

Functional safety

Smart solutions for functional safety

We make functional safety easy. From non-contact safety switches through to complex controllers, all safety products from Phoenix Contact are SIL-certified. You can install and configure the modules easily. Benefit from the comprehensive service offered by our certified safety experts. With our extensive range of services, we can help you meet all requirements regarding the safety of machinery.

Safety switches

Use our non-contact safety switches with RFID technology for intelligent safety door and position monitoring.

Safety devices

If you require just a small number of safety functions, you can choose from a large range of safety relays, coupling relays, and zero-speed and over-speed safety relays.

Configurable safety modules

The configurable and extendable PSRtrisafe modules can be adapted to your safety requirements.

Safe I/Os

With SafetyBridge Technology, the safety function is processed directly in the I/O modules.

Safe controllers

With the safety controllers, you can reliably integrate functional safety into PROFIsafe networks and operate these together with a standard controller in the same device.

Software

The safety software provides the highest level of convenience in starting up your safety products.

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Functional safety

Product overview

Safety switches



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Safety relay modules for machine building – Safety relays



PSRmini – Highly compact safety relays for all common applications
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PSRclassic – Safety relays for all common applications, with time function, extension modules
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PSRmultifunction – Safety relay for three safety functions in a single device
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Zero-speed and over-speed safety relays



PSRmotion – Sensorless zero-speed monitoring of 1- and 3-phase AC and DC motors
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PSRmotion – Zero-speed and over-speed safety relays that can be parameterized via software
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Safe coupling relays



PSRclassic – Safe coupling relays for universal applications
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Safety relay modules for the process industry – Safe coupling relays



PSRmini – Highly compact, safe coupling relays for failsafe controllers and F&G applications
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PSRclassic – Safe coupling relays for failsafe controllers
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Termination Carriers for the alignment and easy mounting of coupling relays
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Configurable safety modules



PSRtrisafe – Configurable master modules
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PSRtrisafe – Safe extension modules
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Safe signal conditioners



• See Catalog 5 –
Interface technology and switching devices
i Your web code: #1135

Motor starters



CONTACTRON –
Safe hybrid motor starters
• See Catalog 5 –
Interface technology and switching devices

Power supplies



QUINT POWER –
Safe power supplies
• See Catalog 4 – Surge protection,
power supplies, and device circuit breakers

Safe control technology



Safe PROFINET gateway
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High-performance safety PLCs
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Control solution for functional safety
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Safe I/Os



Logic modules for safe signal exchange
using a SafetyBridge system
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Inline – Safe I/O modules for
common networks
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Axioline F – Safe I/O modules for
common networks
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Axioline E – Safe I/O modules with
IO-Link interface
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Software



Configuration and programming software
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Services for functional safety



**Services for the safety of machinery
and systems**
Individual consultation and on-site process
assistance
Page 282

COMPLETE line



The comprehensive solution for your
control cabinet:
Easy planning, intuitive installation
Page 522

Safety relay modules for machine building – Safety relays

Type		Application							Output contacts				Safety approval		Overall width	Page	
													PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	in mm		
PSRmini	PSR-MS20 ¹⁾ 24 V DC	X	X	-	X	-	-	A	1	-	-	1	c ⁴⁾	1 ⁴⁾	6.8	215	
	PSR-MS21 ¹⁾ 24 V DC	Coupling module for safe controllers							A	1	-	-	1	e	3	6.8	219
	PSR-MS25 ¹⁾ 24 V DC	X	X	-	X	-	-	M	1	-	-	1	c ⁴⁾	1 ⁴⁾	6.8	215	
	PSR-MS30 24 V DC	X	X	-	X	-	X	A	1	-	-	-	e	3	6.8	216	
	PSR-MS35 24 V DC	X	X	-	X	-	X	M	1	-	-	-	e	3	6.8	216	
	PSR-MS40 ³⁾ 24 V DC	X	X	-	-	-	X	A	1	-	-	1	e	3	6.8	217	
	PSR-MS45 ³⁾ 24 V DC	X	X	-	-	-	X	M	1	-	-	1	e	3	6.8	217	
	PSR-MS50 ²⁾ 24 V DC	-	X	-	X	-	-	A	1	-	-	1	e	3	6.8	218	
	PSR-MS55 ²⁾ 24 V DC	-	X	-	X	-	-	M	1	-	-	1	e	3	6.8	218	
	PSR-MS60 ³⁾ 24 V DC	X	X	X	X	-	X	A	2	-	-	-	e	3	6.8	219	
	PSR-MC20 ¹⁾ 24 V DC	X	X	-	X	-	-	A/M	3	-	-	1	c ⁴⁾	1 ⁴⁾	12.5	220	
	PSR-MC30 24 V DC	X	X	-	X	-	X	A/M	2	-	-	1	e	3	12.5	221	
	PSR-MC32 24...230 V AC/DC	X	X	X	X	-	X	A/M	3	-	1	-	e	3	22.5	221	
	PSR-MC34 24 V DC	X	X	-	X	-	X	A/M	3	-	-	1	e	3	12.5	222	
	PSR-MC37 24 V DC	X	X	-	X	-	X	A	3	-	1	1	e	3 ⁵⁾	22.5	222	
	PSR-MC38 24 V DC	X	X	X	X	-	X	A/M	2	-	-	1	e	3	22.5	223	
	PSR-MC40 ³⁾ 24 V DC	X	X	X	X	-	X	A/M	3	-	-	1	e	3	12.5	223	
	PSR-MC42 24 V DC	X	X	X	X	-	X	A/M	2	-	-	1	e	3	17.5	224	
	PSR-MC50 ²⁾ 24 V DC	X	X	-	X	-	-	A/M	3	-	-	1	e	3	12.5	224	
	PSR-MC60 ⁸⁾ 24 V DC	-	-	-	-	X	-	A	2	-	-	1	c	1	12.5	225	
	PSR-MC62 ⁹⁾ 24 V DC	-	-	-	-	X	-	A	2	-	-	1	e	3	12.5	225	
	PSR-MC70 24 V DC	X	X	X	X	-	X	A/M	1	1	-	1	c ⁴⁾	1 ⁴⁾	12.5	226	
	PSR-MC72 24 V DC	X	X	X	X	-	X	A/M	1	1	-	1	e	3	12.5	226	
	PSR-MC73 24 V DC	X	X	X	X	-	X	A/M	1	1	-	1	e	3	12.5	227	
	PSR-MC82 24 V DC	Contact extension							A	5	-	1	1	e ⁶⁾	3 ⁶⁾	17.5	228
PSRclassic	PSR-ESA2-B 24 V AC/DC	X	X	-	-	-	-	A	4	-	1	-	c ⁴⁾	1 ⁴⁾	22.5	229	
	PSR-ESAM2/3X1-B 230 V AC	X	X	-	-	-	-	A/M	3	-	1	-	c ⁴⁾	1 ⁴⁾	22.5	229	
	PSR-ESAM4/2X1 24 V AC/DC	X	X	-	-	-	-	A/M	2	-	1	-	e	3	22.5	229	
	PSR-ESAM4/3X1-B Voltage variants	X	X	-	-	-	-	A/M	3	-	1	-	e	3	22.5	229	
	PSR-ESAM4/8X1 24 V AC/DC	X	X	-	-	-	-	A/M	8	-	1	-	e	3	45	229	
	PSR-ESD-30 24 V DC	X	X	X	X	-	X	A/M	2	2	1	-	e	3	22.5	230	
	PSR-ESD-300 24 V DC	X	X	X	-	-	X	A/M	3	2	1	-	e ⁷⁾	3 ⁷⁾	45	230	
	PSR-ESD-T 24 V DC	X	X	X	-	-	X	A/M	3	2	1	-	e ⁷⁾	3 ⁷⁾	45	230	
	PSR-ESL4 ³⁾ 24 V AC/DC	X	X	X	-	-	X	A/M	3	-	1	-	e	3	22.5	231	
	PSR-THC4 ⁹⁾ 24 V AC/DC	-	X	-	-	X	-	A	2	-	1	-	e	3	22.5	231	
	PSR-URML4 24 V DC	Contact extension for OSSD signals							3	-	1	-	e	3	22.5	232	
	PSR-URM4 42...230 V AC/DC	Contact extension							4	-	2	-	e ⁶⁾	3 ⁶⁾	22.5	232	
	PSR-URM4 24 V AC/DC	Contact extension							5	-	2	-	e ⁶⁾	3 ⁶⁾	22.5	232	
	PSR-URM4-B 24 V AC/DC	Contact extension							5	-	2	-	e ⁶⁾	3 ⁶⁾	22.5	232	

¹⁾ 1-channel sensor circuit²⁾ Non-equivalent sensor circuit³⁾ Without cross-circuit detection⁴⁾ Depending on the application up to PL e/SILCL 3 possible⁵⁾ EN 81 approval⁶⁾ In conjunction with suitable evaluating device⁷⁾ Undelayed contacts: Cat. 4/PL e, SILCL 3

Contacts with dropout delay: Cat. 3/PL d, SILCL 2

⁸⁾ Type IIIA in acc. with EN 574⁹⁾ Type IIIC in acc. with EN 574

A = Autostart

M = Manual, monitored start

Safety relay modules for machine building – Safety relays

Type		Application							Output contacts				Safety approval		Page
													PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	
PSRmodular	PSR-SDC4 24 V DC	X	X	X	X	-	X	A/M	2	-		1	e	3	233
	PSR-URM4/B 24 V DC	Contact extension							4	-	2	-	e	3	233
	PSR-URD3/3 24 V DC	Contact extension							-	4	2 ¹⁾	-	d	2	233
	PSR-URD3/30 24 V DC	Contact extension							-	4	2 ¹⁾	-	d	2	233
	PSR-URD3/T2 24 V DC	Contact extension							-	4	2 ¹⁾	-	d	2	233
	PSR-SIM4														233
	PSR-SACB...														233
PSRmultifunction	PSR-MXF1 24 V DC	X	X	-	-	-	-	A/M	4	-	2	-	e	3	234
	PSR-MXF2 24 V DC	X	-	-	X	-	-	A/M	4	-	2	-	e	3	234
	PSR-MXF3 24 V DC	X	X	X	-	-	X	A/M	4	-	2	-	e	3	234
	PSR-MXF4 24 V DC	X	-	X	X	-	X	A/M	4	-	2	-	e	3	234

¹⁾ Delayed

A = Autostart

M = Manual, monitored start

Safety relay modules for zero-speed and over-speed monitoring

Type		Application					Output contacts		Safety approval		Page
					n=0	n>n _{max}			PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	
PSRmotion	PSR-RSM4 24 V DC	-	X	X	X	X	4	3	e	3	244
	PSR-MM25 24 V DC	X	-	-	X	-	1	2	e	3	243
	PSR-MM30 24 V DC	-	X	X	X	X	2	2	e	3	243

Safety relay modules – Safe coupling relays for universal applications

Type		Application		Output contacts			Safety approval		Page
							PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	
PSRclassic	PSR-URM 24 V AC/DC 120 V AC/DC	Coupling relays for universal applications		5	2	-	c	1	245
	PSR-URM/5X1 24 V AC/DC			5	1	-	c	1	246
	PSR-URM/3X1 24 V AC/DC			3	3	-	c	1	246
	PSR-URM/4X1 24 V AC/DC			4	2	-	c	1	247
	PSR-URM/2X21 24 V AC/DC 120 V AC/DC			-	-	2	c	1	247

Safety relay modules for the process industry – Safe coupling relays

Type		Application	Output contacts			Diagnostics				Safety approval					Overall width	Page
		Highly compact, safe coupling relays for failsafe controllers:				Visual via LED	Active error feedback via A1	Measurement on the device	Self-monitoring with integrated interlock	SIL in acc. with IEC 61508 / 61511	SIL in acc. with IEC 50156	ATEX / IECEx / Class I Zone 2	G3 in acc. with ANSI / ISA-S71.04	GL	in mm	
PSRmini	PSR-PS20 24 V DC	For safety-related switch-off (ESD)	1	1	1	X	X	X	-	3	3	X	X	X	6.8	249
	PSR-PS21 24 V DC		1	1	1	X	X	X	-	2	2	X	X	X	6.8	249
	PSR-PS22 24 V DC		1	1	-	X	X	X	-	3	3	X	X	-	6.8	250
	PSR-PS23 24 V DC		1	1	-	X	-	X	-	3	3	X	X	-	6.8	250
	PSR-PS40 24 V DC		1	-	1	X	-	-	X	3	3	X	X	X	6.8	251
	PSR-PC20 24 V DC		1	1	1	X	X	X	-	3	3	X	X	X	12.5	252
	PSR-PC32 24 V DC		2	1	-	X	-	X	-	3	3	X	X	-	17.5	252
	PSR-PC40 24 V DC		2	-	1	X	X	-	X	3	3	X	X	X	12.5	251
	PSR-PC50 24 V DC	For safety-related switch-on (F&G)	1	-	1	X	X	X	-	3 ¹⁾	-	X	X	X	17.5	253
	PSR-PC51/PC52 24 V DC		1	1	-	X	X	X	-	3 ¹⁾	3	-	X	-	17.5	253
PSRclassic	PSR-FSP 24 V DC	For safety-related switch-off (ESD)	1	1	-	-	-	X	-	3	3	-	-	X	17.5	254
	PSR-FSP/2X1 24 V DC		2	1	-	-	-	X	-	3	3	-	-	X	17.5	255
	PSR-FSP2/2X1 24 V DC		2	1	-	-	-	X	-	2	2	-	-	X	17.5	255
	PSR-ESP4 24 V DC		2	1	-	-	-	-	X	3	-	-	-	X	22.5	256

¹⁾ Low demand

Configurable safety modules

Type		Application	Inputs/outputs					Safety approval				Page
			Inputs	Safe control outputs	Ground switching outputs	Clock outputs	Signal outputs	PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	SIL in acc. with IEC 61508	SIL in acc. with IEC 50156	
PSRtrisafe	PSR-TRISAFE-S 24 V DC	Master module (not extendable)	20	4	2	2	4	e	3	3	3	261
	PSR-TRISAFE-M 24 V DC	Master module (safely extendable)	20	4	2	2	4	e	3	3	3	261
	PSR-TS-SDI8-SDIO4 24 V DC	Safe digital I/O extension module	8	4 ¹⁾	-	2 ¹⁾	2 ¹⁾	e	3	3	3	262
	PSR-TS-SDOR4 24 V DC	Safe relay module	-	4 ³⁾	-	-	4	e ²⁾	3 ²⁾	3 ²⁾	3	262

¹⁾ Configurable via software: outputs to inputs/signal outputs to clock outputs

²⁾ Depending on connection, up to ...

