm Red Illuminated	Twist release	MPMT4-11R	1SFA611513R1101	
	Pull release	MPMP4-11R	1SFA611514R1101	

Machine stops

30mm Black	Twist release	MPET3-10B	1SFA611520R1006	
	Pull release	MPEP3-10B	1SFA611521R1006	
	Key release	MPEK3-10B	1SFA611522R1106	
40mm Black	Twist release	MPET4-10B	1SFA611523R1006	
	Pull release	MPEP4-10B	1SFA611524R1006	
	Key release	MPEK4-10B	1SFA611525R1106	

Mushroom pushbuttons

40mm Non illuminated momentary	Red	MPM1-10R	1SFA611124R1001	
	Green	MPM1-10G	1SFA611124R1002	
	Yellow	MPM1-10Y	1SFA611124R1003	
	Black	MPM1-10B	1SFA611124R1006	
60mm Non illuminated momentary	Red	MPM2-10R	1SFA611125R1001	
	Yellow	MPM2-10Y	1SFA611125R1003	
	Black	MPM2-10B	1SFA611125R1006	
40mm Illuminated momentary	Red	MPM1-11R	1SFA611124R1001	
	Green	MPM1-11G	1SFA611124R1002	
	Yellow	MPM1-10Y	1SFA611124R1003	
60mm Illuminated momentary	Red	MPM2-11R	1SFA611125R1101	
	Yellow	MPM2-11Y	1SFA611125R1103	



Full range of product and technical information place this part number in a search engine and download

1SFC151004C0201

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Pilot devices - modular 22mm

Key switches, pilot lights

1



Key switches BLACK plastic bezel

Type			Part No	Product Hierarchy 1300001	
				Order Code	Price
Two position Key release in BC positions	71/Ronis 455	Maintained BC	M2SSK1-101	1SFA611280R1001	
	72/Ronis 421		M2SSK1-102	1SFA611280R1002	
	73/Ronis 3433-E		M2SSK1-103	1SFA611280R1003	
Two position Key release in B positions	71/Ronis 455	Momentary BC	M2SSK2-101	1SFA611281R1001	
	72/Ronis 421		M2SSK2-102	1SFA611281R1002	
	73/Ronis 3433-E		M2SSK2-103	1SFA611281R1003	
Two position	71/Ronis 455	Momentary BC	M2SSK3-101	1SFA611282R1001	
	72/Ronis 421		M2SSK3-102	1SFA611282R1002	
	73/Ronis 3433-E		M2SSK3-103	1SFA611282R1003	
Three position	71/Ronis 455	Maintained ABC	M3SSK1-101	1SFA611283R1001	
	72/Ronis 421		M3SSK1-102	1SFA611283R1002	
	73/Ronis 3433-E		M3SSK1-103	1SFA611283R1003	

Key switches CHROME metal bezel

Type			Part No	Product Hierarchy 1300001	
				Order Code	Price
Two position Key release in BC positions	71/Ronis 455	Maintained BC	M2SSK1-301	1SFA611280R1001	
	72/Ronis 421		M2SSK1-302	1SFA611280R1002	
	73/Ronis 3433-E		M2SSK1-303	1SFA611280R1003	
Two position Key release in B positions	71/Ronis 455	Momentary BC	M2SSK2-301	1SFA611281R1001	
	72/Ronis 421		M2SSK2-302	1SFA611281R1002	
	73/Ronis 3433-E		M2SSK2-303	1SFA611281R1003	
Two position	71/Ronis 455	Momentary BC	M2SSK3-301	1SFA611282R1001	
	72/Ronis 421		M2SSK3-302	1SFA611282R1002	
	73/Ronis 3433-E		M2SSK3-303	1SFA611282R1003	
Three position	71/Ronis 455	Maintained ABC	M3SSK1-301	1SFA611283R1001	
	72/Ronis 421		M3SSK1-302	1SFA611283R1002	
	73/Ronis 3433-E		M3SSK1-303	1SFA611283R1003	



Pilot lights

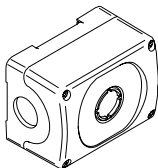
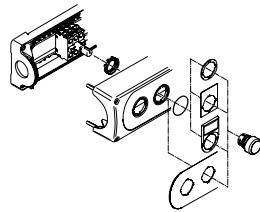
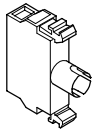
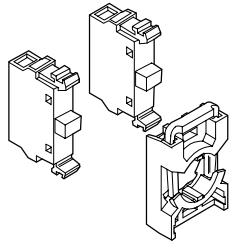
Red	ML-100 R	1SFA611400R1001	
Green	ML-100 G	1SFA611400R1002	
Yellow	ML-100 Y	1SFA611400R1003	
Blue	ML-100 B	1SFA611400R1004	
White	ML-100 W	1SFA611400R1005	
Clear	ML-100 C	1SFA611400R1008	
Light diffusing lens	KA1-8005	1SFA616920R8005	



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Pilot Devices - modular 22mm

Contacts, lamp blocks and accessories



Full range of product and technical information place this part number in a search engine and download
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Contact blocks with 3-holder included

Type	Part No	Product Hierarchy 1300001	
		Order Code	Price
1 NO	MCBH-10	1SFA611605R1101	
1 NC	MCBH-01	1SFA611605R1110	
2 NO	MCBH-20	1SFA611605R1102	
2 NC	MCBH-02	1SFA611605R1120	
1 NO + 1 NC	MCBH-11	1SFA611605R1111	
2 NO + 1 NC	MCBH-21	1SFA611605R1112	

Separate holder

Holder for 3 blocks	MCBH-00	1SFA611605R1100	
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Micro switch blocks

1 NO	MCBL-10	1SFA611612R1010	
1 NC	MCBL-01	1SFA611612R1001	

Contact blocks

1 NO	MCB-10	1SFA611610R1001	
1 NC	MCB-01	1SFA611610R1010	

Lamp blocks with integrated LED

24V AC/DC	MLBL-01 ■	1SFA611621R101 1	
110-130V AC	MLBL-04 ■	1SFA611621R104 1	
110-130V DC	MLBL-05 ■	1SFA611621R105 1	
220V DC	MLBL-06 ■	1SFA611621R106 1	
230V AC	MLBL-07 ■	1SFA611621R107 1	

Legend plate holders

Holder black	KA1-8120	1SFA616920R8120	
Inserts without text	KA1-8121	1SFA616920R8121	
Legend plate holder for plastic enclosures	MA6-1060	1SFA611930R1060	
Inserts without text for plastic enclosures	MA6-1061	1SFA611930R1061	

General accessories

Shroud	MA1-8053	1SFA611920R8053	
Mounting tool	MA1-8015	1SFA611920R8015	
Membrane of silicone flush button	KA1-8052	1SFA616920R8052	
Membrane of silicone extended button	KA1-8002	1SFA611920R8002	
Locking nut	MA1-8019	1SFA611920R8019	
Light diffusing lens	KA1-8005	1SFA616920R8005	
Adaptors 30mm black plastic	KA1-8029	1SFA616920R8029	
Protective cover	KA1-8010	1SFA616920R8010	
Spacer	-	SK615516-1	
Spacer for emergency stop	KA1-8045	1SFA616920R8045	

Empty enclosures

Empty Grey Enclosure - 1 Seat		1SFA611811R1000	
Empty Grey Enclosure - 2 Seat		1SFA611812R1000	
Empty Grey Enclosure - 3 Seat		1SFA611813R1000	
Empty Grey Enclosure - 4 Seat		1SFA611814R1000	
Empty Yellow Enclosure - 1 Seat		1SFA611821R1000	

1

Pilot Devices - modular 22mm

Accessories

1



LEDs

Type	Product Hierarchy 1300001	
	Order Code	Price
White LED 12V	1SFA616921R2015	
Red LED 24V	1SFA616921R2021	
Green LED 24V	1SFA616921R2022	
Yellow LED 24V	1SFA616921R2023	
Blue LED 24V	1SFA616921R2024	
White LED 24V	1SFA616921R2025	
Red LED 110-130V AC	1SFA616921R2131	
Green LED 110-130V AC	1SFA616921R2132	
Yellow LED 110-130V AC	1SFA616921R2133	
KA2-2134 LED 110V AC	1SFA616921R2134	
White LED 110-130V AC	1SFA616921R2135	
KA2-2142 LED 110V AC/DC	1SFA616921R2142	
White LED 110-130V AC/DC	1SFA616921R2145	
Red LED 230V	1SFA616921R2221	
Green LED 230V	1SFA616921R2222	
Yellow LED 230V	1SFA616921R2223	
Blue LED 230V	1SFA616921R2224	
White LED 230V	1SFA616921R2225	

Filaments

6v Filament Bulb	5911086-11	
12v Filament Bulb	5911086-12	
24v Filament Bulb	5911086-13	
60v Filament Bulb	5911086-14	
130v Filament Bulb	5911086-15	
30v Filament Bulb	5911086-4	
110v Filament Bulb	5911086-7	



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Electronic products and relays



Time relays, CT range 1/46

Three ranges of electronic timers provide timing functions for all applications: the CT-D range with a width of just 17.5 mm; the CT-E range, the ideal solution for serial applications; and the CT-S range that has two different types of connection terminals and is ideally suited for universal use. The CT range has a wide variety of timing functions (from ON or OFF delay to star-delta changeover). The time relays are available with output relays, solid-state outputs and precise direct time adjustment.



Measuring and monitoring, CM range 1/55

State of the Art monitors for single and three-phase systems. Monitoring of: voltage, current, frequency, power factor (motor load), thermistors, temperature, liquid level, insulation resistance, and grid feeding. ABB has one of the world's widest product ranges of measuring and monitoring relays. The CM range is a key product line of the EPR range.



Power supplies, CP range 1/61

Modern power supply units are a vital component in most areas of energy management and automation technology. As your global partner in this area, ABB pays close attention to corresponding requirements. Innovation is the key to the substantial enlargement of our power supply product range. ABB offers four different product lines for single and three-phase supplies, output voltages 5/12/24, and 48 VDC in plastic and metal enclosure, as well as various accessories.



Signal converters, CC range and ILPH 1/64

The ABB serial data converters allow communication to be established between units with different communication standards. In order to assure process continuity, existing systems must be updated consistently or connected to new devices. Serial data enables communication to be established if the communication standard of the existing system and the connected device vary. As well as converting signals, analog signal converters and serial data converters can amplify, filter or separate signals.



Interfaces & optocouplers, CR/R600 1/76

Interface relays and optocouplers are widely used in various industrial applications. As an interface, they link the controller, e.g. PLC (programmable logic controller), PC or field bus systems to the sensor/ actuator level. Here, they have various functions: switching AC or DC loads with different resistive, inductive and capacitive parts, switching voltages from a few mV up to 250 V, switching currents from a few mA up to 16 A, amplification of weak control signals, electrical isolation of control and load circuits, and signal multiplying.



Logic relays, CL range 1/89

CL range logic relays are suitable for small and medium-sized control tasks and can substitute logic wiring quickly and easily. Three different ranges are available: stand alone, expandable and the display systems.



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Timer ranges

1



CT-D

LEDs for status indication

All actual operational states are displayed by front-face LEDs, thus simplifying commissioning and troubleshooting.

Direct reading scales

Direct setting of the time delay without any additional calculation allows accurate time delay adjustment.



CT-E

Connection screws in M3 (pozidrive)

Easy tightening and release of the connection screws using a pozidrive, panhead or crosshead screwdriver.



CT-S

Double-chamber cage connection terminals

Double-chamber cage connection terminals make it possible to connect wires up to $2 \times 2.5 \text{ mm}^2$ ($2 \times 14 \text{ AWG}$), rigid or fine-strand, with or without ferrules. Potential distribution does not require additional terminals.

Time range preselection and fine adjustment

Direct assignment of the preselected time range to the fine adjustment potentiometer scale by multicolor scales.



CT-S

Easy connect technology

Innovative Push-in connection terminals for tool-free installation. The connection has the same connection direction as the double-chamber cage connection terminals.

The CT range includes 103 electronic timers and switching relays with 16 different functions. The electronic timers are divided into three ranges with their individual benefits. A lot of different connection terminals such as screw, chamber,

double-chamber cage and push-in connection terminals are available. Furthermore, relay outputs and solid-state outputs are also available.

Timer relays CT-D



CT-MFD.12



CT-MFD.21



CT-ERD.12



CT-ERD.22



CT-AHD.22



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Type	Rated control supply voltage	Control input	Order Code	Price
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Multifunction timers

CT-MFD: 7 functions ¹⁾, 7 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-MFD.12	24-48 V DC, 24-240 V AC	•	1SVR500020R0000	
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CT-MFD: 7 functions ¹⁾, 7 time ranges (0.05 s - 100 h), 2 c/o contacts, 2 LEDs

CT-MFD.21	12-240 V AC/DC	•	1SVR500020R1100	
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ON-delay timers

CT-ERD: 7 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-ERD.12	24-48 V DC, 24-240 V AC		1SVR500100R0000	
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CT-ERD: 7 time ranges (0.05 s - 100 h), 2 c/o contacts, 2 LEDs

CT-ERD.22	24-48 V DC, 24-240 V AC		1SVR500100R0100	
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OFF-delay timers

CT-AHD: 7 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-AHD.12	24-48 V DC, 24-240 V AC	•	1SVR500110R0000	
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CT-AHD: 7 time ranges (0.05 s - 100 h), 2 c/o contacts, 2 LEDs

CT-AHD.22	24-48 V DC, 24-240 V AC	•	1SVR500110R0100	
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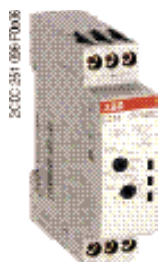
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Timer relays

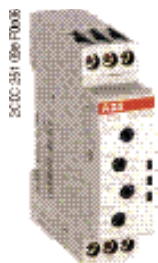
CT-D



CT-VWD.12



CT-EBD.12



CT-TGD.12



CT-TGD.22

Type	Rated control supply voltage	Control input	Order Code	Price
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Impulse-ON timers

CT-VWD: 7 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-VWD.12	24-48 V DC, 24-240 V AC		1SVR500130R0000	
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Flasher, starting with ON

CT-EBD: 7 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-EBD.12	24-48 V DC, 24-240 V AC		1SVR500150R0000	
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Pulse generators

CT-TGD: 2 x 7 time ranges (0.05 s - 100 h)²⁾, 1 c/o contact, 2 LEDs

CT-TGD.12	24-48 V DC, 24-240 V AC	•	1SVR500160R0000	
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CT-TGD: 2 x 7 time ranges (0.05 s - 100 h)²⁾, 2 c/o contacts, 2 LEDs

CT-TGD.22	24-48 V DC, 24-240 V AC	•	1SVR500160R0100	
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Star-delta timers

CT-SAD: 4 time ranges (0.05 s - 10 min), transition time adjustable, 2 n/o contacts, 3 LEDs

CT-SAD.22	24-48 V DC, 24-240 V AC		1SVR500210R0100	
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Full range of product and technical information place this part number in a search engine and download
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Timer relays CT-E



CT-MFE



CT-ERE



CT-AHE



CT-ARE



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Type	Rated control supply voltage	Time range	Control input	Order Code	Price
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Multifunction timer

CT-MFE: 6 functions¹⁾, 8 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

CT-MFE	24-240 V AC/DC	0.05 s - 100 h	•	1SVR550029R8100	
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ON-delay timers

CT-ERE: 1 c/o contact, 2 LEDs

CT-ERE	24 V AC/DC, 220-240 V AC	0.1-10 s	•	1SVR550107R1100	
		0.3-30 s		1SVR550107R4100	
		3-300 s		1SVR550107R2100	
		0.3-30 min		1SVR550107R5100	
	110-130 V AC	0.1-10 s		1SVR550100R1100	
		0.3-30 s		1SVR550100R4100	
		3-300 s		1SVR550100R2100	
		0.3-30 min		1SVR550100R5100	

OFF-delay timers

CT-AHE: 1 c/o contact, 2 LEDs

CT-AHE	24 V AC/DC	0.1-10 s	•	1SVR550118R1100	
		0.3-30 s		1SVR550118R4100	
		3-300 s		1SVR550118R2100	
	110-130 V AC	0.1-10 s		1SVR550110R1100	
		0.3-30 s		1SVR550110R4100	
		3-300 s		1SVR550110R2100	
	220-240 V AC	0.1-10 s		1SVR550111R1100	
		0.3-30 s		1SVR550111R4100	
		3-300 s		1SVR550111R2100	

CT-ARE: without auxiliary voltage, 1 c/o contact, 1 LED

CT-ARE	24 V AC/DC, 220-240 V AC	0.1-10 s		1SVR550127R1100	
		0.3-30 s		1SVR550127R4100	

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Timer relays

CT-E

1



CT-WVE



CT-AWE



CT-EBE



CT-YDE



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Type	Rated control supply voltage	Time range	Control input	Order Code	Price
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Impulse-ON timers

CT-WVE: 1 c/o contact, 2 LEDs

CT-WVE	24 V AC/DC, 220-240 V AC	0.1-10 s		1SVR550137R1100	
		0.3-30 s		1SVR550137R4100	
		3-300 s		1SVR550137R2100	
	110-130 V AC	0.1-10 s		1SVR550130R1100	
		0.3-30 s		1SVR550130R4100	
		3-300 s		1SVR550130R2100	

Impulse-OFF timers

CT-AWE: without auxiliary voltage, 1 c/o contact, 2 LEDs

CT-AWE	24 V AC/DC	0.05-1 s		1SVR550158R3100	
	110-130 V AC			1SVR550150R3100	
	220-240 V AC			1SVR550151R3100	

CT-AWE: with auxiliary voltage, 1 c/o contact, 2 LEDs

CT-AWE	24 V AC/DC	0.1-10 s	•	1SVR550148R1100	
		0.3-30 s		1SVR550148R4100	
		3-300 s		1SVR550148R2100	
	110-130 V AC	0.1-10 s		1SVR550140R1100	
		0.3-30 s		1SVR550140R4100	
		3-300 s		1SVR550140R2100	
	220-240 V AC	0.1-10 s		1SVR550141R1100	
		0.3-30 s		1SVR550141R4100	
		3-300 s		1SVR550141R2100	

Flasher, starting with OFF

CT-EBE: with symmetrical ON & OFF times, 1 c/o contact, 2 LEDs

CT-EBE	24 V AC/DC, 220-240 V AC	0.1-10 s		1SVR550167R1100	
	110-130 V AC			1SVR550160R1100	

Star-delta timers

CT-YDE: ON-delayed, OFF-delayed without auxiliary voltage, 1 c/o contact, 2 LEDs

CT-YDE	24 V AC/DC, 220-240 V AC	0.1-10 s		1SVR550207R1100	
		0.3-30 s		1SVR550207R4100	
		3-300 s		1SVR550207R2100	
	110-130 V AC	0.1-10 s		1SVR550200R1100	
		0.3-30 s		1SVR550200R4100	
		3-300 s		1SVR550200R2100	

Timer relays

CT-E



CT-SDE



CT-MKE



CT-EKE



CT-AKE

Type	Rated control supply voltage	Time range	Control input	Order Code	Price
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CT-SDE: ON-delayed with fixed transition time, 1 n/c contact, 1 n/o contact, internally wired, 2 LEDs

CT-SDE	24 V AC/DC, 220-240 V AC	0.3-30 s		1SVR550217R4100	
	110-130 V AC			1SVR550210R4100	
	380-415 V AC			1SVR550212R4100	

Solid-state output / contactless

Multifunction timer

CT-MKE: 4 functions¹⁾, solid-state output, functions and time range selection via external jumpers, 1 LED

CT-MKE	24-240 V AC/DC	0.1-10 s, 3-300 s		1SVR550019R0000	
--------	----------------	-------------------	--	-----------------	--

ON-delay timers

CT-EKE: solid-state output, 1 LED

CT-EKE	24-240 V AC/DC	0.1-10 s		1SVR550509R1000	
		0.3-30 s		1SVR550509R4000	
		3-300 s		1SVR550509R2000	

OFF-delay timers

CT-AKE: solid-state output, 1 LED

CT-AKE	24-240 V AC	0.1-10 s		1SVR550519R1000	
		0.3-30 s		1SVR550519R4000	
		3-300 s		1SVR550519R2000	

Notice:

CT-...KE are solid-state timers with thyristor output for 2-wire applications. They are connected directly in series with the control coil of contactors or relays. Voltage should not be applied without a load connected, because there is no current limiting in the unit.



Full range of product and technical information place this part number in a search engine and download

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1

The measuring monitoring and timer relays with innovative connection technologies

**New
S CLASS**



The new housing provides two different connection possibilities:
Double-chamber cage connection screw terminals or
push-in connection terminals

General facts

ABB have developed a totally new housing for all time relays and measuring & monitoring relays in S range with innovative connection technologies. In form and design the new housing meets both: ABB's latest design standards and IEC's requirements

for a sophisticated product. All devices are available with either innovative Push-in Terminals or State of the Art Double-Chamber Cage Connection Terminals.

Easy Connect Technology

Thanks to the innovative new Push-in Terminals, the devices with Easy Connect Technology can be wired much more quickly and easily – without the need of tools. For example, rigid or flexible wires with wire-end ferrules can be connected without the need for a tool. Even flexible wires without ferrules can be directly connected, here the cage must be opened before wire insertion. To release the wires the cages have to be opened with a tool.

The Push-in Terminal is suitable for the following wire sizes: rigid or fine-strand with wire-end ferrule, 1 x 0.5...1.5 mm² or 2 x 0.5...1.5 mm² / 1 x 20...16 AWG or 2 x 20...16 AWG. These Push-in Terminals are completely secure, and are the perfect solution for high vibration environments.

Double-Chamber Cage Connection Screw Terminals

The screw terminals can be connected with two wires with different wire diameters up to 2,5 mm². According to IEC/EN 60947-1 two rigid or fine-strand wires with ferrules up to 2,5 mm² (AWG14) can be used.

Flexibility

Both solutions, Double-Chamber Cage Connection Terminals and Push-in Terminals, have exactly the same design and size. Both versions can thus be interchanged at any time or positioned alongside each other in a switchboard. With this new housing ABB offers the world wide first complete range of industrial products with Push-in Terminals.

Other Features

Snap on housing - Tool-less mounting and removal on / off the DIN rail. Housing meets UL94 VO classifications. Abrasion resistant terminal and front face marking.

Available now in Timer range. Coming soon in Measuring and Monitoring product range.

Timer relays

CT-S



CT-MVS.21



CT-MXS.22



CT-MFS.21



CT-MBS.22



CT-WBS.22



Full range of product and technical information place this part number in a search engine and download
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Type	Rated control supply voltage	Control input	Remote potentiometer connection	2nd c/o cont. selectable as inst. contact	Order Code	Price
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Multifunction timers

CT-MVS: 11 functions ¹⁾, 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 3 LEDs – 40 °C

CT-MVS.21S	24-240 V AC/DC	■	1x	O	1SVR730020R0200	
CT-MVS.21P					1SVR740020R0200	

CT-MVS: 11 functions ¹⁾, 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs

CT-MVS.22S	24-48 V DC	■			1SVR730020R3300	
CT-MVS.22P	24-240 V AC				1SVR740020R3300	
CT-MVS.23S	380-440 V AC				1SVR730021R2300	
CT-MVS.23P					1SVR740021R2300	

CT-MVS: 10 functions ²⁾, 10 time ranges (0.05 s- 300 h), 1 c/o contact, 2 LEDs

CT-MVS.12S	24-48 V DC	■			1SVR730020R3100	
CT-MVS.12P	24-240 V AC				1SVR740020R3100	

CT-MXS: 5 functions ³⁾, 2 x 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs

CT-MXS.22S	24-48 V DC	■	2x		1SVR730030R3300	
CT-MXS.22P	24-240 V AC				1SVR740030R3300	

CT-MFS: 10 functions ⁴⁾, 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 3 LEDs – 40 °C

CT-MFS.21S	24-48 V DC	□□	1x	•	1SVR730010R0200	
CT-MFS.21P	24-240 V AC				1SVR740010R0200	

CT-MBS: 10 functions ⁴⁾, 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 3 LEDs

CT-MBS.22S	24-48 V DC	□	1x	•	1SVR730010R3200	
CT-MBS.22P	24-240 V AC				1SVR740010R3200	

Impulse and flasher timer

CT-WBS: 7 functions ⁵⁾, 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs

CT-WBS.22S	24-48 V DC				1SVR730040R3300	
CT-WBS.22P	24-240 V AC				1SVR740040R3300	

- Control input with voltage-related triggering
- Control input with volt-free triggering

¹⁾ Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Star-delta change-over with impulse, Pulse former, Accumulative ON-delay, ON/OFF-function

²⁾ Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON or OFF, Pulse former, Accumulative ON-delay, ON/OFF-function

³⁾ Functions: Select function via DIP switches behind the marker label on the front of the unit, asymmetrical ON- and OFF-delay, Impulse-ON/OFF, Pulse generator starting with ON or OFF, Single pulse generator, ON/OFF-function

⁴⁾ Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Symmetrical ON- and OFF-delay, Flasher starting with ON, Flasher starting with OFF, Star-delta change-over with impulse, Pulse former, ON/OFF-function

⁵⁾ Functions: Flasher starting with ON, Flasher starting with OFF, Impulse-ON, ON-delay, fixed impulse with adjustable time delay, Adjustable impulse with fixed time delay, ON/OFF-function

S - Screw connection

P - Easy connect - Push in connection

Timer relays

CT-S

1



CT-ERS.21



CT-ERS.12



CT-APS.12



CT-AHS.22



CT-SDS.23

Type	Rated control supply voltage	Control input	Remote potential-meter connection	2nd c/o cont. selectable as inst. contact	Order Code	Price
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ON-delay timers

CT-ERS: 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs -40 °C

CT-ERS.21S	24-240 V AC/DC				1SVR730100R0300	
CT-ERS.21P					1SVR740100R0300	
CT-ERS.22S	24-48 V DC				1SVR730100R3300	
CT-ERS.22P	24-240 V AC				1SVR740100R3300	

CT-ERS: 10 time ranges (0.05 s- 300 h), 1 c/o contact, 2 LEDs

CT-ERS.12S	24-48 V DC				1SVR730100R3100	
CT-ERS.12P	24-240 V AC				1SVR740100R3100	

OFF-delay timers

CT-APS: 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs -40 °C

CT-APS.21S	24-240 V AC/DC	■			1SVR730180R0300	
CT-APS.21P					1SVR740180R0300	
CT-APS.22S	24-48 V DC	■			1SVR730180R3300	
CT-APS.22P	24-240 V AC				1SVR740180R3300	

CT-APS: 10 time ranges (0.05 s- 300 h), 1 c/o contact, 2 LEDs

CT-APS.12S	24-48 V DC	■			1SVR730180R3100	
CT-APS.12P	24-240 V AC				1SVR740180R3100	

CT-AHS: 10 time ranges (0.05 s- 300 h), 2 c/o contacts, 2 LEDs

CT-AHS.22S	24-48 V DC	□			1SVR730110R3300	
CT-AHS.22P	24-240 V AC				1SVR740110R3300	

CT-ARS: without auxiliary voltage, 7 time ranges (0.05 s- 10 min), 1 c/o contact, 1 LED

CT-ARS.11S	24-240 V AC/DC				1SVR730120R3300	
CT-ARS.11P					1SVR740120R3300	

Star-delta timers

CT-SDS: 7 time ranges (0.05 s- 10 min), 50 ms transition time, 2 n/o contacts, 3 LEDs

CT-SDS.22S	24-48 V DC				1SVR730210R3300	
CT-SDS.22P	24-240 V AC				1SVR740210R3300	
CT-SDS.23S	380-440 V AC				1SVR730211R2300	
CT-SDS.23P					1SVR740211R2300	

- Control input with voltage-related triggering
- Control input with volt-free triggering

S - Screw connection

P - Easy connect - Push in connection



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Rated control supply voltage U_c

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Measuring & monitoring relays

Insulation & motor load monitors



Type	Order Code	Price
CM-IWS.2	1SVR630670R0200	134.57
CM-IWS.1	1SVR630660R0100	192.10
CM-IWN.1	1SVR650660R0200	417.86
CM-IVN	1SVR650669R9400	241.34

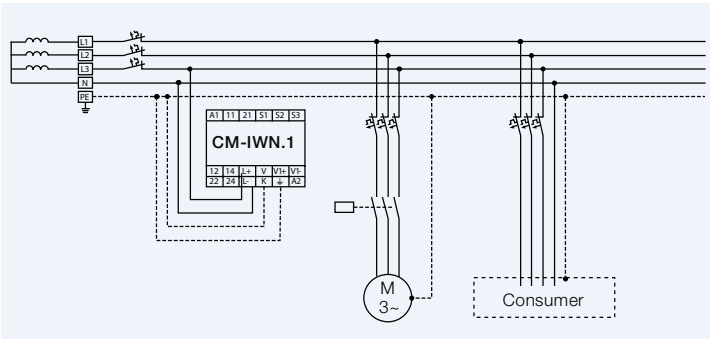
Rated control supply voltage U _c	
24 - 240 VAC/DC	☒ ☒ ☒
Measuring voltages	
250 V AC (L-PE)	☒ ☐ ☐
400 V AC (L-PE)	☐ ☒ ☒
690 V AC	☐ ☐ ☒
300 V DC (L-PE)	☐ ☒ ☐
600 V DC (L-PE)	☐ ☐ ☒
1000 V DC	☐ ☐ ☒
Measuring range	
1 - 100 kΩ	☒ ☒ ☒
2 - 200 kΩ	☐ ☐ ☒
Output contacts	
1 c/o	☒ ☒ ☐
1 x 2 c/o or 2 x 1 c/o	☐ ☐ ☒
Working principle	
open circuit principle	☒ ☒ ☐
open or closed principle adjustable	☐ ☐ ☒
Test	
Front face button or control input	☐ ☒ ☒
Reset	
Front face button or control input	☐ ☒ ☒
Fault storage / latching configurable	☒ ☒ ☒
Non voltage storage configurable	☐ ☐ ☒
Interrupted wire detection	☐ ☐ ☐ fix : sel
Threshold values configurable	1 1 2
Coupling unit	Yes CM-IWN.1



Type	Order Code	Price
CM-LWN	1SVR450335R0000	150.11
CM-LWN	1SVR450330R0000	130.38
CM-LWN	1SVR450331R0000	POA
CM-LWN	1SVR450332R0000	130.38
CM-LWN	1SVR450334R0000	POA
CM-LWN	1SVR450335R0100	159.13
CM-LWN	1SVR450330R0100	POA
CM-LWN	1SVR450331R0100	139.40
CM-LWN	1SVR450332R0100	139.40
CM-LWN	1SVR450334R0100	POA

Rated control supply voltage U _c	
24-240 V AC/DC	☒ ☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐
110 - 130 V AC	☐ ☒ ☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐
220 - 240 V AC	☐ ☐ ☒ ☐ ☐ ☐ ☐ ☒ ☐ ☐
380 - 440 V AC	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☒ ☐
480 - 500 V AC	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☒
Voltage range (Phase to phase)	
110- 500 V	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒
Current range	
0.5 - 5 A	☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐
2 - 20 A	☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒
Frequency range	
50/60 Hz	☐ ☒ ☒ ☒ ☒ ☐ ☒ ☒ ☒ ☒
DC or 15 - 400 Hz	☐ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒
Suitable for monitoring	
Single-phase mains	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒
Three-phase mains	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒
Monitoring function	
Motor load // cos Phi	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒
Timing functions	
Start up delay (on delay)	adj : adj : adj : adj : adj : adj : adj : adj : adj : adj
Response delay	adj : adj : adj : adj : adj : adj : adj : adj : adj : adj
Output contacts	
2 x 1 c/o	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

Insulation monitors for unearthed supply systems (IT-Systems)



1



Rated control supply voltage U_c

Rated frequency

Measuring Circuits

Monitoring Functions

Output contacts

Temperature sensor C011, standard version acc. to DIN 44081

Triple temperature sensor C011-3

1/58 control | **ABB Low Voltage Industrial Products 0312**

1



Rated control supply voltage U_c

Sensor circuits

Response sensitivity

Monitoring function

Operating principle

Output contacts

Accessories – electrodes

Screw-in bar electrodes / Suspension electrode1/59 control | ABB Low Voltage Industrial Products 0312

Measuring & monitoring

Accessories

1



CM-CT

Plug-in current transformers CM-CT

- Without primary conductor though with foot angle, insulating protective cap and bar fastening screws
- Primary / rated current from 50 A to 600 A
- Secondary current of 1 A or 5 A
- Class 1

Secondary current 1 A

Type	Rated primary current	Burden class	Order Code	Price
CM-CT 50/1	50 A	1 VA/1	1SVR450116R1000	
CM-CT 75/1	75 A	1.5 VA/1	1SVR450116R1100	
CM-CT 100/1	100 A	2.5 VA/1	1SVR450116R1200	
CM-CT 150/1	150 A		1SVR450116R1300	
CM-CT 200/1	200 A		1SVR450116R1400	
CM-CT 300/1	300 A	5 VA/1	1SVR450117R1100	
CM-CT 400/1	400 A		1SVR450117R1200	
CM-CT 500/1	500 A		1SVR450117R1300	
CM-CT 600/1	600 A		1SVR450117R1400	

Sealable transparent cover

Type	For type	Width mm	Order Code	Price
COV.01	CM-S	22.5	1SVR430005R0100	



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Primary switch mode power supplies

CP-D and CP-E



CP-D 12/0.83,
CP-D 24/0.42



CP-D 12/2.1
CP-D 24/1.3



CP-E 5/3.0



CP-E 24/5.0



CP-RUD



Full range of product
and technical information
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CP-D range