³⁾ Configurable via software: 4 x 1-channel or 2 x 2-channel

Safe I/Os

Type		Application	Inputs/outputs				Protocol		Safety approval			Page
			Safe inputs	Safe outputs	Clock outputs	Relay outputs	SafetyBridge Technology	PROFIsafe	PL in acc. with EN ISO 13849-1	SILCL in acc. with EN 62061	SIL in acc. with IEC 61508	
Logic modules	IB IL 24 LPSDO 8 V2-PAC 24 V DC	Logic module with SafetyBridge Technology	-	8	-	-	X	-	e	3	3	265
	IB IL 24 LPSDO 8 V3-PAC 24 V DC		-	8	-	-	X	-	e	3	3	265
	AXL F LPSDO8/3 IF 24 V DC		-	8	-	-	X	-	e	3	3	269
Safe I/Os Inline	IB IL 24 PSDI 16-PAC 24 V DC	Input module ¹⁾	16	-	16	-	X	X	e	3	3	266
	IB IL 24 PSDI 8-PAC 24 V DC	Input module	8	-	8	-	X	X	e	3	3	267
	IB IL 24 PSDO 8-PAC 24 V DC	Output module	-	8	-	-	X	X	e	3	3	267
	IB IL 24 PSDO 4/4-PAC 24 V DC	Output module (positive and negative switching)	-	4	-	-	X	X	e	3	3	267
	IB IL 24 PSDOR 4-PAC 24 V DC / 230 V DC	Relay module	-	-	-	4	X	X	e	3	3	268
	IB IL SAFE 2-ECO 24 V DC	Input module with two sensor circuits	-	-	-	-	-	-	e	3	3	268
Safe I/Os AxioLine F	AXL F SSDI8/4 1F 24 V DC	Input module	8	-	-	-	X	-	e	3	3	270
	AXL F SSDO8/3 1F 24 V DC	Output module	-	8	-	-	X	-	e	3	3	271
	AXL F PSDI8/4 1F 24 V DC	Input module	8	-	-	-	-	X	e	3	3	270
	AXL F PSDO8/3 1F 24 V DC	Output module	-	8	-	-	-	X	e	3	3	271
	AXL E IOL SDI8 SDO4 2A M12 6P 24 V DC	Input and output module	8	4	8	-	X	X	e	3	3	272

¹⁾ Only compatible with IB IL 24 LPSDO V3-PAC



The compact PSRswitch is an electronic, coded safety switch for flexible safety door and position monitoring. Thanks to the integrated RFID technology and intelligence, it provides maximum tamper protection and the highest level of safety in accordance with EN ISO 13849 and EN ISO 14119.

You receive a cost-effective comprehensive solution with compatible evaluation units and sensor/actuator cabling.

📄 Your web code: #1940

Non-contact and smart

The PSRswitch has the properties of a safety relay with two safe inputs, two safe outputs, and an integrated start circuit. LEDs indicate the current status of the sensor at all times.

Integrated diagnostic channel

Our safety switch system consists of the PSRmini evaluation unit and PSRswitch safety switches. Safe series connection has a two-channel design.

Parallel to this, status information for the individual switches is transmitted to the PSR-MC42 PSRmini safety relay via the integrated diagnostic channel. The safety relay transmits the non-safety-related diagnostic data of the switch to the controller via IO-Link. The data can then be evaluated centrally there.

Series connection up to PL e

Up to 30 safety switches can be safely connected in series with PL e in accordance with EN ISO 13849.

You can wire the safety switches individually. PSRtrisafe and safe I/Os are also suitable evaluation units.

Sensor coding types

The sensors are available in various coding types. When combined with the coded actuator, this results in a corresponding encoding level for the safety switch in accordance with EN ISO 14119.

Fixcode:

- Accepts one actuator
- Single teach-in of one actuator
- High encoding level in accordance with EN ISO 14119

Unicode:

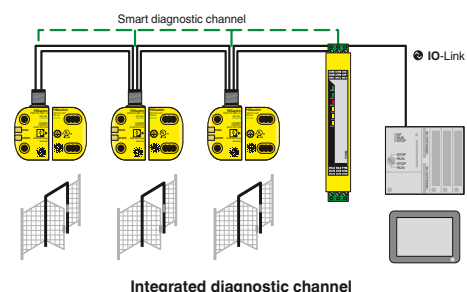
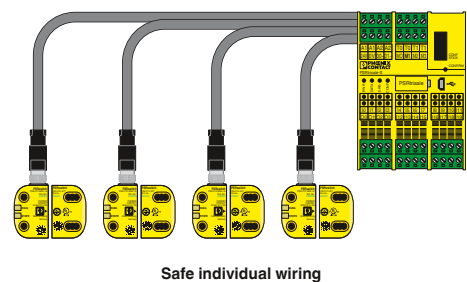
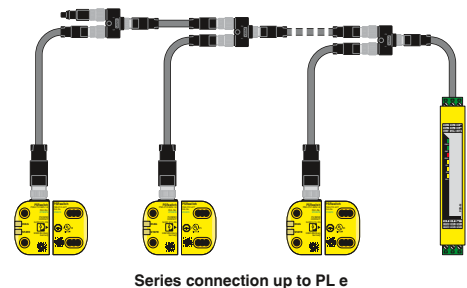
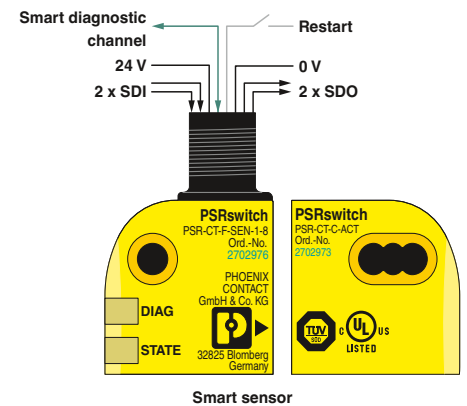
- Accepts one actuator
- Multiple teach-in of actuators
- High encoding level in accordance with EN ISO 14119

Multicode:

- Accepts all actuators
- No teach-in
- Low encoding level in accordance with EN ISO 14119

SAC cabling

PSRswitch safety switches enable convenient installation with M12 male connectors and SAC cables. Various Y distributors support the easy wiring of series connections, manual startup behavior, and integrated diagnostics.



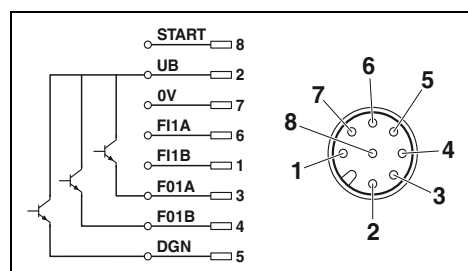
Non-contact safety switches

- Tamper protection via RFID transponder technology
- Safe series connection in accordance with EN ISO 14119
- Coding type depending on the sensor: Fixcode, Unicode or Multicode
- Encoding level in accordance with EN ISO 14119 depending on the sensor
- Design 4 in accordance with EN ISO 14119
- Start/reset input for autostart or manual monitored start
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with IEC 61508



Sensor and actuator

Functional safety



Technical data

Safety inputs / power supply

Number / description
Supply voltage

Current consumption
Protection

Safety outputs

Number / description

Alarm outputs

Number / description
Current

General data

Ambient temperature range
Connection method
No. of pos.
Degree of protection

Status indication

Dimensions W / H / D

2 / FI1A, FI1B
24 V DC $\pm 15\%$ (PELV, controlled, residual ripple < 5%)

max. 40 mA
min. 0.25 A (to be performed externally)
max. 8 A (to be performed externally)

2 / FO1A, FO1B, Semiconductor outputs, p-wired

1 / DGN, p-wired
min. 1 mA
max. 50 mA

-25°C ... 55°C
M12 connector
8
IP65/IP67/IP69/IP69K
IP67 (with SAC cabling)
2 LEDs
26.5 mm / 40 mm / 18 mm

Ordering data

Description

Safety sensor

- Fixcode
- Unicode
- Multicode

Actuator, coded, suitable for all sensor coding types

Type

PSR-CT-F-SEN-1-8
PSR-CT-C-SEN-1-8
PSR-CT-M-SEN-1-8

Order No.

2702976
2702972
2702975

Pcs./Pkt.

1
1
1

PSR-CT-C-ACT

2702973

1

Accessories

Y distributor

Type 1, for series connection of PSR-CT safety switches

Type 2, for manual startup behavior of PSR-CT safety switches

Type 3, for integrated diagnostics via signal contact with PSR-CT safety switches

Bridge plug

- Dummy plug for every sensor circuit

SAC-8PY-M/2XF BK 1-PSR

1054338

1

SAC-8PY-M/2XF BK 2-PSR

1054339

1

SAC-8PY-M/2XF BK 3-PSR

1054341

1

SAC-5P-M12MS BK BR 1-2-4

1054366

1



PSRmini safety relays

PSRmini are the narrowest safety relays available on the market. With an overall width of just 6 and 12 mm, we provide you with proven safety, thanks to relay technology developed in-house with force-guided contacts.

Thanks to an innovative DIP switch concept, appropriate settings can be made directly on the module. The needs-based design starting from a single enable path also ensures greater flexibility in your application without limiting performance.

i Your web code: **#0495**

PSRclassic safety relays

The PSRclassic safety relays have a long proven track record. Thanks to the 2-channel wiring and force-guided contacts, they reliably switch functions such as two-hand control devices or light grids.

Screw or spring connection technology ensures the fast wiring of contacts. Status LEDs enable easy diagnostics.

i Your web code: **#1409**

PSRmodular safety relay system

With PSRmodular, you can design your safety system to meet your specific requirements. The modular safety relays are extended easily and flexibly based on the modular principle.

The PSR-TBUS DIN rail connector connects the master safety relay to up to ten extension modules directly on the DIN rail. This eliminates the need for the usual cross-wiring and configuration.

i Your web code: **#1408**

PSRmultifunction multifunctional safety relays

Three safety functions are combined in one narrow housing. This reduces your costs for warehousing and logistics, and saves space in the application. Safety functions already integrated into the device reduce potential wiring errors.

Four device versions with three connection technologies are available for monitoring various types of sensors.

i Your web code: **#1547**



PSRmini safety relays



PSRclassic safety relays



PSRmodular safety relay system



PSRmultifunction multifunctional safety relays

Highly compact safety relays for emergency stop and safety door monitoring

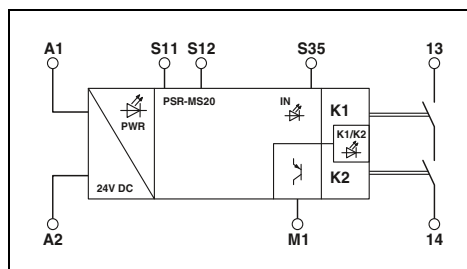
- Single-channel control
- 1 enabling current path, 1 digital signal output
- Basic insulation/reinforced insulation in part
- Activation depending on type: automatic or manual, monitored
- Cat. 1/PL c in accordance with EN ISO 13849-1, SILCL 1 in accordance with IEC 62061
- Depending on the application up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Automatic activation



Manual and monitored activation



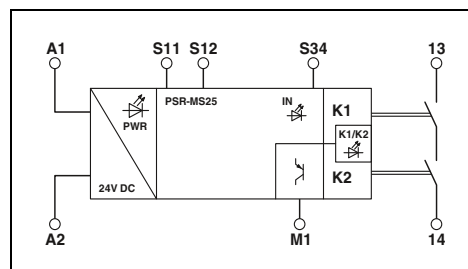
Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

W / H / D

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS20-1NO-1DO-24DC-SC	2904950	1



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS25-1NO-1DO-24DC-SC	2904951	1

Functional safety

Safety relay modules for machine building – PSRmini

Highly compact safety relays for emergency stop and safety door monitoring

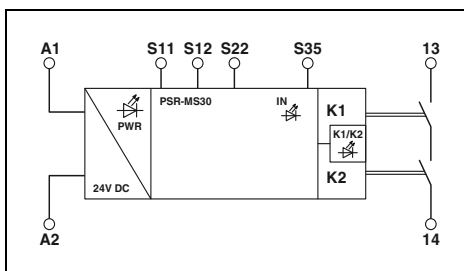
- Two-channel control
- 1 enabling current path
- Basic insulation/reinforced insulation in part
- Cross-circuit detection
- Activation depending on type: automatic or manual, monitored
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Automatic activation



Manual and monitored activation

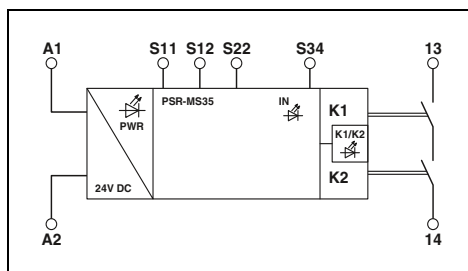


Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS30-1NO-24DC-SC	2904952	1



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS35-1NO-24DC-SC	2904953	1

Highly compact safety relays for emergency stop and safety door monitoring

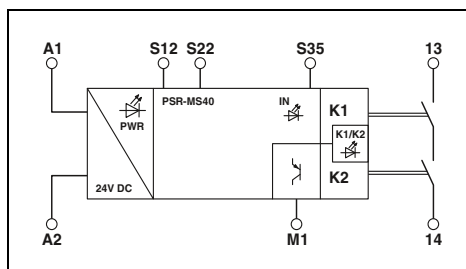
- Two-channel control
- 1 enabling current path, 1 digital signal output
- Basic insulation/reinforced insulation in part
- Activation depending on type: automatic or manual, monitored
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Automatic activation