Type	Input voltage range	Rated output voltage / current	Order Code	Price
CP-D 12/0.83	90-264 V AC/ 120-370 V DC	12 V DC /0.83 A	1SVR427041R1000	
CP-D 12/2.1	90-264 V AC/ 120-370 V DC	12 V DC /2.1 A	1SVR427043R1200	

CP-D 24/0.42	90-264 V AC/ 120-370 V DC	24 V DC /0.42 A	1SVR427041R0000	
CP-D 24/1.3	90-264 V AC/ 120-370 V DC	24 V DC /1.3 A	1SVR427043R0100	
CP-D 24/2.5	90-264 V AC/ 120-370 V DC	24 V DC /2.5 A	1SVR427044R0200	
CP-D 24/4.2	90-264 V AC/ 120-370 V DC	24 V DC /4.2 A	1SVR427045R0400	

CP-E range

Type	Input voltage range	Rated output voltage / current	Order Code	Price
CP-E 5/3.0	90-265 V AC/ 120-370 V DC	5 V DC /3 A	1SVR427033R3000	

CP-E 12/2.5	85-264 V AC/ 90-375 V DC	12 V DC /2.5 A	1SVR427032R1000	
CP-E 12/10.0	90-132 V AC, 186-264 V AC/ 210-370 V DC	12 V DC /10 A	1SVR427035R1000	

CP-E 24/0.75	90-265 V AC/ 120-370 V DC	24 V DC /0.75 A	1SVR427030R0000	
CP-E 24/1.25	85-264 V AC/ 90-375 V DC	24 V DC /1.25 A	1SVR427031R0000	
CP-E 24/2.5	85-264 V AC/ 90-375 V DC	24 V DC /2.5 A	1SVR427032R0000	
CP-E 24/5.0	90-132 V AC, 186-264 V AC/ 210-370 V DC	24 V DC /5 A	1SVR427034R0000	
CP-E 24/10.0	93-132 V AC, 186-264 V AC/ 210-370 V DC	24 V DC /10 A	1SVR427035R0000	
CP-E 24/20.0	90-264 V AC/ 120-370 V DC	24 V DC /20 A	1SVR427036R0000	

CP-E 48/0.62	85-264 V AC/ 90-375 V DC	48 V DC / 0.625 A	1SVR427030R2000	
CP-E 48/1.25	85-264 V AC/ 90-375 V DC	48 V DC /1.25 A	1SVR427031R2000	
CP-E 48/5.0	93-132 V AC, 186-264 V AC/ 210-370 V DC	48 V DC /5 A	1SVR427034R2000	
CP-E 48/10.0	90-264 V AC/ 120-370 V DC	48 V DC /10 A	1SVR427035R2000	

Redundancy units

for decoupling of two CP-E power supply units

Type	Suitable for decoupling of CP-E power supply units	Order Code	Price
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CP-RUD: 2 inputs each up to 2.5 A and 1 output up to 5 A

CP-RUD	< 35 V and < 5 A	1SVR423418R9000	
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CP-A RU: 2 inputs each up to 20 A and 1 output up to 40 A

CP-A RU	< 40 V and > 5 A	1SVR427071R0000	
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Primary switch mode power supplies

CP-T, CP-S and CP-C



CP-T 24/5.0



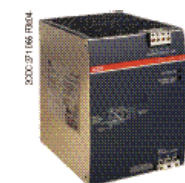
CP-T 24/10.0
CP-T 48/5.0



CP-A RU



CP-S 24/5.0



CP-C 24/10.0



CP-A CM



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CP-T range

Type	Three Phase Input voltage range	Rated output voltage / current	Order Code	Price
CP-T 24/5.0	340-575 V AC/ 480-820 V DC	24 V DC /5 A	1SVR427054R0000	
CP-T 24/10.0	340-575 V AC/ 480-820 V DC	24 V DC /10 A	1SVR427055R0000	
CP-T 24/20.0	340-575 V AC/ 480-820 V DC	24 V DC /20 A	1SVR427056R0000	
CP-T 24/40.0	340-575 V AC/ 480-820 V DC	24 V DC /40 A	1SVR427057R0000	
CP-T 48/5.0	340-575 V AC/480-820 V DC	48 V DC /5 A	1SVR427054R2000	
CP-T 48/10.0	340-575 V AC/ 480-820 V DC	48 V DC /10 A	1SVR427055R2000	
CP-T 48/20.0	340-575 V AC/ 480-820 V DC	48 V DC /20 A	1SVR427056R2000	

Type	Input voltage range	Rated output voltage / current	Order Code	
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CP-S range

CP-S 24/5.0	85-264 V AC/ 110-350 V DC	24 V DC /5 A	1SVR427014R0000	
CP-S 24/10.0	85-132 V AC, 184-264 V AC/ 220-350 V DC	24 V DC /10 A	1SVR427015R0100	
CP-S 24/20.0	85-132 V AC, 184-264 V AC/ 220-350 V DC	24 V DC / 20 A	1SVR427016R0100	

CP-C range

CP-C 24/5.0	85-264 V AC/ 110-350 V DC	24 V DC /5 A	1SVR427024R0000	
CP-C 24/10.0	85-264 V AC/ 110-350 V DC	24 V DC /10 A	1SVR427025R0000	
CP-C 24/20.0	85-264 V AC/ 110-350 V DC	24 V DC / 20 A	1SVR427026R0000	

Accessories

Type	Description	Order Code	
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Accessories for CP-C range

CP-C MM	Messaging module	1SVR427081R0000	
CP-A CM	Control module	1SVR427075R0000	

Redundancy unit

Type	Suitable for decoupling CP-T, CP-S, CP-E, CP-C	Order Code	
CP-A RU	2 inputs each up to 20 A and 1 output up to 40 A	1SVR427071R0000	

Ultra capacitor based buffer modules

CP-B

Product selection table

		CP-B 24/3.0	CP-B 24/10.0	CP-B 24/20.0	CP-B EXT.2
Order Code		1SVR427060R0300	1SVR427060R1000	1SVR427060R2000	1SVR427065R0000
Price					
Rated input voltage		24 V DC	24 V DC	24 V DC	–
Rated current		3 A DC	10 A DC	20 A DC	–
Energy storage (min.)		1.000 Ws	10.000 Ws	8.000 Ws	2.000 Ws
Typical charging time at load current	100 %	65 s	120 s	68 s	
	0 %	56 s	82 s	62 s	
Typical buffer time ¹⁾ at load current	100 %	14 s	40 s	15 s	
	50 %	28 s	80 s	30 s	
	25 %	74 s	140 s	60 s	
	10 %	148 s	380 s	150 s	

Dimensions

Width	60.00 mm	127.00 mm	84.00 mm	60.00 mm
Height	92.50 mm	163.00 mm	192.00 mm	92.50 mm
Depth	116.00 mm	150.00 mm	198.00 mm	116.00 mm

$$^{1)} \text{ buffering time} = \frac{\text{energy storage} \times 0.9}{\text{current} \times \text{output voltage}}$$



CP-B 24/3.0



CP-B 24/10.0

Type	Rated input voltage	Rated current	Order Code	Price
CP-B range				
CP-B 24/3.0	24 V DC	3 A DC	1SVR427060R0300	
CP-B 24/10.0	24 V DC	10 A DC	1SVR427060R1000	
CP-B 24/20.0	24 V DC	20 A DC	1SVR427060R2000	
CP-B EXT.2	–	–	1SVR427060R2000	



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Analog standard signal converters

Application, approvals & marks

Applications for analog signal processing and correct solution using CC-E and CC-U converters

Nearly every process includes a control system that receives data by means of analog signals and then evaluates the data and sets the respective parameters correspondingly.

When transmitting analog signals numerous problems may arise which can disturb or even block an ideal behavior of the process.

Below we have listed some processing problems together with the respective solutions to solve these problems:

Signal conversion

Sometimes the available signals cannot be processed by the controller or the actuator. In this case, signal converters are required to convert the input signal (or different input signals) to the desired output signal.

Signal amplification

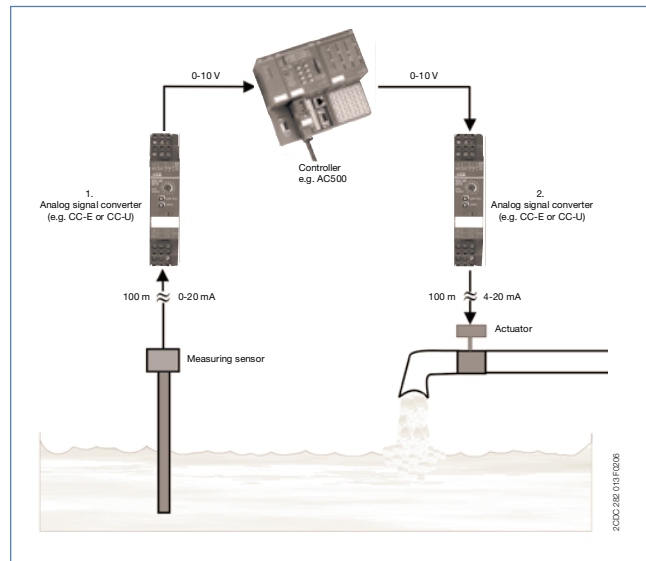
If long lines or high burdens have to be operated, it may be necessary to amplify the signal. CC analog signal converters require only low input power and provide high output power.

Thus, there are no restrictions for the converter's position on the line, i.e. it can be used

- for signal refreshing ① at the end of the line (low input power)
- or for signal amplification ② at the beginning of the line (high output power).

Signal filtering

Particularly on long lines or in rough industrial environments the signals are exposed to high electromagnetic interferences. The frequency of the coupled interference signals may be in the range of the common mains frequency (50 Hz) or even much higher (in case of frequency converters). According to the specific requirements, analog signal converters are available which provide reliable suppression of those interferences by means of an input low-pass filter.



Signal separation

Protection against overvoltage

The increased use of micro-electronics make controls much more sensitive against overvoltages, resulting from lightning discharges or switching processes. Suppression diodes are incorporated in the input of the CC analog signal converters which enable the converters to arrest overvoltages with low energy level (resulting from switching processes) by themselves. The products furthermore provide electrical isolation between input, output and supply circuit for protection of the controller connected to the output.

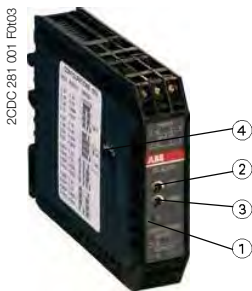
Protection against ground loops

If components are used which refer to ground, the measuring signals can be falsified by a so-called ground loop. In this case, certain parts of the signal are transmitted via earth and not via the analog transmission line, thus causing incorrect evaluation of the signal. The electrical isolation between the input and the output disconnects these ground loops and thus enables correct signal transmission.

		CC-E/STD	CC-E/I	CC-U/STD	CC-U/STD	CC-E/RTD	CC-U/RTD	CC-U/RTDR	CC-E/TC	CC-U/TC	CC-U/TCR	CC-E/I	CC-E/L/ILPO	CC-U/I	CC-U/V	
Approvals																■ existing ▲ existing for some devices □ pending
	UL 508, CAN/CSA C22.2 No.14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	UL 1604 (Class I, Div 2, hazardous locations), CAN/CSA C22.2 No.213	▲		■		▲	■		▲	■		▲		■	■	
	CB scheme				■			■			■					
	CCC				■			■			■					
Marks																
	CE	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	C-Tick	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

Analog standard signal converters

CC-E/STD, CC-E x/x



CC-E/STD



CC-E V/V

- 1 U: green LED - supply voltage
- 2 Gain adjustment
- 3 Offset adjustment
- 4 DIP switch for input and output configuration (only available on universal devices)

1)  1604 Class I, Div.2 (universal device)

CC-E/STD analog signal converter with 3-way electrical isolation

- 2 universally configurable devices (type CC-E/STD)
- 2x10 single-function devices "Plug and Work", no adjustment of single-function devices required

Type	Input signal	Output signal	Order Code	Price
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Supply voltage: 24 V DC universal

CC-E/STD	0-5 V, 0-10 V 0-20 mA, 4-20 mA	0-5 V, 0-10 V 0-20 mA, 4-20 mA	1SVR011700R0000 ¹⁾	
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single-function

CC-E V/V	0-10 V	0-10 V	1SVR011710R2100	
CC-E V/I		0-20 mA	1SVR011711R1600	
		4-20 mA	1SVR011712R1700	

CC-E V/V	0-20 mA	0-10 V	1SVR011713R1000	
CC-E V/I		0-20 mA	1SVR011714R1100	
		4-20 mA	1SVR011715R1200	

CC-E V/V	4-20 mA	0-10 V	1SVR011719R2600	
CC-E V/I		0-20 mA	1SVR011719R2600	
		4-20 mA	1SVR011719R2600	

CC-E V/V	-10... +10 V	-10... +10 V	1SVR011719R2600	
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Supply voltage: 110-240 V AC universal

CC-E/STD	0-5 V, 0-10 V 0-20 mA, 4-20 mA	0-5 V, 0-10 V 0-20 mA, 4-20 mA	1SVR011705R2100	
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single-function

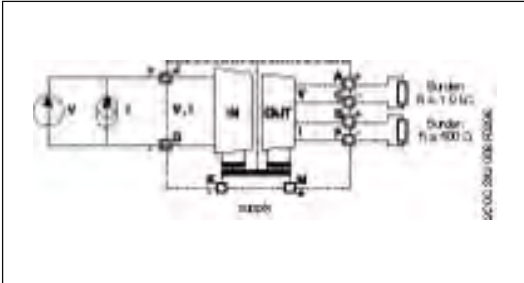
CC-E V/V	0-10 V	0-10 V	1SVR011720R2300	
CC-E V/I		0-20 mA	1SVR011721R1000	
		4-20 mA	1SVR011722R1100	

CC-E V/V	0-20 mA	0-10 V	1SVR011723R1200	
CC-E V/I		0-20 mA	1SVR011724R1300	
		4-20 mA	1SVR011725R1400	

CC-E V/V	4-20 mA	0-10 V	1SVR011726R1500	
CC-E V/I		0-20 mA	1SVR011727R1600	
		4-20 mA	1SVR011728R2700	

CC-E V/V	-10... +10 V	-10... +10 V	1SVR011729R2000	
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Wiring instruction



DIP switch settings (universal devices)

Input	Output	Switch	Legend
0-5 V	0-10 V	1	0-10 V
0-5 V	0-20 mA	2	0-20 mA
0-5 V	4-20 mA	3	4-20 mA
0-10 V	0-10 V	4	0-10 V
0-10 V	0-20 mA	5	0-20 mA
0-10 V	4-20 mA	6	4-20 mA
0-20 mA	0-10 V	7	0-10 V
0-20 mA	0-20 mA	8	0-20 mA
0-20 mA	4-20 mA	9	4-20 mA
4-20 mA	0-10 V	10	0-10 V
4-20 mA	0-20 mA	11	0-20 mA
4-20 mA	4-20 mA	12	4-20 mA



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Current/current isolator

CC-E I/I-1 and CC-E I/I-2

1



CC-E I/I-1



CC-E I/I-2

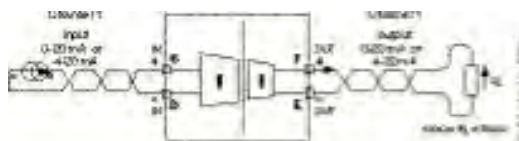
Loop-powered current/current isolator without external power supply for analog current signals of 0-20 mA and 4-20 mA

- Electrical isolation between input and output
- Very low internal voltage drop m 2.5 V
- Available with one or two independent channels
- Width only 18 mm (1 and 2 channels)

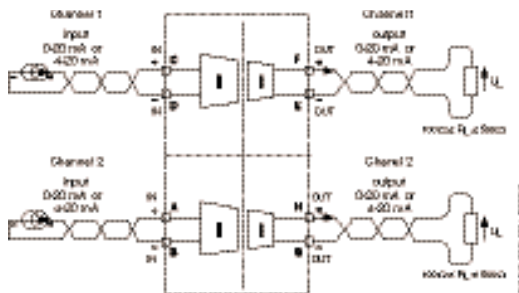
Type	Input signal	Output signal	Order Code	Price
1 channel				
CC-E I/I-1	0-20 mA, 4-20 mA	0-20 mA, 4-20 mA	1SVR010200R1600	
2 channel				
CC-E I/I-2	0-20 mA, 4-20 mA	0-20 mA, 4-20 mA	1SVR010200R0300	

Wiring instructions

CC-E I/I-1

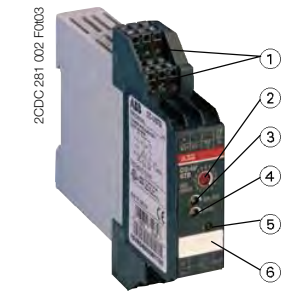


CC-E I/I-2



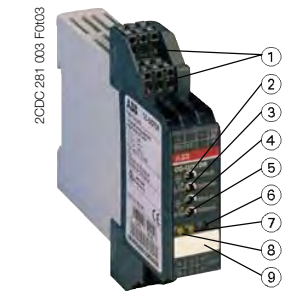
Full range of product and technical information place this part number in a search engine and download
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Analog standard signal converter CC-U/STD & CC-U/STDR



CC-U/STD

- 1 Plug-in terminals
- 2 Gain: Coarse adjustment
- 3 Gain: Fine adjustment
- 4 Offset adjustment
- 5 U: green LED - supply voltage
- 6 Marker label



CC-U/STD

- 1 Plug-in connecting terminals
- 2 Threshold value for R1
- 3 Hysteresis for R1
- 4 Threshold value for R2
- 5 Hysteresis for R2
- 6 U: green LED - supply voltage
- 7 R2: yellow LED - Relay 2 energized
- 8 R1: yellow LED - Relay 1 energized
- 9 Marker label



Full range of product and technical information place this part number in a search engine and download
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CC-U/STD universal signal converter with 3-way electrical isolation

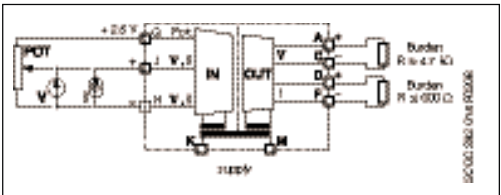
- More than 120 configurations possible
- Configurable output signal response on input voltage signal interruption (low fail safe / high fail safe)
- Adjustment and operating elements on the front
- Short-circuit proof signal outputs
- Plug-in connecting terminals for inputs, outputs and supply
- Very fast signal transmission enables use in control systems

Type	Rated supply voltage	Order Code	Price
CC-U/STD	24-48 V DC	1SVR040000R1700	
	110-240 V AC	1SVR040001R0400	

DIP switch settings

Input	Switch	Gain	Coarse Type
Potentiometer	1 2 3 4 5 6	0	0
0...50 mV		A	0
0...100 mV		A	5
0...250 mV		0	1
0...500 mV		7	5
0...1 V		3	4
0...2.5 V		0	0
0...5 V		5	7
0...10 V		2	2
1...5 V		7	5
2...10 V		2	4
-10...+10 V		0	0
0...125 mV		3	4
0...5 V		3	4
22.5...+22.5 mV		B	F
-11...+11 V		0	0
2.5...7.5 V		5	7
3.33...9.99 V		3	4
10...20 V		2	2
100...0 mV		4	0
0...1 mA		A	0
0...20 mA		2	4
0...4 mA		4	5
10...50 mA		0	1
20...4 mA		4	5
20...0 mA		4	2
0.45...+0.45 mA		B	F
25...+25 mA		4	5
High fail safe 1		-	-
Low fail safe 1		-	-
No fail safe 1		-	-

Wiring instruction

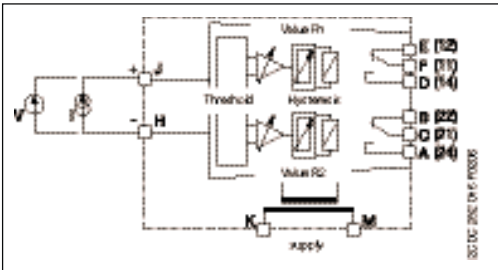


CC-U/STDR universal signal converter for standard signals, with 2 threshold relay outputs and with 3-way electrical isolation

- Standard signal converter with 7 setting ranges
- 2 threshold relay outputs with one c/o contact each (threshold and respective hysteresis can be adjusted independently from each other)
- Open-circuit or closed-circuit principle configurable by means of a DIP switch
- 2 yellow LEDs for clear status indication of the output relays
- Plug-in connecting terminals for inputs, outputs and supply

Type	Rated supply voltage	Order Code	Price
CC-U/STDR	24-48 V DC	1SVR040010R0000	
	110-240 V AC	1SVR040011R2500	

Wiring instruction

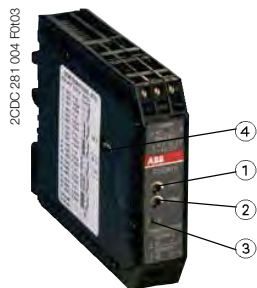


DIP switch settings

Input	Switch	Output
0...0 V	1 2 3 4 5 6	
0...5 V		
0...1 V		
-10...+10 V		
1...5 V		
0...20 mA		
4...20 mA		
Closed-circuit principle		
Open-circuit principle		

Temperature signal converter for RTD sensors

CC-E/RTD



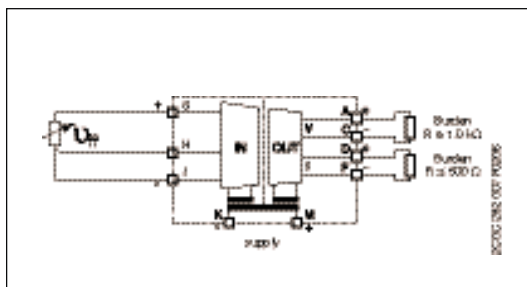
CC-E/RTD

- ① Gain adjustment
- ② Offset adjustment
- ③ U: green LED - supply voltage
- ④ DIP switch for input and output configuration (only available on universal devices)

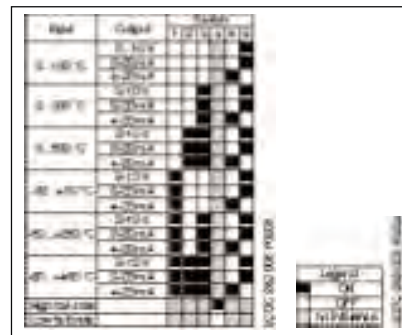
CC-E/RTD temperature signal converter for RTD sensors, linearized with 3-way electrical isolation

- 2 universally configurable devices (type CC-E/RTD)
- 2x12 single-function devices
- "Plug and Work", no adjustment of single-function devices required
- Temperature signal converter for PT100 sensors
- 2- or 3-wire connection

Wiring instruction



DIP switch settings (universal devices)



Type	Input signal	Output signal	Order Code	Price
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Supply voltage: 24 V DC universal

CC-E/RTD	refer to table	0-10 V, 0-20 mA, 4-20 mA	1SVR011701R2500 ¹⁾	
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single-function

CC-E RTD/V	PT100 0...100 °C	0-10 V	1SVR011730R2500	
CC-E RTD/I		0-20 mA	1SVR011731R1200	
CC-E RTD/I		4-20 mA	1SVR011732R1300	
CC-E RTD/V	PT100 -50...+50 °C	0-10 V	1SVR011733R1400	
CC-E RTD/I		0-20 mA	1SVR011734R1500	
CC-E RTD/I		4-20 mA	1SVR011735R1600	
CC-E RTD/V	PT100 0...300 °C	0-10 V	1SVR011736R1700	
CC-E RTD/I		0-20 mA	1SVR011737R1000	
CC-E RTD/I		4-20 mA	1SVR011738R2100	
CC-E RTD/V	PT100 0...+250 °C	0-10 V	1SVR011739R2200	
CC-E RTD/I		0-20 mA	1SVR011740R0700	
CC-E RTD/I		4-20 mA	1SVR011741R2400	

Supply voltage: 110-240 V AC universal

CC-E/RTD	refer to table	0-10 V, 0-20 mA, 4-20 mA	1SVR011706R2200	
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single-function

CC-E RTD/V	PT100 0...100 °C	0-10 V	1SVR011788R2400	
CC-E RTD/I		0-20 mA	1SVR011789R2500	
CC-E RTD/I		4-20 mA	1SVR011790R2200	
CC-E RTD/V	PT100 -50...+50 °C	0-10 V	1SVR011791R1700	
CC-E RTD/I		0-20 mA	1SVR011792R1000	
CC-E RTD/I		4-20 mA	1SVR011793R1100	
CC-E RTD/V	PT100 0...300 °C	0-10 V	1SVR011794R1200	
CC-E RTD/I		0-20 mA	1SVR011795R1300	
CC-E RTD/I		4-20 mA	1SVR011796R1400	
CC-E RTD/V	PT100 0...+250 °C	0-10 V	1SVR011797R1500	
CC-E RTD/I		0-20 mA	1SVR011798R2600	
CC-E RTD/I		4-20 mA	1SVR011799R2700	



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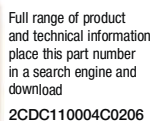
1



-
- 24VDC 281 006 F003
- Diagram of a terminal block with 9 numbered callouts:
- 1: Top screw terminal
 - 2: Second screw terminal from top
 - 3: Third screw terminal from top
 - 4: Fourth screw terminal from top
 - 5: Fifth screw terminal from top
 - 6: Sixth screw terminal from top
 - 7: Seventh screw terminal from top
 - 8: Eighth screw terminal from top
 - 9: Bottom screw terminal

CC-U/RTDR

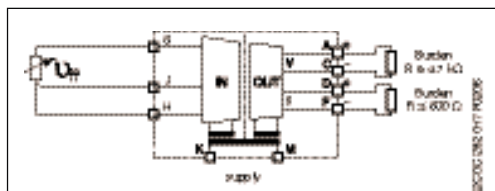
- ① Plug-in connecting terminals
- ② Threshold value for R1
- ③ Hysteresis for R1
- ④ Threshold value for R2
- ⑤ Hysteresis for R2
- ⑥ U: green LED - supply voltage
- ⑦ R2: yellow LED - Relay 2 energized
- ⑧ R1: yellow LED - Relay 1 energized
- ⑨ Marker label



2CDC110004C0206

- Configurable output signal response on input signal interruption (low / high fail safe)
- Adjustment and operating elements on the front-side
- Short-circuit proof signal outputs
- Plug-in connecting terminals for inputs, outputs and supply
- 2- or 3-wire connection

Wiring diagrams



DIP switch settings

[illegible]^a) Detection of input signal interruptions.

If the input signal circuit is interrupted, the output signal changes to the adjusted minimum value (low fail safe) or maximum value (high fail safe).

	Output	Switch 3				
		1	2	3	4	5
	0.5 V					
	-8.10 V					
	1.5 V					
	2.10 V					
	-10.10 V					
	-5.35 V					
	0.0 V					
	-5.0 V					
	0.66 V					
	-10.0 V					
	-5.116 V					
	0.8 V					
	0.4 V					
	-10.2 V					
	-5.1 V					
	1.25, 6.25 V					
	1.5, -2.5 V					
	-3.75					
	1.66, 8.33 V					
	-6.66, -6.66 V					
	-3.33, -3.33 V					
	-8					
	-4.0 V					
	0.1 mA					
	0.20 mA					
	4.20 mA					
	10.10 mA					
	0.05 mA					
	0.15 mA					
	0.666 mA					
	1.6 mA					
	0.80 mA					
	0.1 mA					
	0.400 mA					
	2.5, 12.5 mA					
	125, 125 mA					
	3.33, 11.1 mA					
	166, 833 mA					
	0.2, 1 mA					
	0.2, 1 mA					
	100, 500 mA					

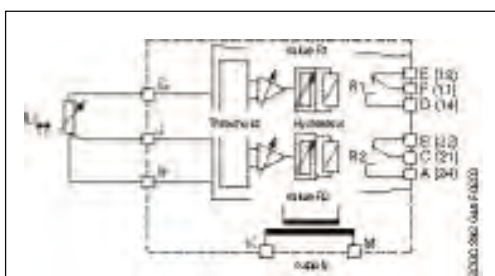
Type	Rated supply voltage	Order Code	Price
CC-U/STD	24-48 V DC	1SVR040002R0500	
	110-240 V AC	1SVR040003R0600	

CC-U/RTDR universal signal converter for temperature and resistance signals,
with 2 threshold relay outputs and 3-way electrical isolation

- Temperature signal converter for PT100 signals (5 ranges up to 800 °C) and variable resistances from 0-380 Ω
- 2 threshold relay outputs with one c/o contact each (threshold and respective hysteresis can be adjusted independently from each other)
- Open-circuit or closed-circuit principle configurable by means of a DIP switch
- 2 yellow LEDs for clear status indication of the output relays
- Plug-in connecting terminals for inputs, outputs and supply
- 2- or 3-wire connection

Type	Rated supply voltage	Order Code	Price
CC-U/RTDR	24-48 V DC	1SVR040012R2500	
	110-240 V AC	1SVR040013R2700	

Wiring instruction



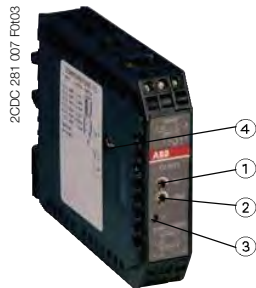
DIP switch settings

Input (°F/°C)	Switch					
	1	2	3	4	5	6
0.000 °C						
0.000 °C						
0.000 °C						
0.000 °C						
0.000 °C						
Output						
Close circuit						
Open circuit						

Legend	
	200
	1000
	no audience

Temperature signal converter for thermocouples

CC-E/TC



CC-E/TC

- ① Gain adjustment
- ② Offset adjustment
- ③ U: green LED - supply voltage
- ④ DIP switch for input and output configuration (only available on universal devices)

¹⁾ 1604 Class I, Div.2 (universal device)

CC-E/TC analog signal converter for thermocouple signals of the types J and K with 3-way electrical isolation

- 2 universally configurable devices (type CC-E/TC)
- 2x6 single-function devices
- "Plug and Work", no adjustment of single-function devices required

Type	Input signal	Output signal	Order Code	Price
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Supply voltage: 24 V DC universal

CC-E/TC	thermocouple types J and K	0-10 V, 0-20 mA, 4-20 mA	1SVR011702R2600 ¹⁾	
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single-function

CC-E TC/V	type J 0...600 °C	0-10 V	1SVR011750R0100	
CC-E TC/I		0-20 mA	1SVR011751R2600	
CC-E TC/I		4-20 mA	1SVR011752R2700	

CC-E TC/V	type K 0...1000 °C	0-10 V	1SVR011753R2000	
CC-E TC/I		0-20 mA	1SVR011754R2100	
CC-E TC/I		4-20 mA	1SVR011755R2200	

Supply voltage: 110-240 V AC universal

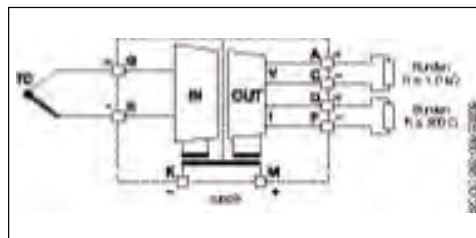
CC-E/TC	thermocouple types J and K	0-10 V, 0-20 mA, 4-20 mA	1SVR011707R2300	
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single-function

CC-E TC/V	type J 0...600 °C	0-10 V	1SVR011760R0300	
CC-E TC/I		0-20 mA	1SVR011761R2000	
CC-E TC/I		4-20 mA	1SVR011762R2100	

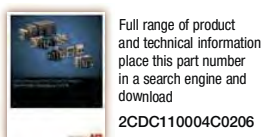
CC-E TC/V	type K 0...1000 °C	0-10 V	1SVR011763R2200	
CC-E TC/I		0-20 mA	1SVR011764R2300	
CC-E TC/I		4-20 mA	1SVR011765R2400	

Wiring instruction



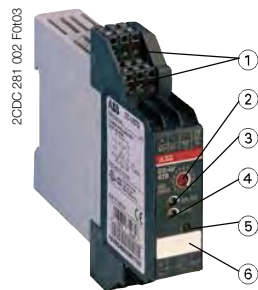
DIP switch settings (universal devices)

Input	Output	Switch	1	2	3	4	5	6
TC-J	0...10 V							
0...600 °C	0...20 mA							
	4...20 mA							
TC-K	0...10 V							
0...1000 °C	0...20 mA							
	4...20 mA							
1401154 c100								
1401154 c100								



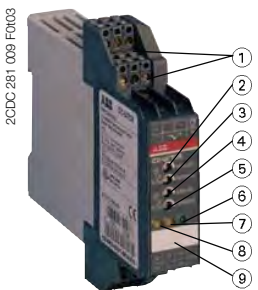
Temperature signal converter for thermocouples

CC-U/TC and CC-U/TCR



CC-U/TC

- 1 Plug-in terminals
- 2 Gain: Coarse adjustment
- 3 Gain: Fine adjustment
- 4 Offset adjustment
- 5 U: green LED - supply voltage
- 6 Marker label



CC-U/TCR

- 1 Plug-in connecting terminals
- 2 Threshold value for R1
- 3 Hysteresis for R1
- 4 Threshold value for R2
- 5 Hysteresis for R2
- 6 U: green LED - supply voltage
- 7 R2: yellow LED - Relay 2 energized
- 8 R1: yellow LED - Relay 1 energized
- 9 Marker label



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

CC-U/TC universal signal converter for thermocouples with 3-way electrical isolation