Manual and monitored activation



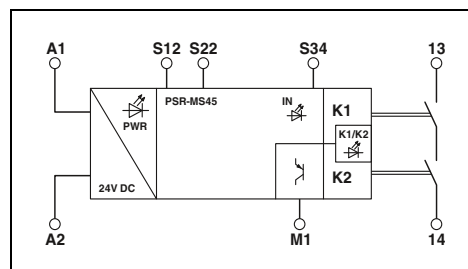
Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

W / H / D

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS40-1NO-1DO-24DC-SC	2904954	1



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring	PSR-MS45-1NO-1DO-24DC-SC	2904955	1

Functional safety

Safety relay modules for machine building – PSRmini

Highly compact safety relays for monitoring non-equivalent signal generators

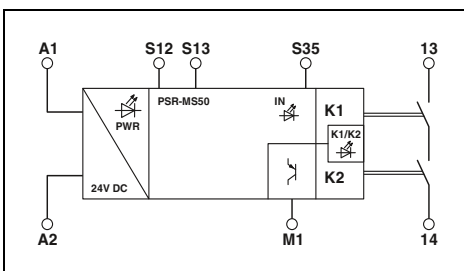
- Two-channel non-equivalent control
- 1 enabling current path, 1 digital signal output
- Basic insulation/reinforced insulation in part
- Activation depending on type: automatic or manual, monitored
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Automatic activation



Manual and monitored activation

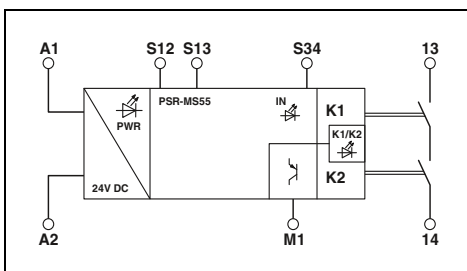


Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S13.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Monitoring of non-equivalent signal generators	PSR-MS50-1NO-1DO-24DC-SC	2904956	1



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 42 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S13.)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Monitoring of non-equivalent signal generators	PSR-MS55-1NO-1DO-24DC-SC	2904957	1

Highly compact safety relays

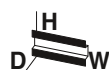
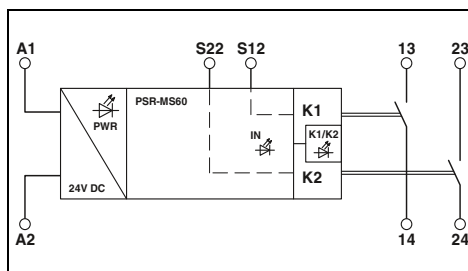
- Basic insulation/reinforced insulation in part
- Automatic activation
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

PSR-MS60: emergency stop, safety door, and light grid monitoring

- Two-channel control
- 2 single-channel enabling current paths

PSR-MS21: monitoring of failsafe controllers

- Single-channel control
- 1 enabling current path, 1 digital signal output

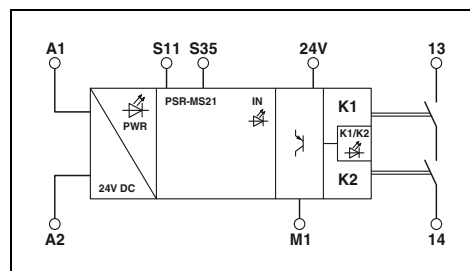
Automatic activation,
2 single-channel enabling current pathsAutomatic activation,
1 enabling current path

Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 40 mA
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	-
Output current	-
Short-circuit protection	-
General data	
Ambient temperature range	-40°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24) Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop, safety door, and light grid monitoring	PSR-MS60-2NO-24DC-SC	2904958	1
Monitoring of failsafe controllers			



Technical data

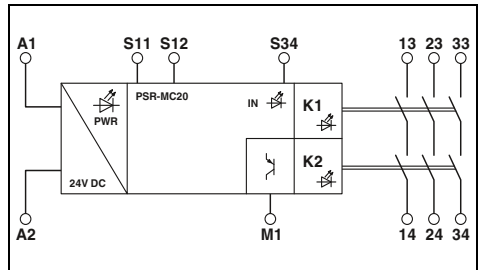
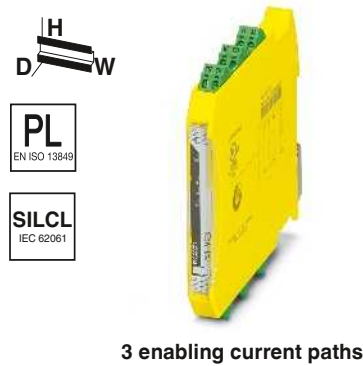
Input data	
Rated control supply voltage U_s	24 V DC -20% / +25% (at A1)
Rated control supply current I_s	typ. 35 mA
Typical response time	< 150 ms (automatic start)
Typical release time	< 20 ms (when controlled via A1)
Recovery time	< 500 ms
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Monitoring of failsafe controllers	PSR-MS21-1NO-1DO-24DC-SC	2702192	1

Highly compact safety relays
for emergency stop and
safety door monitoring

- Single-channel control
- 3 enabling current paths,
1 digital signal output
- Basic insulation/reinforced insulation
in part
- Manual, monitored, and automatic
activation in a single device
- Cat. 1/PL c in accordance with
EN ISO 13849-1, SILCL 1 in accordance
with IEC 62061
- Depending on the application
up to Cat. 4/PL e in accordance with
EN ISO 13849-1, SILCL 3 in accordance
with IEC 62061



Input data	
Rated control supply voltage U_S	
Rated control supply current I_S	
Typical response time	
Typical release time	
Recovery time	
Output data	
Contact type	
Contact material	
Switching voltage	
Limiting continuous current	
Inrush current	
Switching capacity	
Short-circuit protection of the output circuits	
Alarm outputs	
Number of outputs	
Output current	
Short-circuit protection	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	
Spring-cage connection rigid / flexible / AWG	
Dimensions	Screw version
W / H / D	Spring-cage version
EMC note	

Technical data	
24 V DC -15% / +10%	
typ. 80 mA	
< 175 ms (automatic start)	
< 175 ms (manual, monitored start)	
< 20 ms (when controlled via A1 or S12)	
< 500 ms	
3 enabling current paths	
AgSnO ₂	
min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)	
6 A (observe derating)	
min. 3 mA / max. 6 A	
min. 60 mW	
6 A gL/gG (N/O contact)	
4 A gL/gG (for low-demand applications)	
1 (digital, PNP)	
max. 100 mA	
no	
-40°C ... 55°C (observe derating)	
DIN EN 50178	
Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24) and enabling current path (33/34)	
Basic insulation 4 kV between all current paths and housing	
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12	
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16	
12.5 mm / 112.2 mm / 114.5 mm	
12.5 mm / 116.6 mm / 114.5 mm	
Class A product, see page 527	

Ordering data	
Description	
Emergency stop and safety door monitoring	
with screw connection	
with spring-cage connection	

Type	Order No.	Pcs./Pkt.
PSR-MC20-3NO-1DO-24DC-SC	2700466	1
PSR-MC20-3NO-1DO-24DC-SP	2700467	1

Highly compact safety relays

- Two-channel control
- Basic insulation/reinforced insulation in part
- Manual, monitored, and automatic activation in a single device
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

PSR-MC30: emergency stop and safety door monitoring

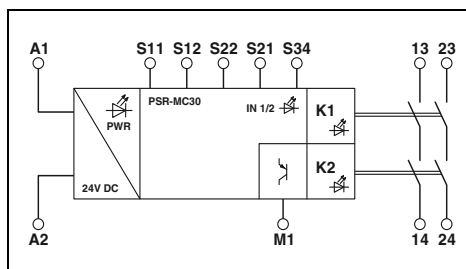
- 2 enabling current paths,
- 1 digital signal output
- Cross-circuit detection

PSR-MC32: emergency stop, safety door, and light grid monitoring

- 3 enabling current paths, 1 signaling current path
- Wide-range input



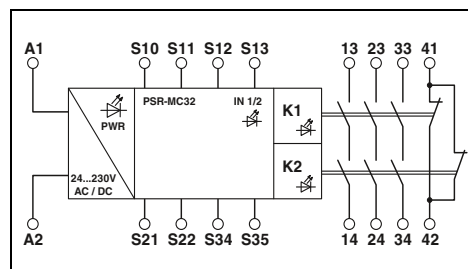
2 enabling current paths



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 65 mA
Typical response time	< 175 ms (automatic start) < 175 ms (manual, monitored start)
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24) Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Description
Emergency stop and safety door monitoring
with screw connection
with spring-cage connection
Emergency stop, safety door, and light grid monitoring
with screw connection
with spring-cage connection

3 enabling current paths,
1 signaling current path

Technical data

24 V AC/DC ... 230 V AC/DC -15% / +10%
typ. 103 mA (24 V DC)
< 150 ms (automatic start)
< 100 ms (manual, monitored start)
< 20 ms (when actuation is via the sensor circuit)
< 500 ms
3 enabling current paths
1 signaling current path
AgSnO ₂
min. 5 V AC/DC / max. 250 V AC/DC (observe the load curve)
6 A (observe derating)
min. 10 mA, max. 6 A
min. 50 mW
6 A gL/gG
4 A gL/gG (for low-demand applications)
-
-
-40°C ... 55°C (observe derating)
DIN EN 50178; EN 60947-5-1
Basic insulation 4 kV between enabling current path (23/24) and enabling current path (33/34) and signaling current path (41/42)
Basic insulation 4 kV between all current paths and housing
Safe isolation, reinforced insulation 6 kV between all other circuits
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
22.5 mm / 112.2 mm / 114.5 mm
22.5 mm / 117.4 mm / 114.5 mm
Class A product, see page 527

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-MC32-3NO-1NC-24-230UC-SC	2700524	1
PSR-MC32-3NO-1NC-24-230UC-SP	2700525	1

Functional safety

Safety relay modules for machine building – PSRmini

Highly compact safety relays

- Two-channel control
- 3 enabling current paths,
1 digital signal output
- Cross-circuit detection
- Up to Cat. 4/PL e in accordance with
EN ISO 13849-1, SILCL 3 in accordance
with IEC 62061

PSR-MC34: emergency stop and safety door monitoring

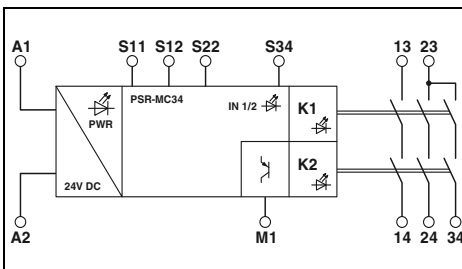
- Basic insulation/reinforced insulation
in part
- Manual, monitored, and automatic
activation in a single device

PSR-MC37: emergency stop, safety door, and elevator monitoring

- Basic insulation
- Manual and automatic activation in
a single device
- Approved for elevator applications in
accordance with EN 81-20

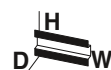


3 enabling current paths

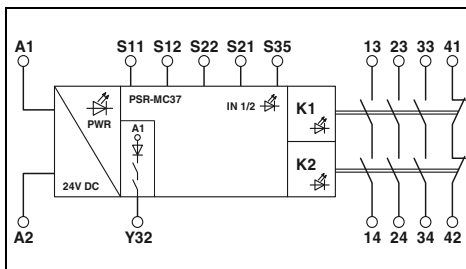


Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 84 mA
Typical response time	< 175 ms (automatic start) < 175 ms (manual, monitored start)
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Output data	
Contact type	3 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV: Between input circuit and enabling current path (23/24/34) Between all current paths and housing Safe isolation, reinforced insulation 6 kV: Between input circuit and enabling current path (13/14) Between enabling current path (13/14) and enabling current path (23/24/34)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527



3 enabling current paths,
1 confirmation current path,
with elevator approval in acc. with EN 81-20



Technical data

Rated control supply voltage U_s	24 V DC -20% / +25%
Rated control supply current I_s	typ. 70 mA
Typical response time	< 100 ms (automatic start)
Typical release time	< 20 ms (when controlled via A1 or S12)
Recovery time	< 500 ms
Output data	
Contact type	3 enabling current paths 1 signaling current path
Contact material	AgSnO ₂
Switching voltage	min. 5 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 10 mA, max. 6 A
Switching capacity	min. 50 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact)
Alarm outputs	
Number of outputs	1 (digital)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-40°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 60664-1:2008
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	22.5 mm / 112.2 mm / 114.5 mm
W / H / D	22.5 mm / 117.4 mm / 114.5 mm
EMC note	Class A product, see page 527

Description
Emergency stop and safety door monitoring
with screw connection
with spring-cage connection
Emergency stop, safety door, and elevator monitoring
with screw connection
with spring-cage connection

Type	Order No.	Pcs./Pkt.
PSR-MC34-3NO-1DO-24DC-SC	2700540	1
PSR-MC34-3NO-1DO-24DC-SP	2700548	1

Type	Order No.	Pcs./Pkt.
PSR-MC37-3NO-1NC-24DC-SC	2702411	1
PSR-MC37-3NO-1NC-24DC-SP	2702412	1

Highly compact safety relays for emergency stop, safety door, and light grid monitoring

- Two-channel control
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

PSR-MC38:

- 2 enabling current paths, 1 digital signal output
- Connection of CONTACTRON hybrid motor starters and MINI POWER power supplies via DIN rail connector
- Cross-circuit detection