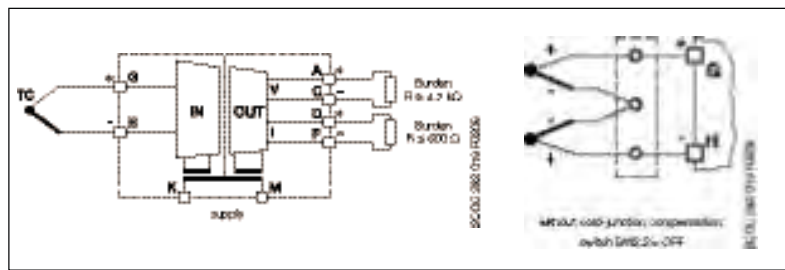
- Temperature signal converter for thermocouples of the types K, J, T, S, E, N, R, B
- Continuously adjustable voltage signal input 0-10 mV and 0-50 mV
- Differential temperature meas. possible ¹⁾
- Configurable output signal response on input signal interruption (low fail safe / high fail safe)
- Adjustment and operating elements on the front-side
- Short-circuit proof signal outputs
- Plug-in connecting terminals for inputs, outputs and supply

DIP switch settings

Type	Input Range	Switch 1						Switch 2					
		1	2	3	4	5	6	1	2	3	4	5	6
K	0-100...900 °C												
J	0-250...1350 °C												
T	0-100...400 °C												
S	-150...1500 °C												
E	0-100...700 °C												
N	0-200...1000 °C												
R	0-250...1350 °C												
B	0-450...1700 °C												
mV	0-2...10 mV												
	0-10...50 mV												
	Low fail safe ¹⁾												
	High fail safe ¹⁾												

Output	Switch 3	1	2	3	4	5	6
		1	2	3	4	5	6
0...5 V							
0...10 V							
1...5 V							
2...10 V							
-10...+10 V							
-5...+5 V							
-10...0 V							
-5...0 V							
0...6.66 V							
-10...+3.33 V							
-5...+1.66 V							
0...8 V							
0...4 V							
-10...-2 V							
-5...-1 V							
1.25...6.25 V							
-7.5...+2.5 V							
-3.75...+1.25 V							
1.66...8.33 V							
-6.66...+6.66 V							
-3.33...+3.33 V							
-8...0 V							
-4...0 V							
0...1 mA							
0...20 mA							
4...20 mA							
0...10 mA							
0...0.5 mA							
0...13.33 mA							
0...666 µA							
0...16 mA							
0...800 µA							
0...8 mA							
0...400 µA							
2.5...12.5 mA							
125...625 µA							
3.33...16.66 mA							
166...833 µA							
0.2...1 mA							
2...10 mA							
100...500 µA							

Wiring instruction

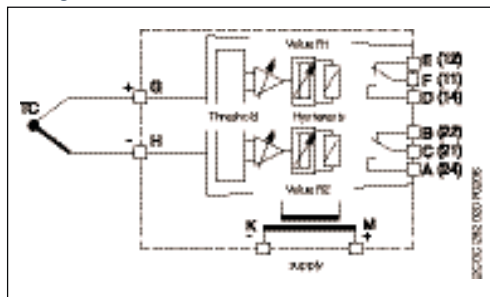


Type	Rated supply voltage	Order Code	Price
CC-U/TC	24-48 V DC	1SVR040004R0700	
	110-240 V AC	1SVR040005R0000	

CC-U/TCR universal signal converter for thermocouples, with 2 threshold relay outputs and 3-way electrical isolation

- Temperature signal converter for thermocouples of the types K, J, T, S
- 2 threshold relay outputs with one change-over contact each (threshold and respective hysteresis can be adjusted independently from each other)
- Open-circuit or closed-circuit principle configurable by means of a DIP switch
- 2 yellow LEDs for clear status indication of the output relays
- Plug-in connecting terminals for inputs, outputs and supply

Wiring instruction



DIP switch settings

Type	Input Range	Switch					
		1	2	3	4	5	6
J	0...240 °C						
	0...480 °C						
	0...1200 °C						
K	0...250 °C						
	0...500 °C						
	0...1350 °C						
T	-150...+120 °C						
	0...220 °C						
	0...400 °C						
S	0...210 °C						
	0...380 °C						
	0...860 °C						
	0...1550 °C						
Output							
Closed-circuit principle							
Open-circuit principle							

Legend

ON

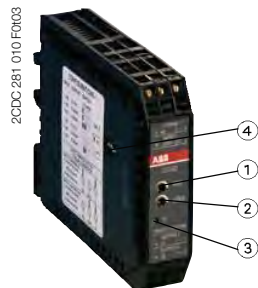
OFF

no influence

Type	Rated supply voltage	Order Code	Price
CC-U/TCR	24-48 V DC	1SVR040014R2000	
	110-240 V AC	1SVR040015R2100	

Measuring converters

CC-E I and CC-U/I



CC-E/I

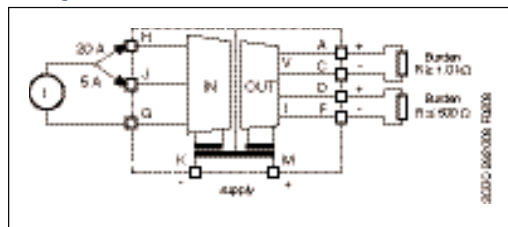
- ① Gain adjustment
- ② Offset adjustment
- ③ U: green LED - supply voltage
- ④ DIP switch for input and output configuration (only available on universal devices)

1) 1604 Class I, Div.2 (universal device)

CC-E/I measuring converter for current signals 0-5 A, 0-20 A, AC/DC with 3-way electrical isolation

- 2 universally configurable devices (type CC-E/I)
- 2x6 single-function devices
- "Plug and Work", no adjustment of single-function devices required

Wiring instruction



Select input range by terminals	
Input range 5 A	
Connected lines	5 A 20 A C
Used terminals	
Terminal marking	
Input range 20 A	
Connected lines	5 A 20 A C
Used terminals	
Terminal marking	

DIP switch settings

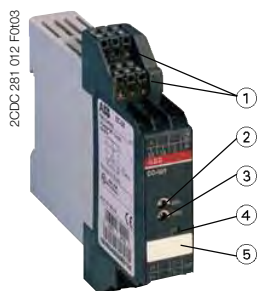
Input	Output	Switch					
		1	2	3	4	5	6
1 - DC	0...10 V						
1 - AC							
1 - DC	0...20 mA						
1 - AC							
1 - DC	4...20 mA						
1 - AC							

Legend	
	ON
	OFF

2CDC 281 010 F003

Legend
ON
OFF

Type	Input signal	Output signal	Order Code	Price
Supply voltage: 24 V DC universal				
CC-E/I	0-5 A, 0-20 A, AC/DC	0-10 V, 0-20 mA, 4-20 mA	1SVR011703R2700 ¹⁾	
Supply voltage: 110-240 V AC universal				
CC-E/I	0-5 A, 0-20 A, AC/DC	0-10 V, 0-20 mA, 4-20 mA	1SVR011708R0400	



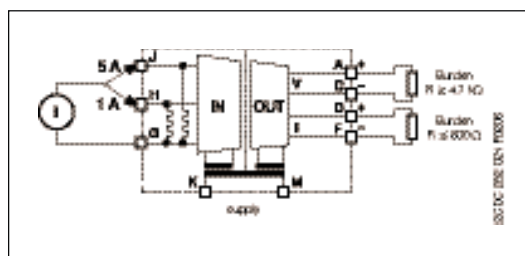
CC-U/I

- ① Plug-in connecting terminals
- ② Gain adjustment
- ③ Offset adjustment
- ④ U: green LED - supply voltage
- ⑤ Marker label

CC-U/I universal measuring converter for RMS values of 0-1 A and 0-5 A, with 3-way electrical isolation

- RMS converter for current signals up to 1 A and up to 5 A of any wave form (DC, DC with superimposed AC components, pure sinusoidal, triangular, phase-angle controlled, etc. in a measuring range of 0-600 Hz)
- Adjustment and operating elements on the front
- Short-circuit proof signal outputs
- Plug-in connecting terminals for inputs, outputs and supply

Wiring instruction



DIP switch settings

Output	Switch					
	1	2	3	4	5	6
0...5 V						
0...10 V						
1...5 V						
2...10 V						
-10...+10 V						
-5...+5 V						
-10...0 V						
-5...0 V						
0...6.66 V						
-10...+3.33 V						
-5...+1.66 V						
0...8 V						
0...4 V						
-10...-2 V						
-5...-1 V						
1.25...6.25 V						
-7.5...+2.5 V						
-3.75...+1.25 V						
1.66...8.33 V						
-6.66...+6.66 V						
-3.33...+3.33 V						
-8...0 V						
-4...0 V						
0...1 mA						
0...20 mA						
4...20 mA						
0...10 mA						
0...0.5 mA						
0...13.33 mA						
0...666 μA						
0...16 mA						
0...800 μA						
0...8 mA						
0...400 μA						
2.5...12.5 mA						
125...625 μA						
3.33...16.66 mA						
166...833 μA						
0.2...1 mA						
2...10 mA						
100...500 μA						

Legend

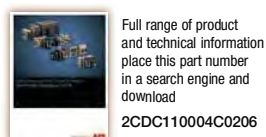
ON

OFF

no influence

Legend
ON
OFF
no influence

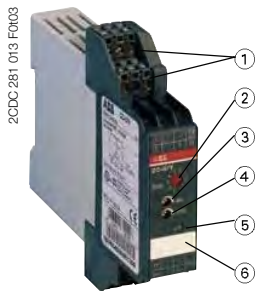
Type	Rated supply voltage	Order Code	Price
CC-U/I	24-48 V DC	1SVR040006R0100	
	110-240 V AC	1SVR040007R0200	



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Measuring converter for voltage RMS values

CC-U/V and accessories



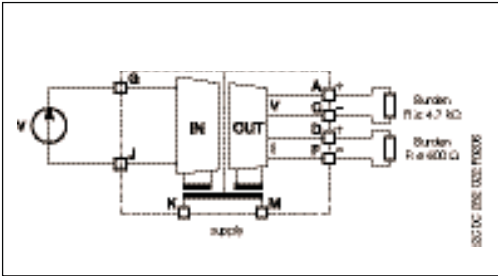
CC-U/V universal measuring converter for RMS values of 0-600 V, with 3-way electrical isolation

- RMS converter for voltage signals up to 600 V of any wave form (DC, DC with superimposed AC components, pure sinusoidal, triangular, phase-angle controlled, etc. in a measuring range of 0-600 Hz)
- Adjustment and operating elements on the front
- Short-circuit proof signal outputs
- Plug-in connecting terminals for inputs, outputs and supply

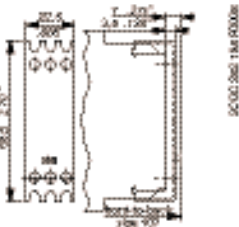
CC-U/V

- ① Plug-in connecting terminals
- ② Input voltage range selection
- ③ Gain adjustment
- ④ Offset adjustment
- ⑤ U: green LED - supply voltage
- ⑥ Marker label

Wiring instruction



Type	Rated supply voltage	Order Code	Price
CC-U/V	24-48 V DC	1SNA040008R1300	
	110-240 V AC	1SNA040009R1400	



Sealable cover
COV.01

Accessories for CC-U

Sealable transparent cover

Type	for type	Width mm	Order Code	Price
CC-U/I	CC-U	22.5	1SVR405600R4000	



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ILPH

1



Type	Order Code	Price
ILPH RS 232-RS 485 / Ethernet	1SNA684252R0200	
	1SNA684231R2500	
	1SNA684233R2700	
	1SNA684333R2300	
	1SNA684334R2400	
ILPH RS 232 / RS 232	1SNA684234R2000	
	1SNA684244R0200	
	1SNA684212R2200	
ILPH RS 232 / FO-S	1SNA684236R2200	
	1SNA684237R2300	
ILPH RS 232 / FO-P	1SNA684238R0400	
	1SNA684239R0500	
LPH RS 485 / FO-S	1SNA684246R0400	
	1SNA684247R0500	
ILPH RS 485 / FO-P	1SNA684248R1600	
	1SNA684249R1700	
ILPH BdC / RS 422 - 485	1SNA684232R2600	
	1SNA684202R0100	
LPH RS 232 / BdC		

[illegible]

RS 232	
RS 422	
RS 485	
Current loop	

[illegible][illegible]

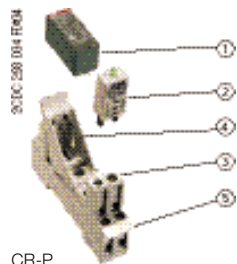
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2CDC110004C0206

2CDC110004C0206

Pluggable interface relays CR-P

Pcb relays



CR-P

- 1 interface relay
- 2 Pluggable function module
- 3 Socket
- 4 Holder
- 5 Marker



CR-P



CR-PLS



CR-PSS



CR-PLC



CR-PH



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Type	Rated control supply voltage	Order Code	Price
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Interface relays

1 c/o contact: 250 V, 16 A

CR-P012DC1	12 V DC	1SVR405600R4000	
CR-P024DC1	24 V DC	1SVR405600R0000	
CR-P024AC1	24 V AC	1SVR405600R1000	
CR-P110AC1	110 V AC	1SVR405600R7000	
CR-P230AC1	230 V AC	1SVR405600R3000	

2 c/o contacts: 250 V, 8 A

CR-P012DC2	12 V DC	1SVR405601R4000	
CR-P024DC2	24 V DC	1SVR405601R1000	
CR-P024AC2	24 V AC	1SVR405601R0000	
CR-P110AC2	110 V AC	1SVR405601R7000	
CR-P230AC2	230 V AC	1SVR405601R3000	

Interface relays with gold contacts

2 c/o gold contacts: 250 V, 8 A

CR-P024DC2G	24 V DC	1SVR405606R1000	
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Accessories - Sockets

Type	Version	Connection terminals	Order Code	Price
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Sockets

CR-PLS	Logical socket with protective separation	screw	1SVR405650R0000	
CR-PSS	Standard socket	screw	1SVR405650R1000	

Socket accessories

CR-PH	Plastic Holder		1SVR405659R0000	
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Markers

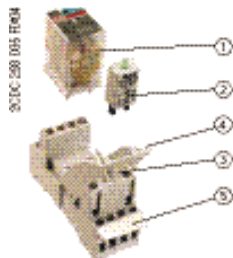
CR-P	Marker		1SVR405658R0000	
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1

Pluggable interface relays CR-M

Miniature relays

1



CR-M

- 1 Interface relay
- 2 Pluggable function module
- 3 Socket
- 4 Holder
- 5 Marker



CR-M

Type	Rated control supply voltage	Order Code	Price
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Interface relays without LED 2 c/o contacts: 250 V, 12 A

CR-M012DC2	12 V DC	1SVR405611R4000	
CR-M024DC2	24 V DC	1SVR405611R1000	
CR-M024AC2	24 V AC	1SVR405611R0000	
CR-M110AC2	110 V AC	1SVR405611R7000	
CR-M230AC2	230 V AC	1SVR405611R3000	

3 c/o contacts: 250 V, 10 A

CR-M012DC3	12 V DC	1SVR405612R4000	
CR-M024DC3	24 V DC	1SVR405612R1000	
CR-M024AC3	24 V AC	1SVR405612R0000	
CR-M110AC3	110 V AC	1SVR405612R7000	
CR-M230AC3	230 V AC	1SVR405612R3000	

4 c/o contacts: 250 V, 6 A

CR-M012DC4	12 V DC	1SVR405613R4000	
CR-M024DC4	24 V DC	1SVR405613R1000	
CR-M024AC4	24 V AC	1SVR405613R0000	
CR-M110AC4	110 V AC	1SVR405613R7000	
CR-M230AC4	230 V AC	1SVR405613R3000	

Type	Rated control supply voltage	Order Code	Price
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Interface relays with LED 2 c/o contacts: 250 V, 12 A

CR-M012DC2L	12 V DC	1SVR405611R4100	
CR-M024DC2L	24 V DC	1SVR405611R1100	
CR-M024AC2L	24 V AC	1SVR405611R0100	
CR-M110AC2L	110 V AC	1SVR405611R7100	
CR-M230AC2L	230 V AC	1SVR405611R3100	

3 c/o contacts: 250 V, 10 A

CR-M012DC3L	12 V DC	1SVR405612R4100	
CR-M024DC3L	24 V DC	1SVR405612R1100	
CR-M024AC3L	24 V AC	1SVR405612R0100	
CR-M110AC3L	110 V AC	1SVR405612R7100	
CR-M230AC3L	230 V AC	1SVR405612R3100	

4 c/o contacts: 250 V, 6 A

CR-M012DC4L	12 V DC	1SVR405613R4100	
CR-M024DC4L	24 V DC	1SVR405613R1100	
CR-M110DC4L	110 V DC	1SVR405613R8100	
CR-M024AC4L	24 V AC	1SVR405613R0100	
CR-M110AC4L	110 V AC	1SVR405613R7100	
CR-M230AC4L	230 V AC	1SVR405613R3100	

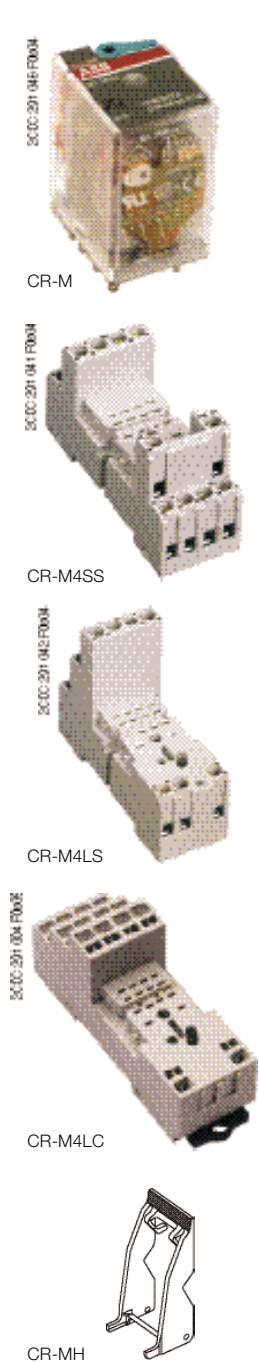


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Pluggable interface relays CR-M

Miniature relays



Type	Rated control supply voltage	Order Code	Price
Interface relays with gold contacts 4 c/o contacts: 250 V, 6 A			
CR-M024DC4G	24 V DC	1SVR405618R1000	
Interface relays with gold contacts and LED 4 c/o contacts: 250 V, 6 A			
CR-M024DC4LG	24 V DC	1SVR405618R1100	
CR-M024AC4LG	24 V AC	1SVR405618R0100	
CR-M110AC4LG	110 V AC	1SVR405618R7100	
CR-M230AC4LG	230 V AC	1SVR405618R3100	

Accessories - Sockets

Type	Version	Connection terminals	Order Code	Price
Sockets				
CR-M2LS	Logical socket ¹⁾ for 2 c/o	screw	1SVR405651R1100	
CR-M3LS	Logical socket ¹⁾ for 3 c/o		1SVR405651R2100	
CR-M4LS	Logical socket ¹⁾ for 2/4 c/o		1SVR405651R3100	
CR-M2LC	Logical socket ¹⁾ for 2 c/o	spring connection	1SVR405651R1200	
CR-M4LC	Logical socket ¹⁾ for 2/4 c/o		1SVR405651R3200	
CR-M2SS	Standard socket for 2 c/o	screw	1SVR405651R1000	
CR-M3SS	Standard socket for 3 c/o		1SVR405651R2000	
CR-M4SS	Standard socket for 2/4 c/o		1SVR405651R3000	

Socket accessories

CR-MH	Plastic holder	1SVR405659R1000	
CR-MH1	Metal holder	1SVR405659R1100	

Markers

CR-M	Marker	1SVR405658R1000	
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Pluggable interface relays CR-P, CR-M - Accessories

Pluggable function modules

1



CR-P/M ...

Type	Rated control supply voltage	Version	Order Code	Price
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Diode - Reverse polarity protection/free wheeling diode

CR-P/M 22	6-230 V DC	A1+, A2-	1SVR405651R0000	
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Diode and LED - Reverse polarity protection/free wheeling diode

CR-P/M 42	6-24 V DC	red, A1+, A2-	1SVR405652R0000	
CR-P/M 42V	6-24 V DC	green, A1+, A2-	1SVR405652R1000	
CR-P/M 42B	24-60 V DC	red, A1+, A2-	1SVR405652R4000	
CR-P/M 42BV	24-60 V DC	green, A1+, A2-	1SVR405652R4100	
CR-P/M 42C	110-230 V DC	red, A1+, A2-	1SVR405652R9000	
CR-P/M 42CV	110-230 V DC	green, A1+, A2-	1SVR405652R9100	

RC element - Spark quenching

CR-P/M 52B	6-24 V AC		1SVR405653R0000	
CR-P/M 52D	24-60 V AC		1SVR405653R4000	
CR-P/M 52C	110-230 V AC		1SVR405653R1000	

Diode and LED

CR-P/M 62	6-24 V AC/DC	red, for DC A1+, A2-	1SVR405654R0000	
CR-P/M 62V	6-24 V AC/DC	green, for DC A1+, A2-	1SVR405654R1000	
CR-P/M 62E	24-60 V AC/DC	red, for DC A1+, A2-	1SVR405654R4000	
CR-P/M 62EV	24-60 V AC/DC	green, for DC A1+, A2-	1SVR405654R4100	
CR-P/M 92	110-230 V AC/DC	red, for DC A1+, A2-	1SVR405654R0100	
CR-P/M 92V	110-230 V AC/DC	green, for DC A1+, A2-	1SVR405654R1100	

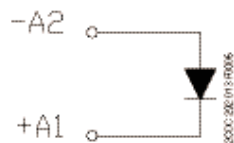
Varistor and LED - Overvoltage protection

CR-P/M 62C	6-24 V AC/DC	red, for DC A1+, A2-	1SVR405655R0000	
CR-P/M 62CV	6-24 V AC/DC	green, for DC A1+, A2-	1SVR405655R1000	
CR-P/M 62D	24-60 V AC/DC	red, for DC A1+, A2-	1SVR405655R4000	
CR-P/M 62DV	24-60 V AC/DC	green, for DC A1+, A2-	1SVR405655R4100	
CR-P/M 92C	110-230 V AC/DC	red, for DC A1+, A2-	1SVR405655R0100	
CR-P/M 92CV	110-230 V AC/DC	green, for DC A1+, A2-	1SVR405655R1100	

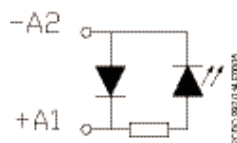
Varistor - Overvoltage protection

CR-P/M 72	24 V AC		1SVR405656R0000	
CR-P/M 72A	115 V AC		1SVR405656R1000	
CR-P/M 82	230 V AC		1SVR405656R2000	

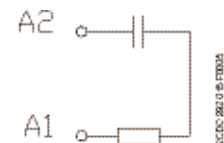
Connection diagrams



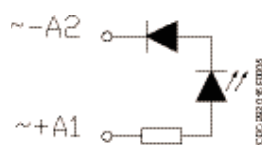
CR-P/M 22



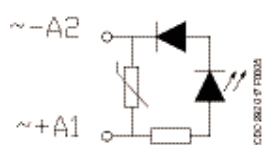
CR-P/M 42, CR-P/M 42V, CR-P/M 42B, CR-P/M 42BV, CR-P/M 42C, CR-P/M 42CV



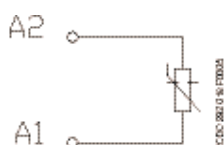
CR-P/M 52B, CR-P/M 52D, CR-P/M 52C



CR-P/M 62, CR-P/M 92, CR-P/M 62EV



CR-P/M 62E, CR-P/M 62V, CR-P/M 92C, CR-P/M 62DV



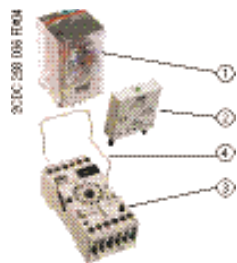
CR-P/M 72, CR-P/M 72A, CR-P/M 82



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Pluggable interface relays CR-U

Universal relays



CR-U

- 1 Interface relay
- 2 Pluggable function module
- 3 Socket
- 4 Holder



CR-U



CR-U3S



CR-U3E



CR-UH



Full range of product and technical information place this part number in a search engine and download
2CDC110004C0206

Type	Rated control supply voltage	Order Code	Price
Interface relays without LED: 2 c/o contacts: 250 V, 10 A			
CR-U012DC2	12 V DC	1SVR405621R4000	
CR-U024DC2	24 V DC	1SVR405621R1000	

CR-U024AC2	24 V AC	1SVR405621R0000	
CR-U110AC2	110 V AC	1SVR405621R7000	
CR-U230AC2	230 V AC	1SVR405621R3000	

Interface relays without LED: 3 c/o contacts: 250 V, 10 A			
CR-U012DC3	12 V DC	1SVR405622R4000	
CR-U024DC3	24 V DC	1SVR405622R1000	
CR-U024AC3	24 V AC	1SVR405622R0000	
CR-U110AC3	110 V AC	1SVR405622R7000	
CR-U230AC3	230 V AC	1SVR405622R3000	

Interface relays with LED: 2 c/o contacts: 250 V, 10 A			
CR-U012DC2L	12 V DC	1SVR405621R4100	
CR-U024DC2L	24 V DC	1SVR405621R1100	
CR-U024AC2L	24 V AC	1SVR405621R0100	
CR-U110AC2L	110 V AC	1SVR405621R7100	
CR-U230AC2L	230 V AC	1SVR405621R3100	

Interface relays with LED: 3 c/o contacts: 250 V, 10 A			
CR-U012DC3L	12 V DC	1SVR405622R4100	
CR-U024DC3L	24 V DC	1SVR405622R1100	
CR-U024AC3L	24 V AC	1SVR405622R0100	
CR-U110AC3L	110 V AC	1SVR405622R7100	
CR-U230AC3L	230 V AC	1SVR405622R3100	

Accessories - Sockets + Function Modules

Type	Version	Order Code	Price
Sockets			
CR-U2S	Socket for 2 c/o and module	1SVR405670R0000	
CR-U3S	Socket for 3 c/o and module	1SVR405660R0000	
CR-U3E	Socket for 3 c/o	1SVR405660R0100	

Accessories Sockets

CR-UH	Holder for CR-U socket	1SVR405669R0000	
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Diode - Reverse polarity protection/free wheeling diode

CR-U21	6-230v DC A1+, A2-	1SVR405661R0000	
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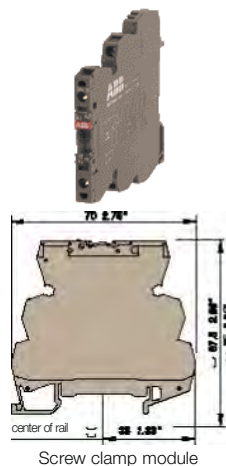
Diode & LED - Reverse polarity protection/free wheeling diode

CR-U41	6-24v DC Red, A1+, A2-	1SVR405662R0000	
CR-U41V	6-24v DC Green, A1+, A2-	1SVR405662R1000	

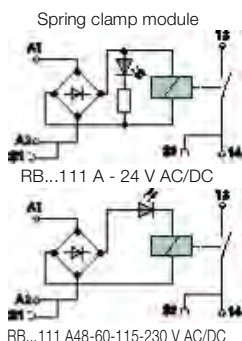
Varistor - Overvoltage protection

CR-U71	6-24v AC	1SVR405666R0000	
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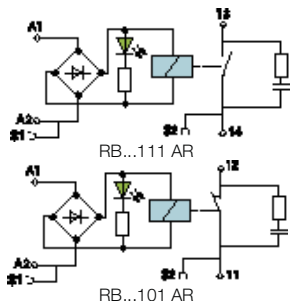
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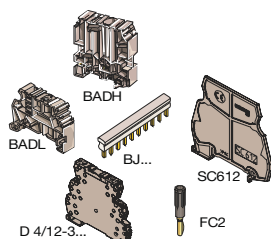
Screw clamp module



BB...111 A48-60-115-230 V AC/DC



RB...101 AR



D 4/12-3...

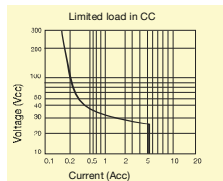
 Relay : 1NO or 1NC high level contact 10 mA to 6 A - 6 mm .236» or 12 mm .472» spacing

Characteristics

Relay characteristics		RB 111 A					RB 111 AI	RB 111 AR	RB 101 AR	
COIL						±10% on AC +10% -15% on DC				
Rated voltage +20%, -15% on DC ; +10%, -10% on AC		24 VAC/DC	48 VAC/DC	60 VAC/DC	115 VAC/DC	230 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
Power		0,24 W	0,34 W	0,54 W	0,46 W	0,8 W	0,24 W	0,24 W	0,24 W	
Rated current		10 mA	7 mA	9 mA	4 mA	3,5 mA	10 mA	10 mA	10 mA	
Drop-out voltage at 20°C		4,5 V	8 V	8 V	17 V	27 V	4,5 V	4,5 V	4,5 V	
Status device		green LED					green LED	green LED		
CONTACT										
Type		1 NO						1 NO + RC	1 NC + RC	
Voltage switching range min./max.		12 V / 250 V AC								
Current switching range min./max.		10 mA / 6 A								
Load switching range		0,6 VA / 1500 VA (ohmic load)								
AC1 min. / max.		0,6 W / 140 W								
DC1 min. / max.		10 ⁵ on AC15								
Number of on-load operations		10 ⁷								
Number of off-load operations										
Operating speed	F	5 ms	5 ms	5 ms	6 ms	7 ms	5 ms	5 ms	5 ms	
	O	8 ms	8 ms	8 ms	15 ms	15 ms	8 ms	8 ms	8 ms	
Bounce		1,2 ms						1,2 ms	1,2 ms	
Insulation coil / contact		4000 V RMS						3800 V RMS	4000 V RMS	
Resistance to shock coil / contact		4000 V RMS								
Insulation contact / contact		1000 V RMS								
Ambient temperature	storage	-40°C to +80°C								
	operating	-20°C to +70°C (1)								
Other characteristics		Screw clamp					Spring clamp			
Body material	grey	UL 94 V0					UL 94 V0			
Wire	Solid wire	0,2 - 4 mm ² / 24 - 12 AWG					0,2 - 2,5 mm ² / 24 - 12 AWG			
size	Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG					0,22 - 2,5 mm ² / 24 - 12 AWG			
Rated wire size		2,5 mm ² / 12 AWG					2,5 mm ² / 12 AWG			
Wire stripping length		9 mm .354"					9 mm .354"			
Recommended screwdriver		3,5 mm .137"					3,5 mm .137"			
Protection		IP20 NEMA1					IP20 NEMA1			
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in					0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals		cULus, (SR (pending), GL, LRS, CE								
Reference standards		CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.								

(f) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Description	Type	Order Code	Price
 Relay module 1 NO high level with safety switch 6 mm spacing	RB 111 A1-24VAC/DC	1SNA645063R2000	
 Relay module 1 NO high level 6 mm spacing	RB 111 A-24VAC/DC	1SNA645014R2700	
	RB 111 A-48-60VAC/D	1SNA645014R2700	
	RB 111 A-115VAC/DC	1SNA645016R2100	
	RB 111 A-230VAC/DC	1SNA645017R2200	
 Relay mod. 1 NO high level w/contact protection 12 mm spacing	RB 111 AR-24VAC/DC	1SNA645018R0300	
 Relay mod. 1 NC high level w/contact protection 12 mm spacing	RB 101 AR-24VAC/DC	1SNA645019R0400	

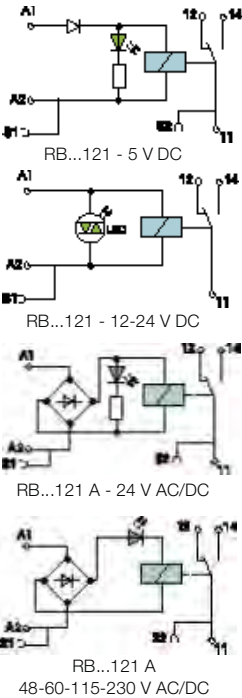
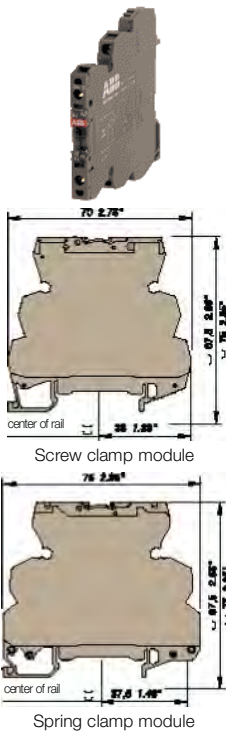
Accessories	Type	Order Code	Price
End stop	BADH V0	1SNA116900R2700	
	BADL V0	1SNA399903R0200	
	BAM2 V0	1SNA399067R0100	
Separator end section	SC612	1SNA290474R0200	
Divisible shunt 10 poles	BJ612-10	1SNA290488R0100	
Divisible shunt 70 poles	BJ612-70	1SNA290489R0200	
Screw clamp distribution block sp. 12mm	D4/12-3-3	1SNA345031R2000	
	D4/12-3R-3R	1SNA345531R2200	
Test plug DIA. 2mm	FC2	1SNA007865R2600	
Marking method	RC65 RC610	see marking	