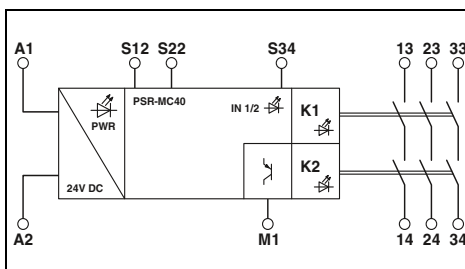
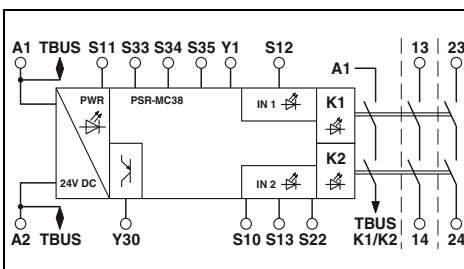
2 enabling current paths



3 enabling current paths

PSR-MC40:

- 3 enabling current paths, 1 digital signal output



Input data	
Rated control supply voltage U_s	
Rated control supply current I_s	
Typical response time	
Typical release time	
Recovery time	
Output data	
Contact type	
Contact material	
Switching voltage	
Limiting continuous current	
Inrush current	
Switching capacity	
Short-circuit protection of the output circuits	
Alarm outputs	
Number of outputs	
Output current	
Short-circuit protection	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	
Spring-cage connection rigid / flexible / AWG	
Dimensions	Screw version
W / H / D	Spring-cage version
EMC note	

Technical data		
24 V DC -15% / +10% (provide external protection)		
typ. 75 mA		
200 ms (automatic start)		
30 ms (manual, monitored start)		
25 ms (when actuation is via the sensor circuit)		
60 ms (when controlled via A1)		
< 500 ms		
2 enabling current paths		
AgSnO ₂		
min. 10 V AC/DC / max. 250 V AC/DC (observe the load curve)		
6 A		
min. 10 mA / max. 6 A		
min. 100 mW		
10 A gL/gG		
4 A gL/gG (for low-demand applications)		
1		
max. 100 mA		
-		
-20°C ... 55°C (observe derating)		
DIN EN 50178		
Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24)		
Basic insulation 4 kV between all current paths and housing		
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12		
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 14		
22.5 mm / 112.2 mm / 114.5 mm		
22.5 mm / 117.5 mm / 114.5 mm		
Class A product, see page 527		

Ordering data	
Description	Type
Emergency stop, safety door, and light grid monitoring	
Screw connection	PSR-MC38-2NO-1DO-24DC-SC
Push-in connection	PSR-MC38-2NO-1DO-24DC-PI
Emergency stop, safety door, and light grid monitoring	
with screw connection	
with spring-cage connection	

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-MC38-2NO-1DO-24DC-SC	1009831	1
PSR-MC38-2NO-1DO-24DC-PI	1009832	1

Technical data		
24 V DC -15% / +10%		
typ. 80 mA		
< 175 ms (automatic start)		
< 175 ms (manual, monitored start)		
< 20 ms (when controlled via A1 or S12 and S22.)		
< 500 ms		
3 enabling current paths		
AgSnO ₂		
min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)		
6 A (observe derating)		
min. 3 mA, max. 6 A		
min. 60 mW		
6 A gL/gG (N/O contact)		
4 A gL/gG (for low-demand applications)		
1 (digital, PNP)		
max. 100 mA		
no		
-40°C ... 55°C (observe derating)		
DIN EN 50178		
Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24) and enabling current path (33/34)		
Basic insulation 4 kV between all current paths and housing		
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12		
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16		
12.5 mm / 112.2 mm / 114.5 mm		
12.5 mm / 116.6 mm / 114.5 mm		
Class A product, see page 527		

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-MC40-3NO-1DO-24DC-SC	2700569	1
PSR-MC40-3NO-1DO-24DC-SP	2700570	1

Functional safety

Safety relay modules for machine building – PSRmini

Highly compact safety relays

- Manual, monitored, and automatic activation in a single device
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

PSR-MC42: safety relay with IO-Link for PSRswitch

- 2 sensor circuits
- 2 enabling current paths
- IO-Link interface

IO-Link



2 sensor circuits,
2 enabling current paths

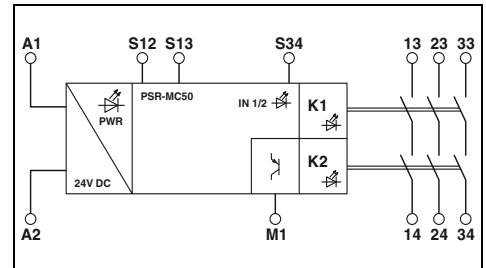
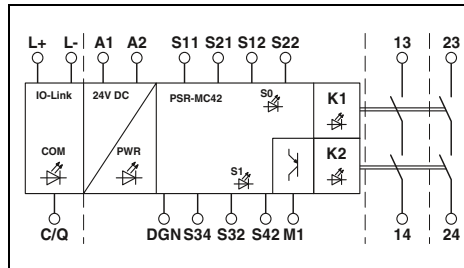
new



3 enabling current paths,
for non-equivalent sensor circuits

PSR-MC50: monitoring of non-equivalent signal generators

- Two-channel non-equivalent control
- 3 enabling current paths,
1 digital signal output
- Basic insulation/reinforced insulation in part



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -20% / +25% (provide external protection)
Rated control supply current I_s	typ. 60 mA
Typical response time	< 220 ms (automatic start) < 175 ms (manual, monitored start)
Typical release time	< 20 ms (on demand via the sensor circuit) < 20 ms (on demand via A1) < 500 ms
Recovery time	
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1
Output current	max. 100 mA
Short-circuit protection	-
General data	
Ambient temperature range	-25°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 60947-1
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing Safe isolation, reinforced insulation 4 kV between input circuit and enabling current path (13/14) and enabling current path (23/24)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	17.5 mm / 112.2 mm / 114.5 mm
W / H / D	17.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-MC42-2NO-1DO-24DC-SC	2702901	1
PSR-MC42-2NO-1DO-24DC-SP	2702902	1

Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 80 mA
Typical response time	< 175 ms (automatic start) < 175 ms (manual, monitored start)
Typical release time	< 20 ms (when controlled via A1 or S12 and S13.)
Recovery time	< 500 ms
Output data	
Contact type	3 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	no
General data	
Ambient temperature range	-40°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path (13/14) and enabling current path (23/24) and enabling current path (33/34) Basic insulation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-MC50-3NO-1DO-24DC-SC	2700553	1
PSR-MC50-3NO-1DO-24DC-SP	2700564	1

Highly compact safety relays

- 2 enabling current paths,
1 digital signal output
- Basic insulation/reinforced insulation
in part
- Automatic activation

PSR-MC60:

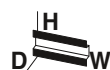
**For two-hand control devices
in acc. with EN 574 Type IIIA**

- Single-channel control

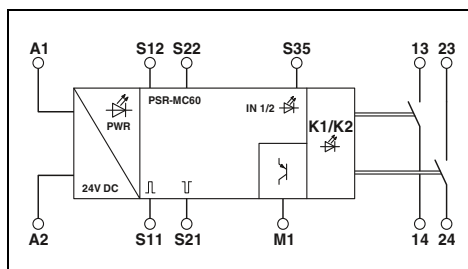
PSR-MC62:

**For two-hand control devices
in acc. with EN 574 Type IIIC**

- Two-channel control



**Type IIIA in acc. with EN 574,
up to Cat. 1/PL c in acc. with EN ISO 13849-1,
SILCL 1 in acc. with IEC EN 62061**



Technical data

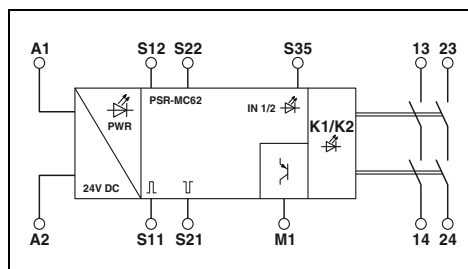
Input data	
Rated control supply voltage U_S	24 V DC -20% / +25%
Rated control supply current I_S	typ. 35 mA
Typical response time	< 40 ms
Typical release time	< 10 ms (when controlled via S12/S22) < 5 ms (when interrupted via A1; applicative deactivation via A1/A2 is not permitted)
Recovery time	< 500 ms
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂ (enabling current path)
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-35°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, reinforced insulation 6 kV: between (A1, A2, S11, S12, S21, S22, S35, M1) and enabling current path (13/14) between (A1, A2, S11, S12, S21, S22, S35, M1) and enabling current path (23/24) between enabling current paths
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Monitoring of two-hand control devices			
with screw connection	PSR-MC60-2NO-1DO-24DC-SC	2700571	1
with spring-cage connection	PSR-MC60-2NO-1DO-24DC-SP	2700572	1



**Type IIIC in acc. with EN 574,
up to Cat. 4/PL e in acc. with EN ISO 13849-1,
SILCL 3 in acc. with IEC EN 62061**



Technical data

Input data	
Rated control supply voltage U_S	24 V DC -20% / +25%
Rated control supply current I_S	typ. 40 mA
Typical response time	< 50 ms
Typical release time	< 10 ms (when controlled via S12/S22) < 5 ms (when interrupted via A1; applicative deactivation via A1/A2 is not permitted)
Recovery time	< 500 ms
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂ (enabling current path)
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-35°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, reinforced insulation 6 kV: between (A1, A2, S11, S12, S21, S22, S35, M1) and enabling current path (13/14) between (A1, A2, S11, S12, S21, S22, S35, M1) and enabling current path (23/24) between enabling current paths
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Monitoring of two-hand control devices			
with screw connection	PSR-MC62-2NO-1DO-24DC-SC	2700574	1
with spring-cage connection	PSR-MC62-2NO-1DO-24DC-SP	2700575	1

Functional safety

Safety relay modules for machine building – PSRmini

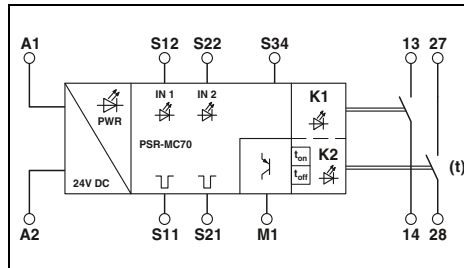
Highly compact safety relays with time function

Emergency stop, safety door, and light grid monitoring

- Two-channel control
- 2 enabling current paths, 1 digital signal output
- Release and on delay 0.2 s up to 60 s
- Basic insulation/reinforced insulation in part
- Manual, monitored, and automatic activation in a single device
- Can be retriggered



Up to Cat. 1/PL c
in accordance with EN ISO 13849-1,
SILCL 1 in accordance with IEC 62061

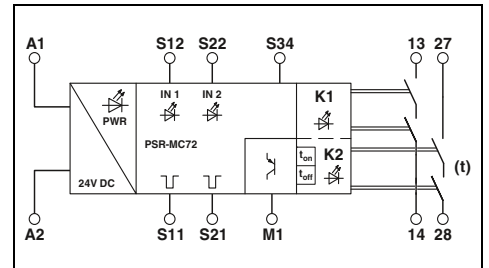


Technical data

Input data	
Rated control supply voltage U_s	24 V DC -20% / +25%
Rated control supply current I_s	typ. 50 mA
Typical response time	< 35 ms (automatic start) < 30 ms (manual, monitored start)
Typical release time	< 20 ms (when controlled via S12 (only for undelayed contact 13/14)) < 5 ms (when interrupted via A1; applicative deactivation via A1/A2 is not permitted)
Delay time range	0.2 s ... 60 s $\pm 5\%$ (can be set for 27/28)
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-35°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV; between all current paths and housing Safe isolation, reinforced insulation 6 kV: between (A1, A2, S11, S12, S21, S22, S34, M1) and enabling current path (13/14) between (A1, A2, S11, S12, S21, S22, S34, M1) and enabling current path (27/28) between enabling current paths
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527



Up to Cat. 4/PL e
in accordance with EN ISO 13849-1,
SILCL 3 in accordance with IEC 62061



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -20% / +25%
Rated control supply current I_s	typ. 60 mA
Typical response time	< 35 ms (automatic start) < 30 ms (manual, monitored start)
Typical release time	< 25 ms (when controlled via S12 (only for undelayed contact 13/14)) < 5 ms (when interrupted via A1; applicative deactivation via A1/A2 is not permitted)
Delay time range	0.2 s ... 60 s $\pm 5\%$ (can be set for 27/28)
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC (observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-35°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV; between all current paths and housing Safe isolation, reinforced insulation 6 kV: between (A1, A2, S11, S12, S21, S22, S34, M1) and enabling current path (13/14) between (A1, A2, S11, S12, S21, S22, S34, M1) and enabling current path (27/28) between enabling current paths
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop, safety door, and light grid monitoring			
with screw connection	PSR-MC70-2NO-1DO-24DC-SC	2702094	1
with spring-cage connection	PSR-MC70-2NO-1DO-24DC-SP	2702095	1

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Emergency stop, safety door, and light grid monitoring			
with screw connection	PSR-MC72-2NO-1DO-24DC-SC	2702096	1
with spring-cage connection	PSR-MC72-2NO-1DO-24DC-SP	2702097	1

Highly compact safety relays with time function

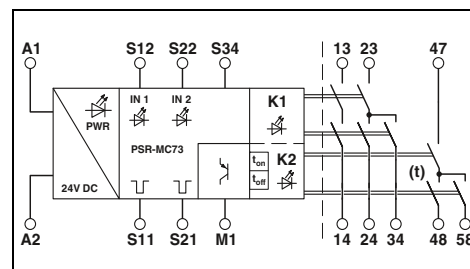
Emergency stop, safety door, and light grid monitoring

- Two-channel control
- 5 enabling current paths, 1 digital signal output
- Release and on delay 0.2 s up to 300 s
- Basic insulation/reinforced insulation in part
- Manual, monitored, and automatic activation in a single device
- Can be retrIGGERED



new

Up to Cat. 4/PL e
in accordance with EN ISO 13849-1,
SILCL 3 in accordance with IEC 62061