Relays and optocouplers

Relay Interfaces - R600 relay modules



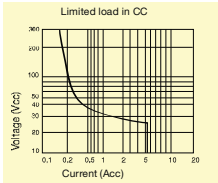
DIN 3



Relay : 1 SPDT high level contact 10 mA to 6 A - 6 mm .236» spacing

Characteristics

Relay characteristics		RB 121			RB 121A				
COIL									
Rated voltage +20%, -15% on DC ; +10%, -10% on AC		5 V DC	12 V DC	24 V DC	24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	±10% on AC +10% -15% on DC
Frequency					50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	230 V AC/DC
Power		0,2 W	0,2 W	0,28 W	0,24 W	0,33 W	0,54 W	0,46 W	0,8 W
Rated current		40 mA	16 mA	12 mA	10 mA	7 mA	9 mA	4 mA	3,5 mA
Drop-out voltage at 20°C		1,2 V	2,2 V	1,2 V	4,5 V	8 V	8 V	17 V	27 V
Status device		green LED							
CONTACT									
Type		1 SPDT							
Voltage switching range min./max.		12 V / 250 V AC							
Current switching range min./max.		10 mA / 6 A							
Load switching range									
AC1 min. / max.		0,6 VA / 1500 VA (ohmic load)							
DC1 min. / max.		0,6 W / 140 W							
Number of on-load operations		10 ⁵ on AC15							
Number of off-load operations		10 ⁷							
Operating speed		F 5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	6 ms	7 ms
		O 8 ms	8 ms	8 ms	8 ms	8 ms	8 ms	15 ms	16 ms
Bounce		1,2 ms							
Insulation coil / contact		4000 V RMS							
Resistance to shock coil / contact		4000 V RMS							
Insulation contact / contact		1000 V RMS							
Ambient temperature		-40°C to +80°C							
storage									
operating		-20°C to +70°C (1)							
Other characteristics		Screw clamp				Spring clamp			
Body material		grey				UL 94 V0			
Wire		Solid wire				UL 94 V0			
size		0,2 - 4 mm ² / 24 - 12 AWG				0,2 - 2,5 mm ² / 24 - 12 AWG			
Stranded wire		0,22 - 2,5 mm ² / 24 - 12 AWG				0,22 - 2,5 mm ² / 24 - 12 AWG			
Rated wire size		2,5 mm ² / 12 AWG				2,5 mm ² / 12 AWG			
Wire stripping length		9 mm .354"				9 mm .354"			
Recommended screwdriver		3,5 mm .137"				3,5 mm .137"			
Protection		IP20 NEMA1				IP20 NEMA1			
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in				0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals		UL (pending for 12 V DC), LRS, CE							
Reference standards		CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.							



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Description	Type	Order Code	Price
	RB 121-5VDC	1SNA645034R2300	
	RB 121-12VDC	1SNA645069R0000	
	RB 121-24VDC	1SNA645064R0100	
	RB 121 A-24VAC/DC	1SNA645001R0300	
	RB 121 A-48-60VAC/DC	1SNA645002R0400	
	RB 121 A-115VAC/DC	1SNA645003R0500	
	RB 121 A-230VAC/DC	1SNA645004R0400	

Accessories see page 1/80



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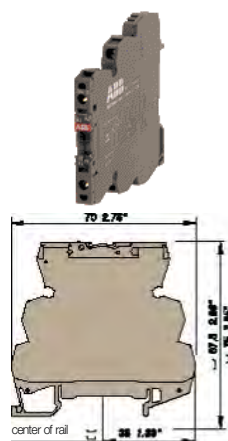
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Relays and optocouplers

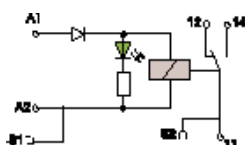
Relay Interfaces - R600 relay modules



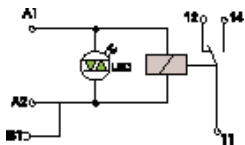
DIN 3



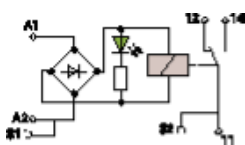
Screw clamp module



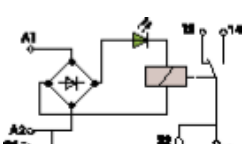
RB...121 - 5-12 V DC



RB...121 - 24 V DC



RB...121 A - 24 V AC/DC



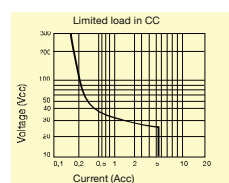
RB...121 A - 48-60-115-230 V AC/DC

Relay : 1 SPDT low level contact 1 mA upto 6 A - 6 mm .236" spacing

Characteristics

Relay characteristics	RB 121			RB 121 A				
COIL								
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	5 V DC	12 V DC	24 V DC	24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	±10% on AC +10% -15% on DC
Frequency				50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0,2 W	0,2 W	0,28 W	0,24 W	0,33 W	0,54 W	0,46 W	0,8 W
Rated current	40 mA	16 mA	12 mA	10 mA	7 mA	9 mA	4 mA	3,5 mA
Drop-out voltage at 20°C	1,2 V	2,2 V	1,2 V	4,5 V	8 V	8 V	17 V	27 V
Status device	green LED							
CONTACT								
Type	1 SPDT							
Voltage switching range min./max.	5 V / 250 V AC							
Current switching range min./max.	1 mA / 6 A							
Load switching range	0,05 VA / 1500 VA (ohmic load) 0,05 W / 140 W							
AC1 min. / max.	10 ⁵ on AC15							
DC1 min. / max.	10 ⁷							
Number of on-load operations								
Number of off-load operations								
Operating speed	F 5 ms O 8 ms	5 ms 8 ms	5 ms 8 ms	5 ms 8 ms	5 ms 8 ms	5 ms 8 ms	6 ms 15 ms	7 ms 16 ms
Bounce	1,2 ms							
Insulation coil / contact	4000 V RMS							
Resistance to shock coil / contact	4000 V RMS							
Insulation contact / contact	1000 V RMS							
Ambient temperature	-40°C to +80°C							
storage								
operating	-20°C to +70°C (1)							
Other characteristics								
Body material	Screw clamp			Spring clamp				
Wire	UL 94 V0			UL 94 V0				
size	0,2 - 4 mm² / 24 - 12 AWG			0,2 - 2,5 mm² / 24 - 12 AWG				
Rated wire size	0,22 - 2,5 mm² / 24 - 12 AWG			0,22 - 2,5 mm² / 24 - 12 AWG				
Wire stripping length	2,5 mm² / 12 AWG			2,5 mm² / 12 AWG				
Recommended screwdriver	9 mm .354"			9 mm .354"				
Protection	3,5 mm .137"			3,5 mm .137"				
Recommended torque	IP20 NEMA1			IP20 NEMA1				
Approvals	0,4 - 0,6 Nm 3.5 - 5.3 lb.in			0,4 - 0,6 Nm 3.5 - 5.3 lb.in				
Reference standards	c  us (pending for 24 V DC) ,  (pending) ,  , LRS , 							

CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Description	Type	Order Code	Price
	RB 121-5VDC	1SNA645036R2500	
	RB 121-12VDC	1SNA645037R2600	
	RB 121-24VDC	1SNA645065R0200	
	RB 121 A-24VAC/DC	1SNA645005R0700	
	RB 121 A-48-60VAC/DC	1SNA645006R0000	
	RB 121 A-115VAC/DC	1SNA645007R0100	
	RB 121 A-230VAC/DC	1SNA645007R0100	

Accessories see page 1/80



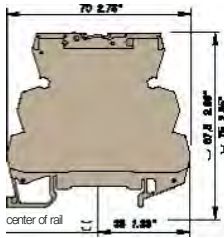
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Relays and optocouplers

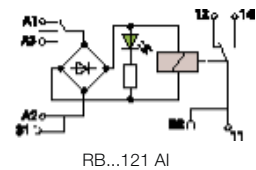
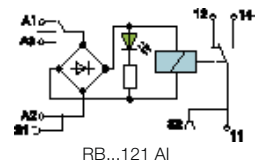
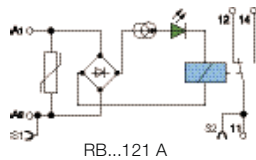
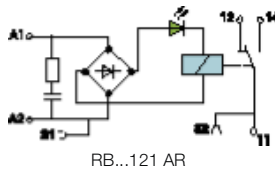
Relay Interfaces - R600 relay modules



DIN 3



Screw clamp module



- Relay : 1 SPDT high level with switch or large coil voltage range or with leakage current protection
12 mm .472" spacing
- Relay : 1 SPDT low level with switch
12 mm .472" spacing

Characteristics

Relay characteristics	RB...121 AR		RB...121 AI		RB...121 AI		RB...121 A
COIL							
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	115 V AC/DC	±10% on AC +10% -15% on DC 230 V AC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	60 to 253 VAC/DC
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	2 W	2,8 W	0,24 W	0,24 W	0,24 W	0,24 W	1 W
Rated current	18 mA	12 mA	10 mA	10 mA	10 mA	10 mA	4 mA max.
Drop-out voltage at 20°C	17 V	27 V	4,5 V	4,5 V	4,5 V	4,5 V	15 V
Permissible leakage current	1,6 mA	1 mA					
Status device	green LED			green LED		green LED	

CONTACT

Type	1 SPDT					1 SPDT		1 SPDT	
Voltage switching range min./max.	12 V / 250 V					5 V / 250 V		12 V / 250 V	
Current switching range min./max.	10 mA / 6 A					1 mA / 6 A		10 mA / 6 A	
Load switching range									
AC1 min. / max.	0,6 VA / 1500 VA (ohmic load)					0,05 VA/1500 VA (ohmic load)		0,6 VA/1500 VA (ohmic load)	
DC1 min. / max.	0,6 W / 140 W					0,05 W / 140 W		0,6 W / 140 W	
Number of on-load operations	10 ⁵ on AC15					10 ⁵ on AC15		10 ⁵ on AC15	
Number of off-load operations	10 ⁷					10 ⁷		10 ⁷	
Operating speed	F	6 ms	7 ms	5 ms	5 ms	5 ms	5 ms	7 ms	
	O	15 ms	16 ms	8 ms	8 ms	8 ms	8 ms	20 ms	
Bounce									
Insulation coil / contact						4000 V RMS			
Resistance to shock coil / contact						4000 V RMS			
Insulation contact / contact						1000 V RMS			
Ambient temperature						-40°C to +80°C			
storage									
operating						-20°C to +70°C (1)			

Other characteristics

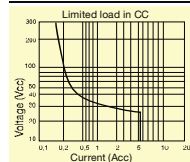
Body material	grey	Screw clamp	UL 94 V0	Spring clamp	UL 94 V0
Wire	Solid wire	0,2 - 4 mm ² / 24 - 12 AWG		0,2 - 2,5 mm ² / 24 - 12 AWG	
size	Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG		0,22 - 2,5 mm ² / 24 - 12 AWG	
Rated wire size		2,5 mm ² / 12 AWG		2,5 mm ² / 12 AWG	
Wire stripping length		9 mm .354"		9 mm .354"	
Recommended screwdriver		3,5 mm .137"		3,5 mm .137"	
Protection		IP20 NEMA1		IP20 NEMA1	
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in		0,4 - 0,6 Nm 3.5 - 5.3 lb.in	

Approvals

c us, (pending), , LRS,

Reference standards

CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.



(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Description	Type	Order Code	Price
Relay mod. 1SPDT high level w/leakage current protec.	RB 121 AR-115VAC/DC	1SNA645046R0700	
	RB 121 AR-230VAC/DC	1SNA645011R2400	
	RB 121 A 60-230VAC/DC	1SNA645020R0100	
Relay mod. 1SPDT high level with switch	RB 121 AI-24VAC/DC	1SNA645032R2100	
Relay mod. 1SPDT high level with safety switch		1SNA645009R1300	
Relay module 1SPDT low level with switch		1SNA645033R2200	
Relay module 1SPDT low level with safety switch		1SNA645010R0700	

Accessories see page 1/80



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Relays and optocouplers

Relay Interfaces - R600 relay modules



DIN 3

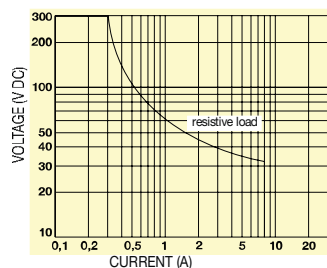
Relay : 1 DPDT low level contact 1 mA to 8 A - 12 mm .472» spacing

Characteristics

Relay characteristics		RB...122A				
COIL						
Rated voltage +20%, -15% on DC ; +10%, -10% on AC		24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	±10% on AC +10%-15% on DC 230 V AC/DC
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power		0,48 W	0,62 W	0,96 W	0,58 W	1,15 W
Rated current		20 mA	13 mA	16 mA	5 mA	5 mA
Drop-out voltage at 20°C		5,4 V	8,8 V	8,8 V	20 V	10 V
Status device		green LED				
CONTACT						
Type		1 DPDT				
Voltage switching range min./max.		5 V / 250 V DC - 250 V AC				
Current switching range min./max.		1 mA / 8 A		1 mA / 5 A		
Load switching range						
AC1 min. / max.		5 mVA / 1500 VA				
DC1 min. / max.		5 mW / 192 W				
Number of on-load operations		10 ⁵				
Number of off-load operations		2 x 10 ⁷				
Operating speed		F 6 ms	10 ms	10 ms	6 ms	6 ms
		O 10 ms	14 ms	14 ms	15 ms	15 ms
Bounce		1 ms				
Insulation coil / contact		3500 V RMS				
Resistance to shock coil / contact		3500 V RMS				
Insulation contact / contact		3500 V RMS (between 2 contacts)				
Ambient temperature storage		-40°C to +80°C				
operating		-20°C to +70°C (1)				
Other characteristics		Screw clamp			Spring clamp	
Body material		UL 94 V0			UL 94 V0	
Wire		Solid wire			Solid wire	
size		0,2 - 4 mm ² / 24 - 12 AWG			0,2 - 2,5 mm ² / 24 - 12 AWG	
Stranded wire		0,22 - 2,5 mm ² / 24 - 12 AWG			0,22 - 2,5 mm ² / 24 - 12 AWG	
Rated wire size		2,5 mm ² / 12 AWG			2,5 mm ² / 12 AWG	
Wire stripping length		9 mm .354"			9 mm .354"	
Recommended screwdriver		3,5 mm .137"			3,5 mm .137"	
Protection		IP20 NEMA1			IP20 NEMA1	
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in			0,4 - 0,6 Nm 3.5 - 5.3 lb.in	
Approvals		cULus, (pending), LRS, CE				
Reference standards		CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.				

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Max. DC load breaking capacity



Description	Type	Order Code	Price
Relay module 1 DPDT low level.	RB 122 A-24VAC/DC	1SNA645012R2500	
	RB 122 A-48-60VAC/DC	1SNA645040R1500	
	RB 122 A-115VAC/DC	1SNA645041R0200	
	RB 122 A-230VAC/DC	1SNA645013R2600	

Accessories see page 1/80



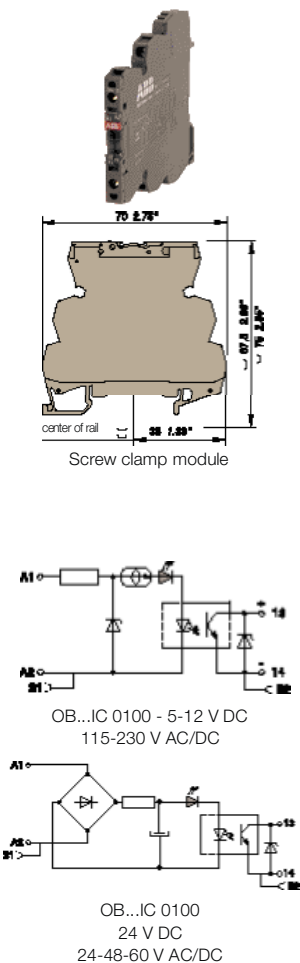
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Relays and optocouplers

Optocouplers - R600



DIN 3



Optocoupler : 5 to 58 V DC output / 100 mA - 6 mm .236" spacing

Characteristics

Opto. characteristics			OB...IC 0100							
INPUT			5 V DC - 12 V DC		24 V DC		48 V AC/DC 50 / 60 Hz 4 mA 25 V	60 V AC/DC 50 / 60 Hz 5 mA 25 V	115 V AC/DC 50 / 60 Hz 7 mA / 16mA 60 VAC/70 VDC	230 V AC/DC 50 / 60 Hz 11.5 mA/25 mA 60 VAC/70 VDC
Input voltage +20% -15% on DC, +10% -10% on AC										
Frequency										
Input current AC/DC			5 mA 9 mA		4 mA					
Pull-in voltage at Is=100%			4 V 4 V		15 V					
Switching time C / O										
Operating frequency			10 µs / 500 µs		10 µs / 500 µs		5 ms / 20 ms		5 ms / 15 ms	
Permissible leakage current			1000 Hz		1000 Hz		20 Hz		20 Hz	
OUTPUT			0,9 mA		1 mA		0,9 mA		1,6 mA	
Output voltage							4,5 to 58 VDC			
Output current min.							1 mA			
Output current max.							100 mA			
Output leakage current at Umax.							< 50 µA			
Residual voltage at I max and U rated							1 V			
typical							1,3 V			
max.										
Frequency on inductive load										
Isolation Input / Output							2500 V RMS			
TEMPERATURE										
Ambient temperature			-40°C to +80°C							
storage										
operating			-20°C to +70°C (1)							
Other characteristics			Screw clamp				Spring clamp			
Body material			grey				UL 94 V0			
Wire			Solid wire				UL 94 V0			
size			0,2 - 4 mm² / 24 - 12 AWG				0,2 - 2,5 mm² / 24 - 12 AWG			
Stranded wire			0,22 - 2,5 mm² / 24 - 12 AWG				0,22 - 2,5 mm² / 24 - 12 AWG			
Rated wire size			2,5 mm² / 12 AWG				2,5 mm² / 12 AWG			
Wire stripping length			9 mm .354"				9 mm .354"			
Recommended screwdriver			3,5 mm .137"				3,5 mm .137"			
Protection			IP20 NEMA1				IP20 NEMA1			
Recommended torque			0,4 - 0,6 Nm 3.5 - 5.3 lb.in				0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals			cULus, (pending), LRS, CE							
Reference standards			CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.							