Technical data

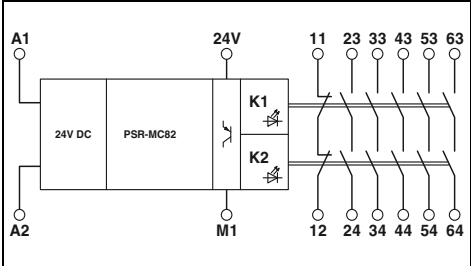
Input data	
Rated control supply voltage U_s	24 V DC -20% / +25%
Rated control supply current I_s	typ. 80 mA
Typical response time	< 40 ms (automatic start) < 30 ms (manual, monitored start)
Typical release time	< 25 ms (when controlled via S12 and S22 (only for undelayed contacts)) < 5 ms (when controlled via A1; applicative deactivation via A1/A2 is not permitted)
Delay time range	0.2 s ... 300 s $\pm 5\%$ (can be set for 47/48/58)
Recovery time	500 ms (following demand of the safety function)
Output data	
Contact type	5 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC (observe the load curve)
Limiting continuous current	6 A
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-35°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing Safe isolation, reinforced insulation 6 kV between (A1, A2, S11, S12, S21, S22, S34, M1) and enabling current path (13/14) and enabling current path (23/24) and enabling current path (47/48/58)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	22.5 mm / 112.2 mm / 114.5 mm
W / H / D	22.5 mm / 117.5 mm / 114.5 mm
	Screw version Spring-cage version
Ordering data	
Description	
Emergency stop, safety door, and light grid monitoring	
with screw connection	PSR-MC73-5NO-1DO-24DC-SC
with spring-cage connection	PSR-MC73-5NO-1DO-24DC-SP
	Order No.
	Pcs./Pkt.
	1015533
	1015526
	1
	1

Extension module

- 5 enabling current paths,
1 confirmation current path
- Basic insulation/reinforced insulation
in part
- In conjunction with a suitable evaluating
device:
Up to Cat. 4/PL e in accordance with
EN ISO 13849-1, SILCL 3 in accordance
with IEC EN 62061



Contact extension



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -20% / +25%
Rated control supply current I_s	typ. 80 mA
Typical response time	< 50 ms
Typical release time	< 25 ms (when controlled via A1/A2)
Recovery time	< 100 ms
Output data	
Contact type	5 enabling current paths 1 confirmation current path AgSnO ₂
Contact material	min. 5 V AC/DC / max. 24 V DC (enabling current path 23/24) / max. 250 V AC/DC (all other enabling current paths, observe load curve)
Switching voltage	6 A (observe derating)
Limiting continuous current	min. 10 mA / max. 6 A
Inrush current	min. 50 mW
Switching capacity	10 A gL/gG
Short-circuit protection of the output circuits	6 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (digital, PNP)
Output current	max. 100 mA
Short-circuit protection	Yes
General data	
Ambient temperature range	-20°C ... 60°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths Basic insulation 4 kV between all current paths and housing Safe isolation, reinforced insulation 6 kV between input circuits and enabling current paths 33/34, 43/44, and 63/64
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	17.5 mm / 112.2 mm / 114.5 mm
W / H / D	17.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527
	Screw version Spring-cage version

Ordering data

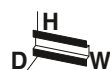
Description	Type	Order No.	Pcs./Pkt.
Extension module			
with screw connection	PSR-MC82-5NO-1NC-1DO-24DC-SC	2702382	1
with spring-cage connection	PSR-MC82-5NO-1NC-1DO-24DC-SP	2702383	1

Safety relays for emergency stop and safety door monitoring

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # and numbers in the search field.

i Your web code: **#1409**



Screw connection



Spring-cage connection

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Emergency stop and safety door monitoring , basic insulation, single-channel control, activation: manual and automatic, 4 enabling and 1 signaling current path, nominal input voltage 24 V AC/DC, Cat. 1/PL c in accordance with EN ISO 13849-1, SILCL 1 in accordance with IEC EN 62061	PSR-SCP- 24UC/ESA2/4X1/1X2/B	2963802	1	PSR-SPP- 24UC/ESA2/4X1/1X2/B	2963954	1
Emergency stop and safety door monitoring , basic insulation, single-channel control, activation: manual, monitored, and automatic, 3 enabling and 1 signaling current path, nominal input voltage 230 V AC, Cat. 1/PL c in accordance with EN ISO 13849-1, SILCL 1 in accordance with IEC EN 62061	PSR-SCP-230AC/ESAM2/3X1/1X2/B	2901430	1	PSR-SPP-230AC/ESAM2/3X1/1X2/B	2901431	1
Emergency stop and safety door monitoring , basic insulation, single- and two-channel control, activation: manual, monitored, and automatic, 3 enabling and 1 signaling current path, up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC EN 62061	PSR-SCP- 24UC/ESAM4/3X1/1X2/B	2900509	1	PSR-SPP- 24UC/ESAM4/3X1/1X2/B	2900510	1
- Nominal input voltage 24 V AC/DC,	PSR-SCP-42-48UC/ESAM4/3X1/1X2/B	2901416	1	PSR-SPP-42-48UC/ESAM4/3X1/1X2/B	2901417	1
- Nominal input voltage 42 - 48 V AC/DC	PSR-SCP-120UC/ESAM4/3X1/1X2/B	2901422	1	PSR-SPP-120UC/ESAM4/3X1/1X2/B	2901425	1
- Nominal input voltage 120 V AC/DC	PSR-SCP-230UC/ESAM4/3X1/1X2/B	2901428	1	PSR-SPP-230UC/ESAM4/3X1/1X2/B	2901429	1
- Nominal input voltage 230 V AC/DC						
Emergency stop and safety door monitoring , reinforced insulation, single- and two-channel control, activation: manual, monitored, and automatic, nominal input voltage 24 V AC/DC, up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC EN 62061	PSR-SCP- 24UC/ESAM4/2X1/1X2	2900525	1	PSR-SPP- 24UC/ESAM4/2X1/1X2	2900526	1
- 2 enabling and 1 signaling current path	PSR-SCP- 24UC/ESAM4/8X1/1X2	2963912	1	PSR-SPP-24UC/ESAM4/8X1/1X2	2963996	1
- 8 enabling and 1 signaling current path						

Safety relay with time functions

Emergency stop, safety door, and light grid monitoring

- Single and two-channel control
- 2 or 3 undelayed and 2 dropout delayed contacts
- Manual, monitored, and automatic activation in a single device
- Nominal input voltage 24 V DC
- Up to Cat. 3/4 and PL d/e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # and numbers in the search field.

i Your web code: **#1409**

Description
Emergency stop, safety door, and light grid monitoring, adjustable release delay time 0.1 s ... 30 s with screw connection with spring-cage connection
Emergency stop, safety door, and light grid monitoring, adjustable release delay time 0.2 s ... 300 s with screw connection with spring-cage connection
Emergency stop, safety door, and light grid monitoring, fixed release delay time 0.5 s with screw connection with spring-cage connection
Emergency stop, safety door, and light grid monitoring, fixed release delay time 1 s with screw connection with spring-cage connection
Emergency stop, safety door, and light grid monitoring, fixed release delay time 3 s with screw connection with spring-cage connection
Emergency stop, safety door, and light grid monitoring, fixed release delay time 5 s with screw connection with spring-cage connection

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/ESD/4X1/30	2981800	1
PSR-SPP- 24DC/ESD/4X1/30	2981813	1
PSR-SCP-24DC/ESD/5X1/1X2/300	2981428	1
PSR-SPP-24DC/ESD/5X1/1X2/300	2981431	1
PSR-SCP- 24DC/ESD/5X1/1X2/0T 5	2981101	1
PSR-SPP- 24DC/ESD/5X1/1X2/0T 5	2981130	1
PSR-SCP- 24DC/ESD/5X1/1X2/ T 1	2981143	1
PSR-SPP- 24DC/ESD/5X1/1X2/ T 1	2981156	1
PSR-SCP- 24DC/ESD/5X1/1X2/ T 3	2981224	1
PSR-SPP- 24DC/ESD/5X1/1X2/ T 3	2981237	1
PSR-SCP- 24DC/ESD/5X1/1X2/ T 5	2981266	1
PSR-SPP- 24DC/ESD/5X1/1X2/ T 5	2981279	1

Safety relay for emergency stop, safety door, and light grid monitoring

- Single and two-channel control
- 2 or 3 enabling current paths, 1 signaling current path or digital signal output
- Manual, monitored, and automatic activation in a single device
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

Notes:

Moreover, the PSR-SDC4 is also suitable for light grid monitoring, see page 233



Safety relay for two-hand control devices

- For two-hand control devices in accordance with EN 574 Type IIIC
- Two-channel control
- 2 enabling current paths, 1 signaling current path
- Automatic activation
- Concurrence monitoring < 0.5 s
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # and numbers in the search field.

i Your web code: **#1409**

Description

Light grid, emergency stop, and safety door monitoring,
one and two-channel,
activation: manually monitored and automatic

with screw connection
with spring-cage connection

Master module for emergency stop, safety door, light grid, and magnetic switch

with screw connection
with spring-cage connection

Two-hand controls and safety door monitoring,
two-channel, with cross-circuit detection,
activation: automatic

with screw connection
with spring-cage connection

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SCP- 24UC/ESL4/3X1/1X2/B	2981059	1
PSR-SPP- 24UC/ESL4/3X1/1X2/B	2981062	1
PSR-SCP- 24DC/SDC4/2X1/B	2981486	1
PSR-SPP- 24DC/SDC4/2X1/B	2981499	1
PSR-SCP- 24UC/THC4/2X1/1X2	2963721	1
PSR-SPP- 24UC/THC4/2X1/1X2	2963983	1

Extension modules

- Single and two-channel control
- 5 enabling, 1 signaling, and 1 confirmation current path
- Option of basic insulation or reinforced insulation
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

Find out more with the web code

Detailed information on these products can be found on our website. Simply enter # and numbers in the search field.

i Your web code: **#1409**



Contact extension

Description
Extension module , reinforced insulation, single- or two-channel control, 5 enabling, 1 signaling, and 1 confirmation current path with screw connection with spring-cage connection Extension module , basic insulation, single-channel control, 5 enabling, 1 signaling, and 1 confirmation current path with screw connection with spring-cage connection Extension module , basic insulation, for electrosensitive protective equipment such as light grids, single- or two-channel control, 3 enabling and 1 signaling current path with screw connection with spring-cage connection Extension module , basic insulation, with wide-range input (42 ... 230 V AC/DC), single- or two-channel control, 4 enabling, 1 signaling, and 1 confirmation current path with screw connection with spring-cage connection

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24UC/URM4/5X1/2X2	2963734	1
PSR-SPP- 24UC/URM4/5X1/2X2	2964005	1
PSR-SCP- 24UC/URM4/5X1/2X2/B	2981033	1
PSR-SPP- 24UC/URM4/5X1/2X2/B	2981046	1
PSR-SCP-24DC/URML4/3X1/1X2/B	2903583	1
PSR-SPP-24DC/URML4/3X1/1X2/B	2903584	1
PSR-SCP-42-230UC/URM4/4NO/2NC	2702924	1
PSR-SPP-42-230UC/URM4/4NO/2NC	2702925	1

Modular safety relay system



The PSR safety relay system reduces planning effort, simplifies wiring, and minimizes storage costs.

The PSR-SDC4 multifunctional master monitors the various safety-related signals.

The PSR-URM4/B and PSR-URD3 extension devices can be used to integrate additional undelayed contacts and contacts with dropout delay via the PSR-TBUS DIN rail connector.

The PSR-SIM4 interface module and PSR-SACB sensor box are suitable for wiring several safety switches with N/C or N/O contacts.

- Single and two-channel control of the master
- Manual, monitored, and automatic activation in a single device
- With or without cross-circuit detection
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061
- Extension modules with adjustable release time:
Up to Cat. 3/PL d in accordance with EN ISO 13849-1, SILCL 2 in accordance with IEC EN 62061



PL
EN ISO 13849

SILCL
IEC 62061



Ordering data

Description	Type	Order No.	Pcs./Pkt.
Master module for emergency stop, safety door, light grid, and magnetic switch with screw connection with spring-cage connection	PSR-SCP- 24DC/SDC4/2X1/B PSR-SPP- 24DC/SDC4/2X1/B	2981486 2981499	1 1
Extension module , with single-channel control with screw connection with spring-cage connection	PSR-SCP- 24DC/URM4/4X1/2X2/B PSR-SPP- 24DC/URM4/4X1/2X2/B	2981677 2981680	1 1
Extension module with dropout delayed contacts (adjustable up to max. 3 s), single-channel control with screw connection with spring-cage connection	PSR-SCP- 24DC/URD3/4X1/2X2/3 PSR-SPP- 24DC/URD3/4X1/2X2/3	2981732 2981745	1 1
Extension module with dropout delayed contacts (adjustable up to max. 30 s), single-channel control with screw connection with spring-cage connection	PSR-SCP- 24DC/URD3/4X1/2X2 PSR-SPP- 24DC/URD3/4X1/2X2	2981512 2981525	1 1
Interface module , for up to four safety sensors/switches with N/O or N/C contacts with screw connection with spring-cage connection	PSR-SCP- 24DC/SIM4 PSR-SPP- 24DC/SIM4	2981936 2981949	1 1
Sensor box , with M12 slots and connected master cable, for magnetic limit switch with N/C contacts / N/O contacts, LEDs for signaling Length of cable: 5 m Length of cable: 10 m	PSR-SACB-4/4-L- 5,0PUR-SD PSR-SACB-4/4-L-10,0PUR-SD	2981871 2981884	1 1
Accessories			
PSR-TBUS DIN rail connector , for supplying/controlling/monitoring (depending on the module)	PSR-TBUS	2890425	50
PSR TBUS dummy plug	PSR-TBUS-TP	2981716	50

Functional safety

Safety relay modules for machine building – PSRmultifunction

Multifunctional safety relays

You can easily implement three safety functions, such as emergency stop, safety door or light grid monitoring, with the PSR-MXF device range – and all using a single device.

In total, there are four function versions available each with three connection methods.

Features:

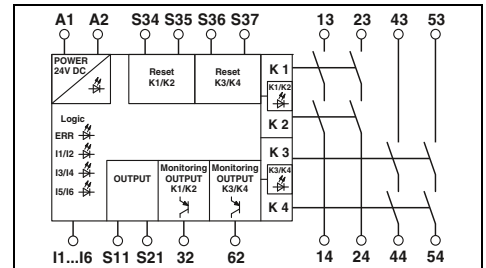
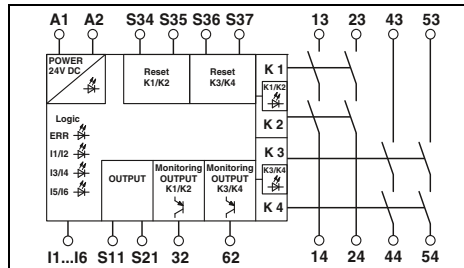
- Single and two-channel control
- 2 x 2 enabling current paths, 2 digital signal outputs
- Basic insulation
- Manual, monitored, and automatic activation in a single device
- No software configuration required
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Screw connection



Spring-cage connection



Technical data

Input data	
Nominal input voltage U_N	24 V DC
Permissible range (with reference to U_N)	0.85 ... 1.1
Typical current consumption (with reference to U_N)	125 mA (with actuated relays) / 55 mA (two-channel 24 V/0 V + max. 200 mA control (message outputs 32/62) with non-actuated relays)
Recovery time	1 s (availability time after activation of sensor circuit: 100ms)
Output data	
Contact type	4 enabling current paths 2 semiconductor alarm outputs
Contact material	AgCuNi, +0.2 -0.4 μ m Au
Max./min. switching voltage	250 V AC/DC / 10 V AC/DC
Limiting continuous current	6 A (N/O contact), max. 100 mA (alarm output (24 V DC))
Max./min. inrush current	6 A / 10 mA
Switching capacity (360/h cycles)	5 A (0.1 Hz; DC13; 24 V)
Switching capacity (3600/h cycles)	3 A (AC15; 230 V)
Short-circuit protection of the output circuits	6 A gL/gG NEOZED (N/O contact) 4 A gL/gG NEOZED (for low-demand applications)
General data	
Ambient temperature range	-20°C ... 45°C (see derating curve)
Air and creepage distances between the circuits	DIN EN 50178/VDE 0160
Rated surge voltage/insulation	4 kV/basic insulation (safe isolation, reinforced insulation and 6 kV between input circuit, enabling current paths and safety circuit 1 (13/14, 23/24) and safety circuit 2 (43/44, 53/54).)
Dimensions	W / H / D 22.5 mm / 112.2 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/MXF1/4X1/2X2/B	2902725	1
PSR-SCP-24DC/MXF2/4X1/2X2/B	2903254	1
PSR-SCP-24DC/MXF3/4X1/2X2/B	2903257	1
PSR-SCP-24DC/MXF4/4X1/2X2/B	2903260	1

Technical data

Input data	
Nominal input voltage U_N	24 V DC
Permissible range (with reference to U_N)	0.85 ... 1.1
Typical current consumption (with reference to U_N)	125 mA (with actuated relays) / 55 mA (two-channel 24 V/0 V + max. 200 mA control (message outputs 32/62) with non-actuated relays)
Recovery time	1 s (availability time after activation of sensor circuit: 100ms)
Output data	
Contact type	4 enabling current paths 2 semiconductor alarm outputs
Contact material	AgCuNi, +0.2 -0.4 μ m Au
Max./min. switching voltage	250 V AC/DC / 10 V AC/DC
Limiting continuous current	6 A (N/O contact), max. 100 mA (alarm output (24 V DC))
Max./min. inrush current	6 A / 10 mA
Switching capacity (360/h cycles)	5 A (0.1 Hz; DC13; 24 V)
Switching capacity (3600/h cycles)	3 A (AC15; 230 V)
Short-circuit protection of the output circuits	6 A gL/gG NEOZED (N/O contact) 4 A gL/gG NEOZED (for low-demand applications)
General data	
Ambient temperature range	-20°C ... 45°C (see derating curve)
Air and creepage distances between the circuits	DIN EN 50178/VDE 0160
Rated surge voltage/insulation	4 kV/basic insulation (safe isolation, reinforced insulation and 6 kV between input circuit, enabling current paths and safety circuit 1 (13/14, 23/24) and safety circuit 2 (43/44, 53/54).)
Dimensions	W / H / D 22.5 mm / 117.4 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SPP-24DC/MXF1/4X1/2X2/B	2902726	1
PSR-SPP-24DC/MXF2/4X1/2X2/B	2903255	1
PSR-SPP-24DC/MXF3/4X1/2X2/B	2903258	1
PSR-SPP-24DC/MXF4/4X1/2X2/B	2903261	1

Safety relay modules for machine building – PSRmultifunction

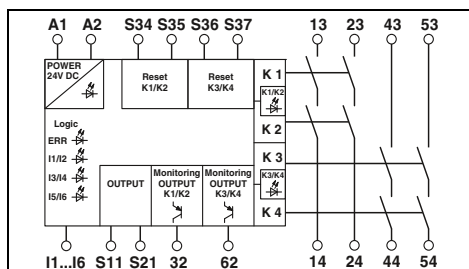


PL
EN ISO 13849

SILCL
IEC 62061



Push-in connection



Technical data

24 V DC
0.85 ... 1.1
125 mA (with actuated relays) /
55 mA (two-channel 24 V/0 V + max. 200 mA control
(message outputs 32/62) with non-actuated relays)

1 s (availability time after activation of sensor circuit: 100ms)

4 enabling current paths
2 semiconductor alarm outputs
AgCuNi, +0.2 -0.4 μm Au
250 V AC/DC / 10 V AC/DC
6 A (N/O contact), max. 100 mA (alarm output (24 V DC))

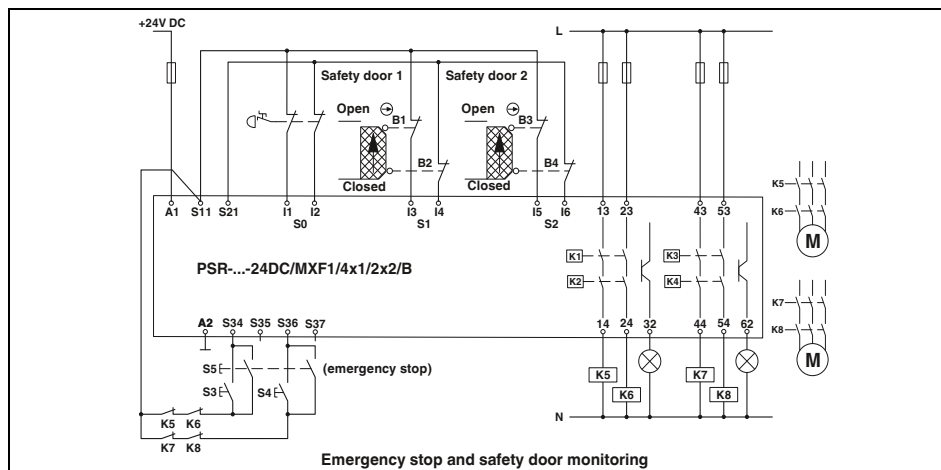
6 A / 10 mA
5 A (0.1 Hz; 24 V)
3 A (AC15; 230 V)
6 A gL/gG NEOZED (N/O contact)
4 A gL/gG NEOZED (for low-demand applications)

-20°C ... 45°C (see derating curve)
DIN EN 50178/VDE 0160
4 kV/basic insulation (safe isolation, reinforced insulation
and 6 kV between input circuit, enabling current paths and
safety circuit 1 (13/14, 23/24) and safety circuit 2 (43/44, 53/54).)

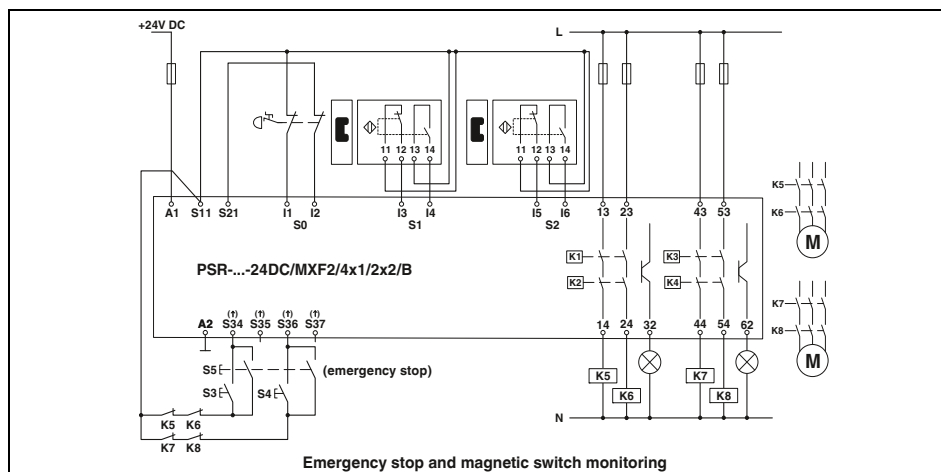
22.5 mm / 106.4 mm / 114.5 mm
Class A product, see page 527

Ordering data

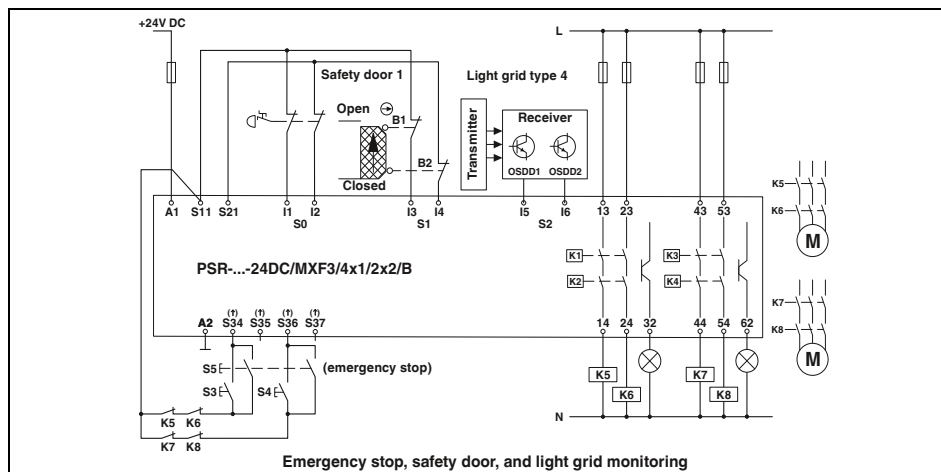
Type	Order No.	Pcs./Pkt.
PSR-PIP-24DC/MXF1/4X1/2X2/B	2903253	1
PSR-PIP-24DC/MXF2/4X1/2X2/B	2903256	1
PSR-PIP-24DC/MXF3/4X1/2X2/B	2903259	1
PSR-PIP-24DC/MXF4/4X1/2X2/B	2903262	1



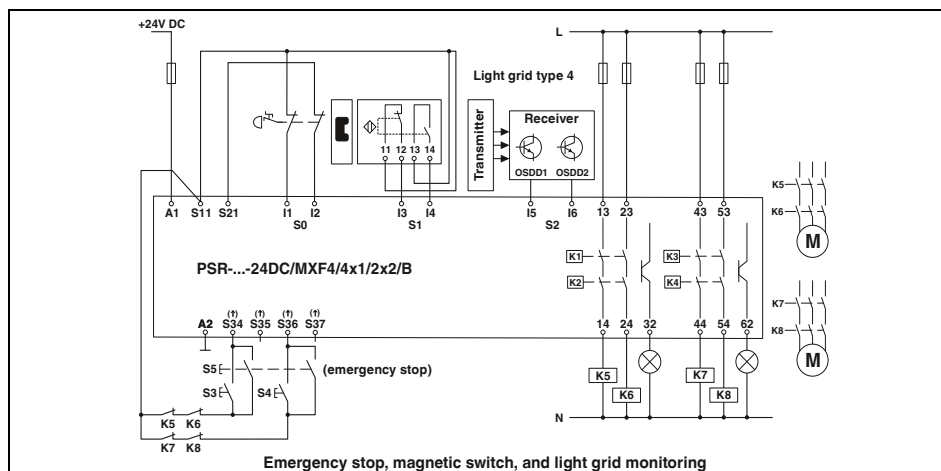
Emergency stop and safety door monitoring



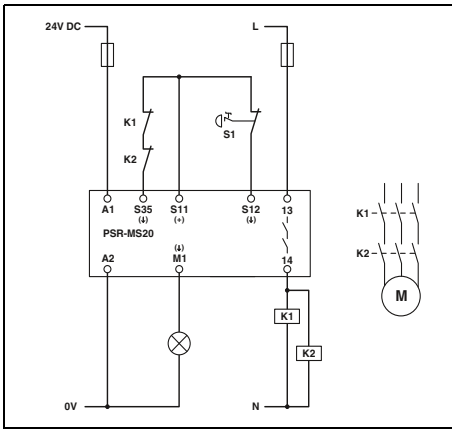
Emergency stop and magnetic switch monitoring