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Description	Type	Order Code	Price
Optocoupler module 100 mA/DC 🛠️	OBIC 0100-5-12VDC	1SNA645047R0000	
	OBIC 0100-24VDC	1SNA645021R2600	
	OBIC 0100-48-60VAC/DC	1SNA645049R1200	
	OBIC 0100-115-230VAC/DC	1SNA645022R2700	

Accessories see page 1/80



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Relays and optocouplers

Optocouplers - R600



DIN 3

Optocoupler : 5 to 58 V DC output / 2 A - 6 mm .236" spacing

Characteristics

Opto. characteristics	OB...OC 1000		OB...OC 1500	OB...OC 1000				
INPUT								
Input voltage +20% -15% on DC, +10% -10% on AC	5 V DC - 12 V DC		24 V DC	24 V AC/DC 50 / 60 Hz	48 V AC/DC 50 / 60 Hz	60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz
Frequency	5 mA 9 mA		5,4 mA	6,3 mA	4 mA	5,1 mA	4,2 mA	4 mA
Input current	4 V		12 V	15 V	27 V	27 V	50 V	80 V
Pull-in voltage at Is=100%	15 µs / 250 µs		30 µs/400 µs	1 ms/7 ms	5 ms/20 ms	5 ms/20 ms	500 µs/10 ms	1 ms / 15 ms
Switching time C / O	2000 Hz		1000 Hz	60 Hz	20 Hz	20 Hz	50 Hz	35 Hz
Operating frequency	1 mA		0,8 mA	0,9 mA	1 mA	1 mA	0,3 mA	0,3 mA
Permissible leakage current								
OUTPUT								
Output voltage	4,5 to 58 VDC							
Output current min.	1 mA							
Output current max.	2 A							
Output leakage current at Umax.	< 50 µA							
Residual voltage at I max and U rated	typical 0,1 V max. 0,5 V							
Frequency on inductive load								
Isolation Input / Output	2500 V RMS							
TEMPERATURE								
Ambient temperature storage	-40°C to +80°C							
operating	-20°C to +70°C (1)							
Other characteristics								
Body material	Screw clamp				Spring clamp			
Wire	UL 94 V0				UL 94 V0			
Wire size	0,2 - 4 mm² / 24 - 12 AWG				0,2 - 2,5 mm² / 24 - 12 AWG			
Stranded wire	0,22 - 2,5 mm² / 24 - 12 AWG				0,22 - 2,5 mm² / 24 - 12 AWG			
Rated wire size	2,5 mm² / 12 AWG				2,5 mm² / 12 AWG			
Wire stripping length	9 mm .354"				9 mm .354"			
Recommended screwdriver	3,5 mm .137"				3,5 mm .137"			
Protection	IP20 NEMA1				IP20 NEMA1			
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in				0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals	c   (pending) ,  , LRS , 							
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.							

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Description	Type	Order Code	Price
Optocoupler module 2 A/DC	OBOC 1000-5-12VDC	1SNA645050R1700	
	OBOC 1000-24VDC	1SNA645051R0400	
	OBOC 1500-24VAC/DC	1SNA645025R2200	
	OBOC 1000-48-60VAC/DC	1SNA645053R0600	
	OBOC 1000-115VAC/DC	1SNA645026R2300	
	OBOC 1000-230VAC/DC	1SNA645026R2300	

Accessories see page 1/80



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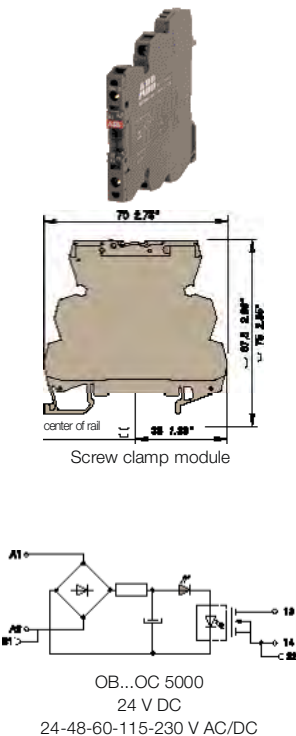
Relays and optocouplers

Optocouplers - R600



DIN 3

Optocoupler : 5 to 58 V DC output / 5A - 6 mm .236" spacing



Characteristics

Opto. characteristics		OB...OC 5000			
INPUT					
Input voltage +20% -15% on DC, +10% -10% on AC		24 V DC			115 V AC/DC 230 V AC/DC
Frequency					50 / 60 Hz 50 / 60 Hz
Input current		5,4 mA			4,2 mA 4 mA
Pull-in voltage at Is=100%		12 V			50 V 80 V
Switching time C / O		30 µs/400 µs			500 µs/10 ms 1 ms / 15 ms
Operating frequency		1000 Hz			50 Hz 35 Hz
Permissible leakage current		0,8 mA			0,3 mA 0,3 mA
OUTPUT					
Output voltage		4,5 to 58 VDC			
Output current min.		1 mA			
Output current max.		5 A			
Output leakage current at Umax.		< 50 µA			
Residual voltage at I max and U rated	typical	0,1 V			
	max.	0,5 V			
Frequency on inductive load		2500 V RMS			
Isolation Input / Output					
TEMPERATURE					
Ambient temperature storage		-40°C to +80°C			
	operating	-20°C to +70°C (1)			
Other characteristics					
Body material	grey				
Wire	Solid wire				
size	Stranded wire				
Rated wire size					
Wire stripping length					
Recommended screwdriver					
Protection					
Recommended torque					
Approvals					
Reference standards					

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Description	Type	Order Code	Price
Optocoupler module 5 A/DC 🛠️	OBOC 5000-24VDC	1SNA645024R2100	
	OBOC 5000-115VAC/DC	1SNA645058R1300	
	OBOC 5000-230VAC/DC	1SNA645059R1400	

Accessories see page 1/80



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Relays and optocouplers

Optocouplers - R600



DIN 3

Optocoupler : 24 to 400 V AC output / 2 A max. - 6 or 12 mm spacing

Characteristics

Opto. characteristics	OB...OA 1000							OB...OA 2000
INPUT								
Input voltage +20% -15% on DC, +10% -10% on AC		24 V DC		48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC	24 V DC
Frequency				50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
Input current		3,6 mA		4,3 mA	5,5 mA	4,15 mA	4,6 mA	3,6 mA
Pull-in voltage at Is=100%		14 V		15 V	18 V	60 V	135 V	14 V
Switching time C / O		150 µs/1ms		3 ms / 30 ms		2,2 ms/18 ms	2,5 ms/25 ms	150 µs/1 ms
Operating frequency		500 Hz		20 Hz		25 Hz	20 Hz	500 Hz
Permissible leakage current		1 mA		1 mA		1 mA	1 mA	1 mA
OUTPUT								
Output voltage	24 to 400 V AC							
Frequency	50 / 60 Hz							
Output current min.	25 mA							
Output current max.	1 A							
Output leakage current at Umax.	2 A							
Residual voltage at I max and U rated	< 0,5 mA							
U rated	1 V							
typical								
max.	1,6 V							
Frequency on inductive load								
Isolation Input / Output	2500 V RMS							
TEMPERATURE								
Ambient temperature	- 40°C to + 80°C							
storage								
operating	-20°C to +70°C (1)							
Other characteristics								
Body material	Screw clamp				Spring clamp			
Wire	UL 94 V0				UL 94 V0			
Wire size	0,2 - 4 mm² / 24 - 12 AWG				0,2 - 2,5 mm² / 24 - 12 AWG			
Stranded wire	0,22 - 2,5 mm² / 24 - 12 AWG				0,22 - 2,5 mm² / 24 - 12 AWG			
Rated wire size	2,5 mm² / 12 AWG				2,5 mm² / 12 AWG			
Wire stripping length	9 mm .354"				9 mm .354"			
Recommended screwdriver	3,5 mm .137"				3,5 mm .137"			
Protection	IP20 NEMA1				IP20 NEMA1			
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in				0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals	cULus, (pending), LRS, CE							
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.							

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Description	Type	Order Code	Price
Optocoupler module 1 A/AC 6 mm spac. 🛠️	OBOA 1000-24VDC	1SNA645027R2400	
	OBOA 1000-48-60VAC/DC	1SNA645061R0600	
	OBOA 1000-115VAC/DC	1SNA645062R0700	
	OBOA 1000-230VAC/DC	1SNA645028R0500	
Optocoupler module 2A/AC 12 mm spac. 🛠️	OBOA 2000-24VDC	1SNA645029R0600	

Accessories see page 1/80

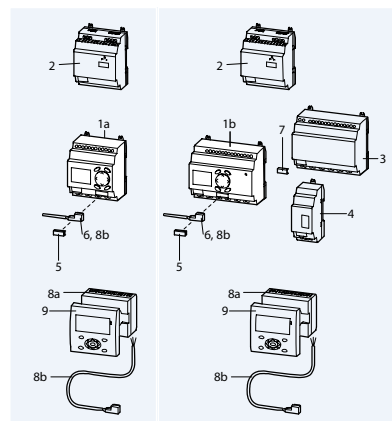


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Expansions

1

Expandable

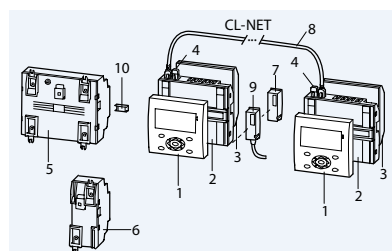


- 1a Logic relay CL-LS..
- 1b Expandable logic relay CL-LM..
- 2 Power supply CP-D..
- 3 I/O expansion CL-LER..., CL-LET..
for logic relays CL-LM..
- 4 Coupler unit CL-LEC.. for remote
expansion of logic relays CL-LM..
- 5 Memory module CL-LAS.MD003 for
logic relays CL-LS., CL-LM..
- 6 Connecting cable CL-LAS.TK001,
CL-LAS.TK002 to connect PC
- 7 CL-LINK plug CL-LAS.TK011 to con-
nect expansion to logic relays CL-LM..
- 8a Remote display connection module
CL-LDC.S..
- 8b Connecting cable CL-LAD.TK007 to
connect a remote displays to a logic
relay
- 9 Display module CL-LDD..

Display Systems

Type	Order Code
CL-LDR.16AC2	1SVR440853R0000
CL-LDR.16DC2	1SVR440851R0000
CL-LDR.17DC2	1SVR440851R2000
CL-LDT.16DC2	1SVR440851R1000
CL-LDT.17DC2	1SVR440851R3000

Display system → Compact HMI logic relay



- 1 Display module CL-LDD..
 - 2 Display base module CL-LDC.LN..
 - 3 Display I/O module CL-LDR.., CL-LDT..
 - 4 Termination resistor CL-LAD.TK009
 - 5 I/O expansion CL-LER.., CL-LET..
 - 6 Coupler unit CL-LEC.. for remote expansion
 - 7 Memory module CL-LAD.MD004 for display base module
 - 8 Connecting cable CL-LAD.TK002, CL-LAD.TK003, CL-LAD.TK004
 - 9 Connecting cable CL-LAD.TK001, CL-LAD.TK011 to connect PC
 - 10 CL-LINK plug CL-LAS.TK011 for expansion of logic relays CL-LM..
- e.g. door of switchgear cabinet

Digital inputs	12	12	12	12	12
Analogue inputs		4	4	4	4
Analog outputs			1		1
Relay outputs	4	4	4		
Transistor outputs				4	4

Rated supply voltage U_N

24 V DC	☒	☒	☒	☒
110 - 240 V AC	☒	☐	☐	☐



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Accessories

CL range

Type	For logic relay	For display system	Description	Order Code	Price
Display modules					
CL-LDD.XK	■	■	Graphic display, 132 x 64 pixels	1SVR440839R4500	
CL-LDD.K	■	■	Graphic display, 132 x 64 pixels, with keypad	1SVR440839R4400	
Remote display connection modules					
CL-LDC.SDC2	■	■	Module to displace display from the logic relay, 5 m, length adjustable, 24 V DC	1SVR440841R0000	
CL-LDC.SAC2	■	■	Module to displace display from the logic relay, 5 m, length adjustable, 100-240 V AC	1SVR440843R0000	
Display base modules					
CL-LDC.LDC2	-	■	CPU / power supply, 24 V DC	1SVR440821R0000	
CL-LDC.LAC2	-	■	CPU / power supply, 100-240 V AC	1SVR440823R0000	
CL-LDC.LNDC2	-	■	CPU / power supply, networking-compatible (CL-NET), 24 V DC	1SVR440821R1000	
CL-LDC.LNAC2	-	■	CPU / power supply, networking-compatible (CL-NET), 100-240 V AC	1SVR440823R1000	
Accessories for logic relays and display system					
CL-LAS.PS002	■	■	Software for programming and control of CL range devices	1SVR440799R8000	
CL-LAS.MD003	■	-	Memory module for logic relays (32 kB)	1SVR440799R7000	
CL-LAD.MD004	-	■	Memory module for display base modules (256 kB)	1SVR440899R7000	
CL-LAS.TK001	■	-	Cable with serial interface to connect PC and logic relay (length 2m)	1SVR440799R6000	
CL-LAD.TK001	-	■	Cable with serial interface to connect PC and display base module (length 2 m)	1SVR440899R6000	
CL-LAS.TK002	■	-	Cable with USB interface to connect PC and logic relay	1SVR440799R6100	
CL-LAD.TK011	-	■	Cable with USB interface to connect PC and display base module	1SVR440899R6700	
CL-LAD.TK002	-	■	Network cable (CL-NET) to connect 2 display base modules (length 0.3 m)	1SVR440899R6100	
CL-LAD.TK003	-	■	Network cable (CL-NET) to connect 2 display base modules (length 0.8 m)	1SVR440899R6200	
CL-LAD.TK004	-	■	Network cable (CL-NET) to connect 2 display base modules (length 1.5 m)	1SVR440899R6300	
CL-LAD.TK007	■	-	Cable for point-to-point connection of remote-display connection module and logic relay, length adaptable (length 2 m)	1SVR440899R6600	
CL-LAD.TK005	-	■	Cable for point-to-point connection of remote display connection modules and display base module, length adaptable (length 5 m)	1SVR440899R6400	
CL-LAD.TK006	-	■	Cable for point-to-point connection of 2 display base modules, length adaptable (length 5 m)	1SVR440899R6500	
CL-LAS.TK011	■	■	Spare plug (CL-LINK) for connection of logic relay to expansion	1SVR440799R5100	
CL-LAD.TK009	-	■	Termination resistor (2 pieces)	1SVR440899R6900	
CL-LAS.FD001	■		Fixing brackets for screw mounting of logic relay, expansion, display base module (9 pieces)	1SVR440799R5000	
CL-LAD.FD002	-	■	Tool for mounting of display modules	1SVR440899R3000	
CL-LAS.TD001	■	-	Input-/ output simulator with wall power supply, fits to CL-LSR and CL-LST. Rated input voltage 100-240 V AC, rated output voltage 24 V DC	1SVR440793R0000	
CL-LAD.FD001	-	■	Protective cover, transparent, for harsh environmental conditions and application in the food industry	1SVR440899R1000	
CL-LAD.FD011	-	■	Protective cover, transparent, and sealable	1SVR440899R2000	
Power supplies					
CL-D 24/0.42	■	-	24 V DC / 0.42 A; Input 100 - 240 V AC	1SVR427041R0000	
CL-D 24/1.3	■	-	24 V DC / 1.3 A; Input 100 - 240 V AC		



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