Emergency stop, safety door, and light grid monitoring

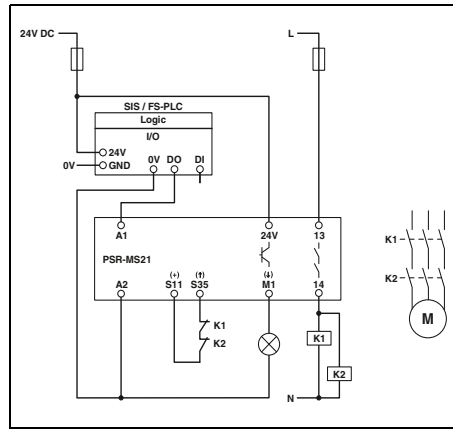


Emergency stop, magnetic switch, and light grid monitoring



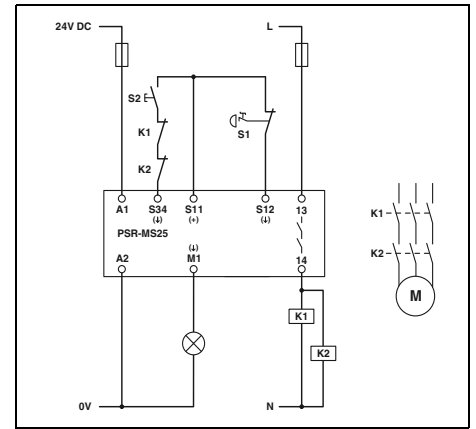
PSR-MS20

- Single-channel emergency stop monitoring with automatic start



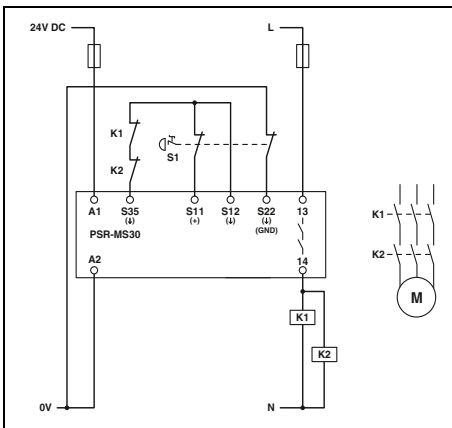
PSR-MS21

- Single-channel control via failsafe PLC



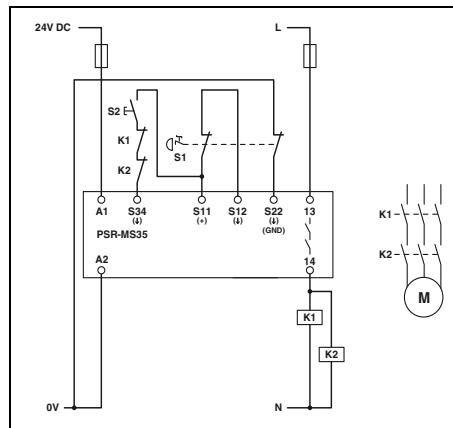
PSR-MS25

- Single-channel emergency stop monitoring with manual, monitored start



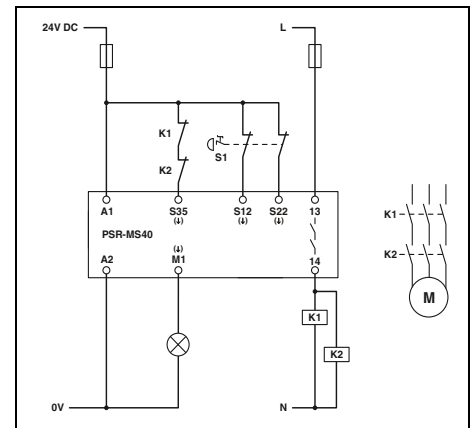
PSR-MS30

- Two-channel emergency stop monitoring with automatic start



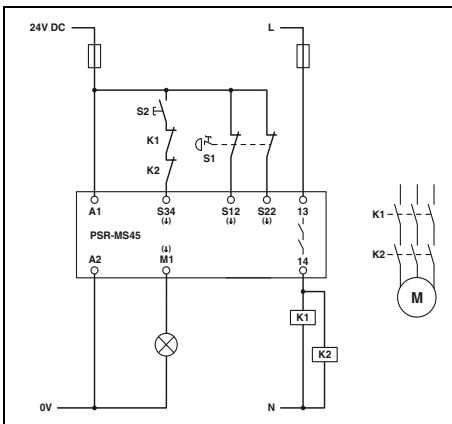
PSR-MS35

- Two-channel emergency stop monitoring with manual, monitored start



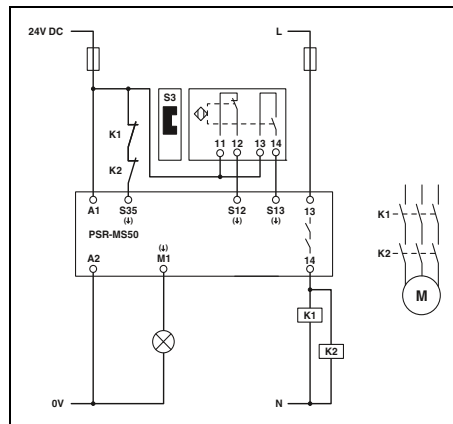
PSR-MS40

- Two-channel emergency stop monitoring with automatic start (no cross-circuit detection in the sensor circuit)



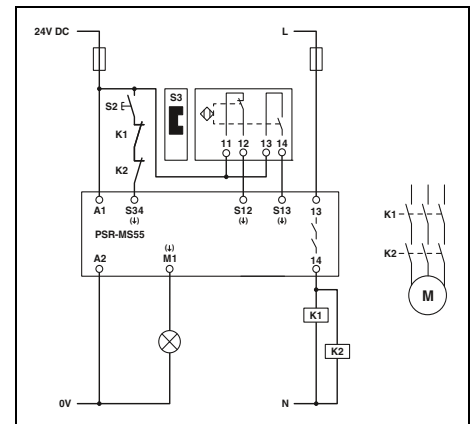
PSR-MS45

- Two-channel emergency stop monitoring with automatic start (no cross-circuit detection in the sensor circuit)



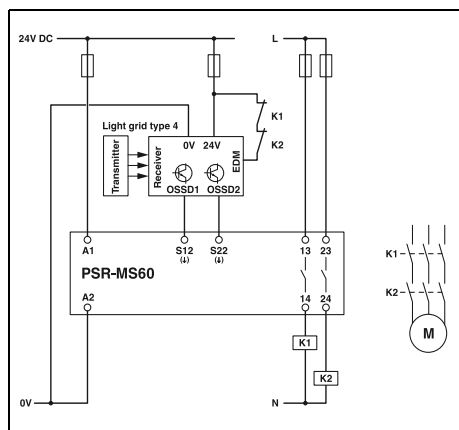
PSR-MS50

- Two-channel, non-equivalent magnetic switch monitoring with automatic start

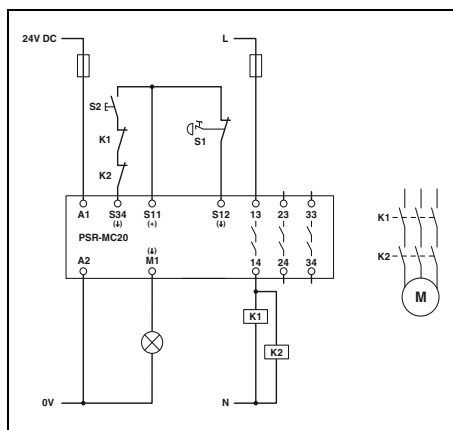


PSR-MS55

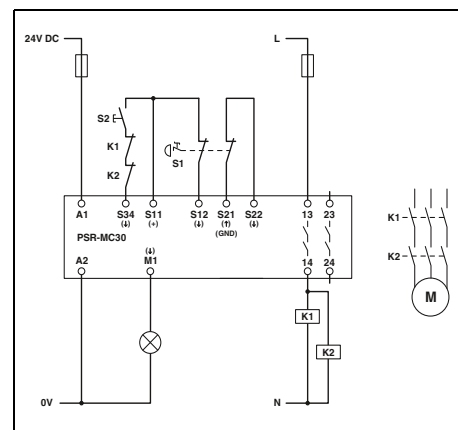
- Two-channel, non-equivalent magnetic switch monitoring with manual, monitored start

**PSR-MS60**

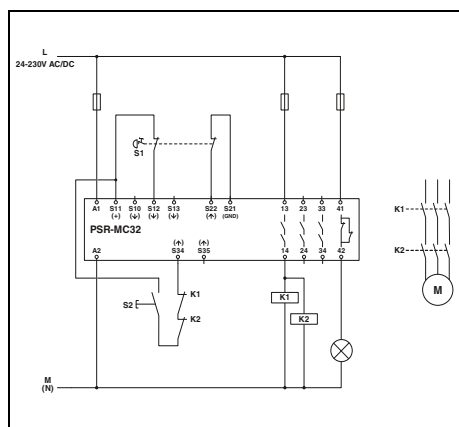
- Two-channel light grid monitoring with automatic start

**PSR-MC20**

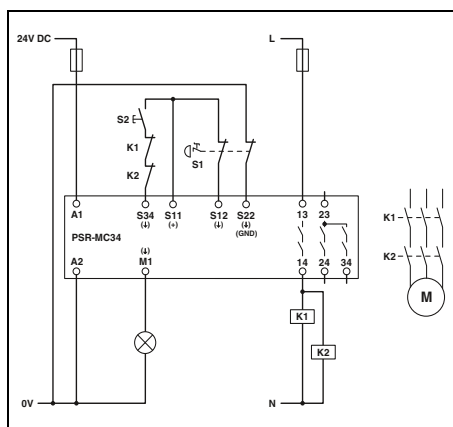
- Single-channel emergency stop monitoring with manual, monitored start

**PSR-MC30**

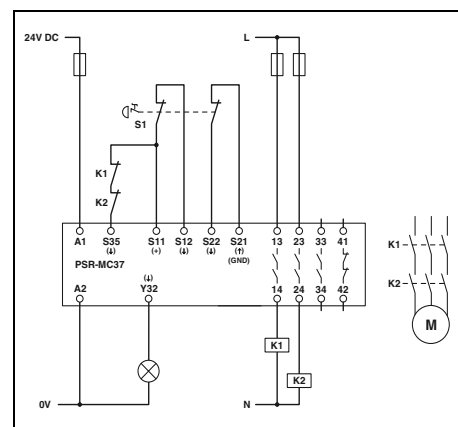
- Two-channel emergency stop monitoring with manual, monitored start; cross-circuit detection

**PSR-MC32**

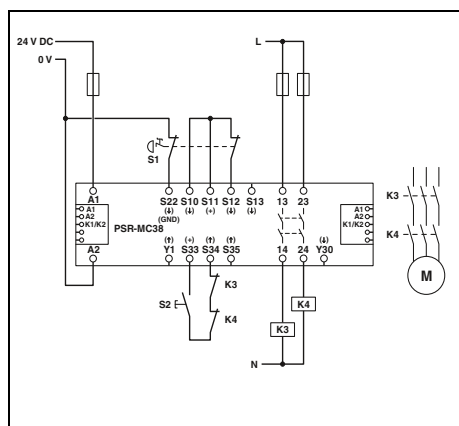
- Two-channel emergency stop monitoring with manual, monitored start

**PSR-MC34**

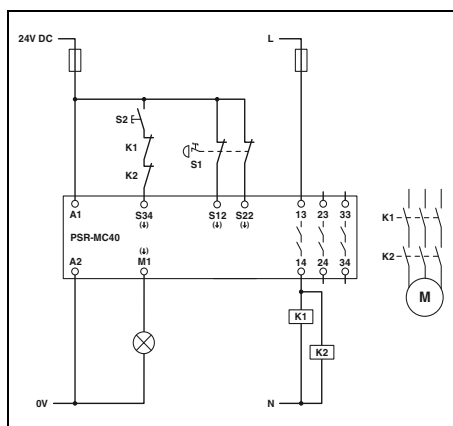
- Two-channel emergency stop monitoring with manual, monitored start; cross-circuit detection

**PSR-MC37**

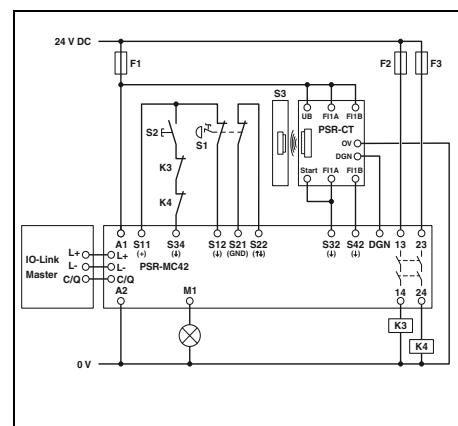
- Two-channel emergency stop monitoring with automatic start

**PSR-MC38**

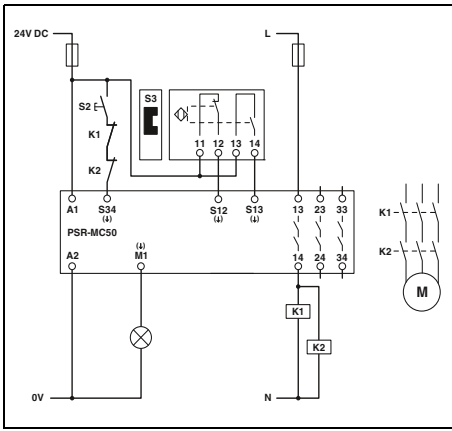
- Two-channel emergency stop monitoring with manual, monitored start

**PSR-MC40**

- Two-channel emergency stop monitoring with manual, monitored start (no cross-circuit detection in the sensor circuit)

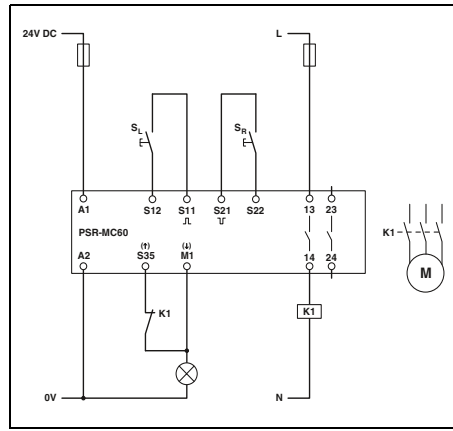
**PSR-MC42**

- Two-channel transponder monitoring with diagnostics via IO-Link



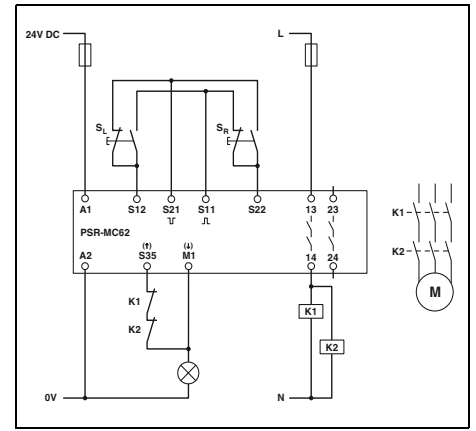
PSR-MC50

- Two-channel, non-equivalent magnetic switch monitoring with manual, monitored start



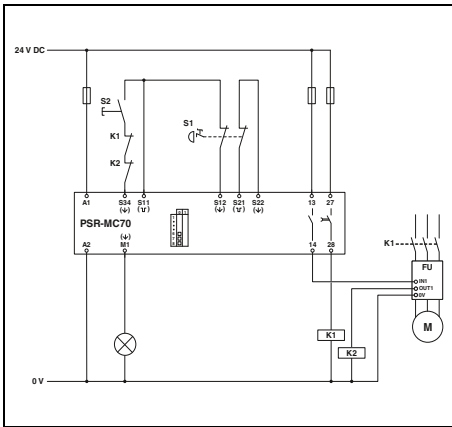
PSR-MC60

- Two-hand monitoring type IIIA



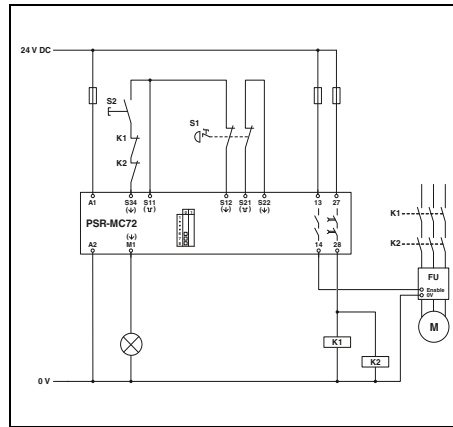
PSR-MC62

- Two-hand monitoring type IIIC



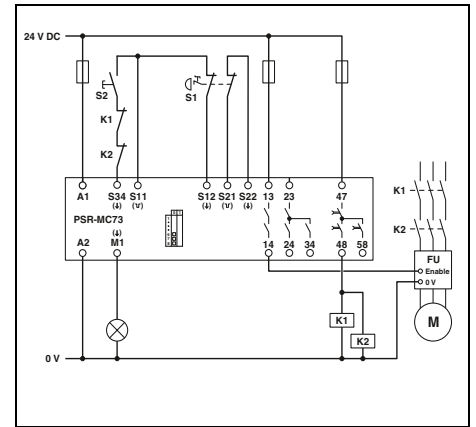
PSR-MC70

- Single-channel emergency stop monitoring with manual, monitored start



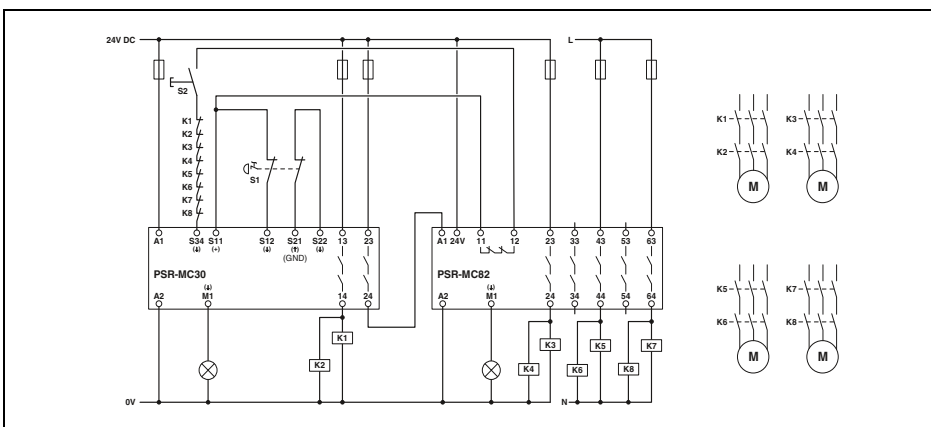
PSR-MC72

- Two-channel emergency stop monitoring with manual, monitored start



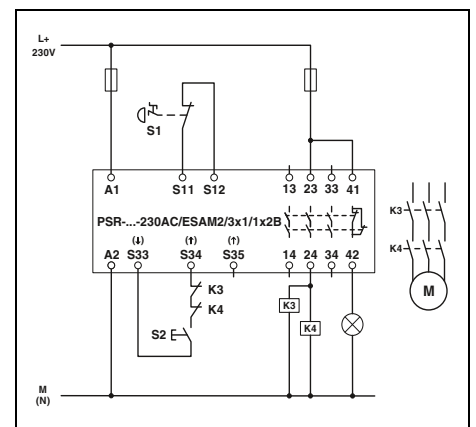
PSR-MC73

- Two-channel emergency stop monitoring with manual, monitored start



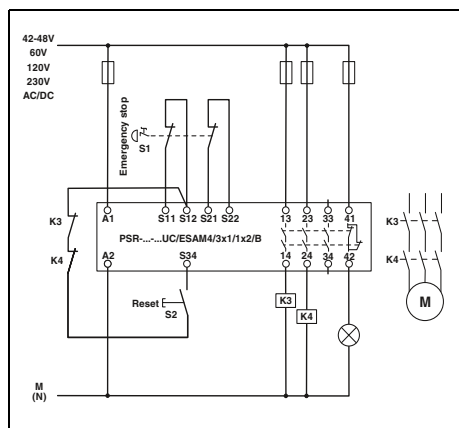
PSR-MC82

- Two-channel emergency stop monitoring with contact extension

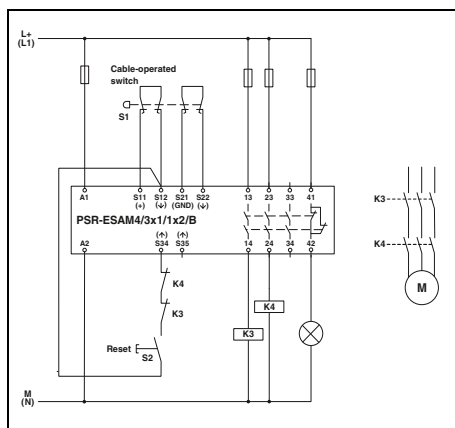


PSR-ESAM2/3X1-B

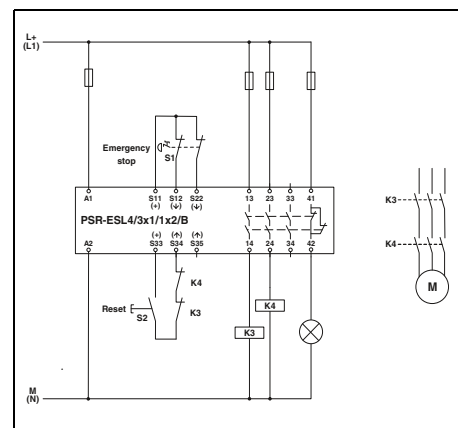
- Single-channel emergency stop monitoring with manual, monitored start
- Automatic activation: bridge at S33/S35

**PSR-ESAM4/3X1-B**

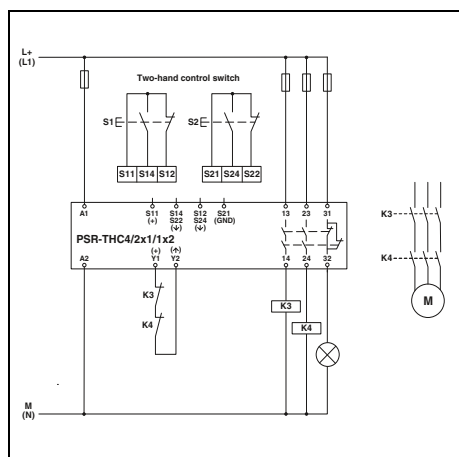
- Two-channel emergency stop monitoring with manual, monitored start; cross-circuit detection
- Automatic activation: bridge at S22/S34

**PSR-ESAM4/3X1-B**

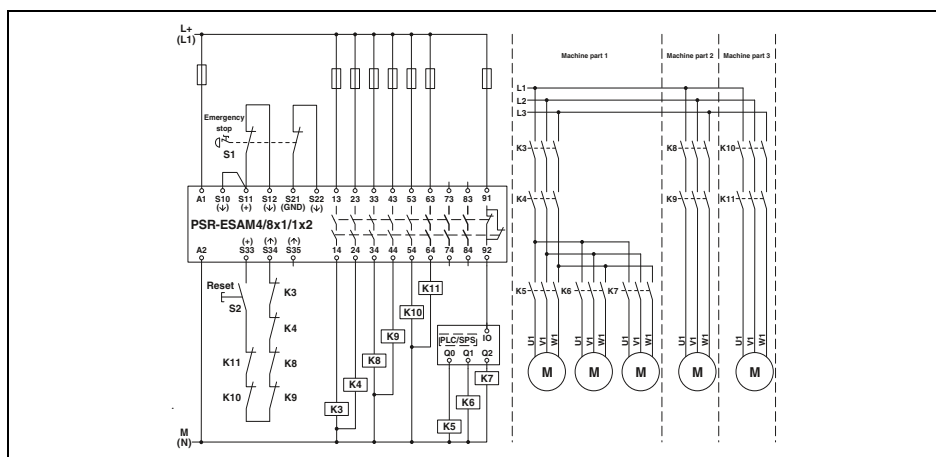
- Two-channel monitoring of a cable-operated switch with manual, monitored start; cross-circuit detection
- Automatic activation: bridge at S12/S35

**PSR-ESL4**

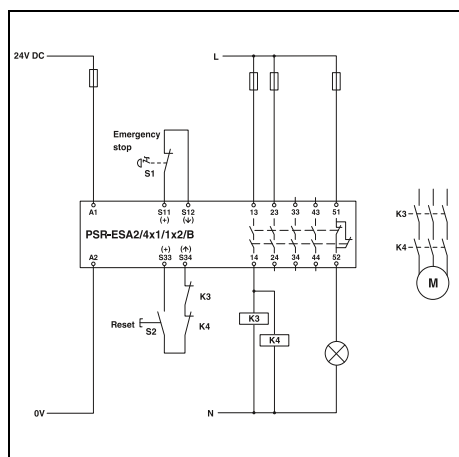
- Two-channel emergency stop monitoring with manual, monitored start; cross-circuit detection
- Automatic activation: bridge at S33/S35

**PSR-THC4**

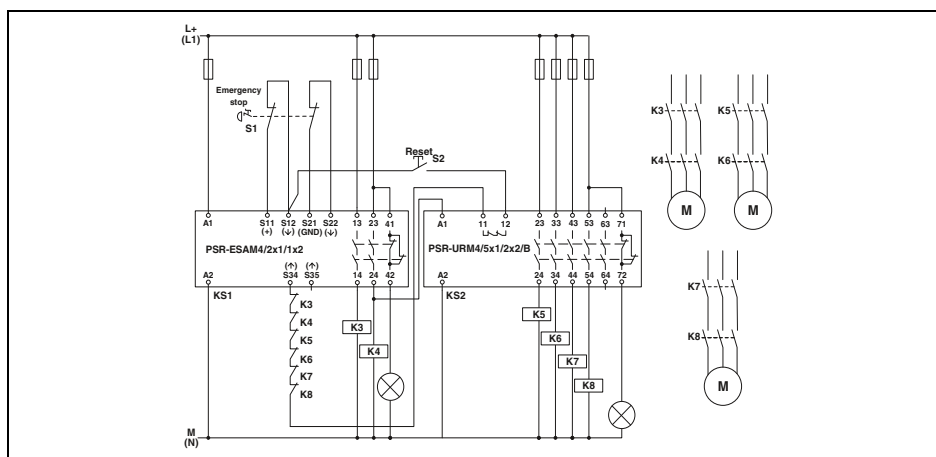
- Two-hand monitoring type IIIC

**PSR-ESAM4/8X1**

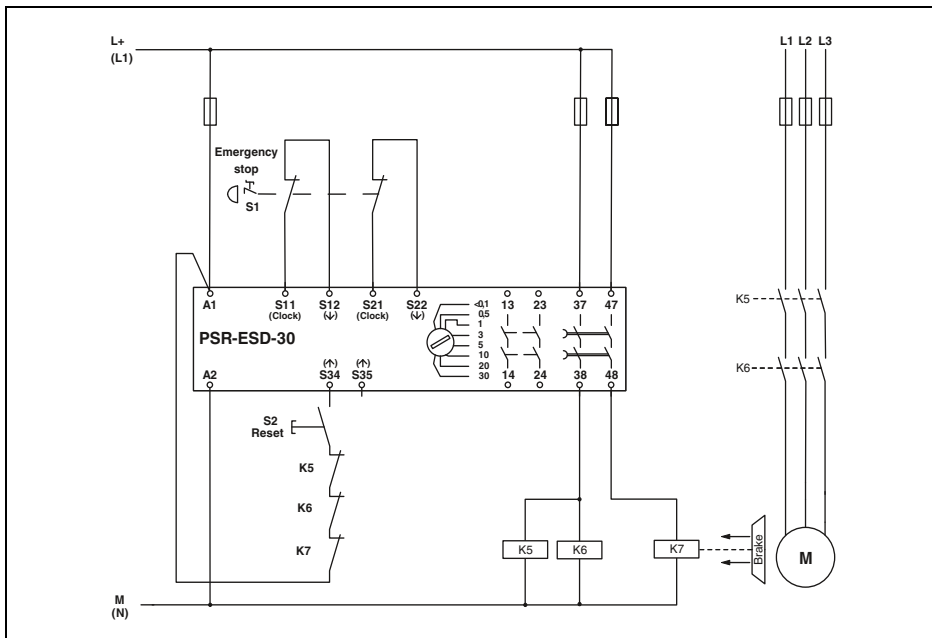
- Two-channel emergency stop monitoring with manual, monitored start; cross-circuit detection
- Automatic activation: bridge at S33/S35

**PSR-ESA2-B**

- Single-channel emergency stop monitoring with manual start
- Automatic activation: bridge at S33/S34

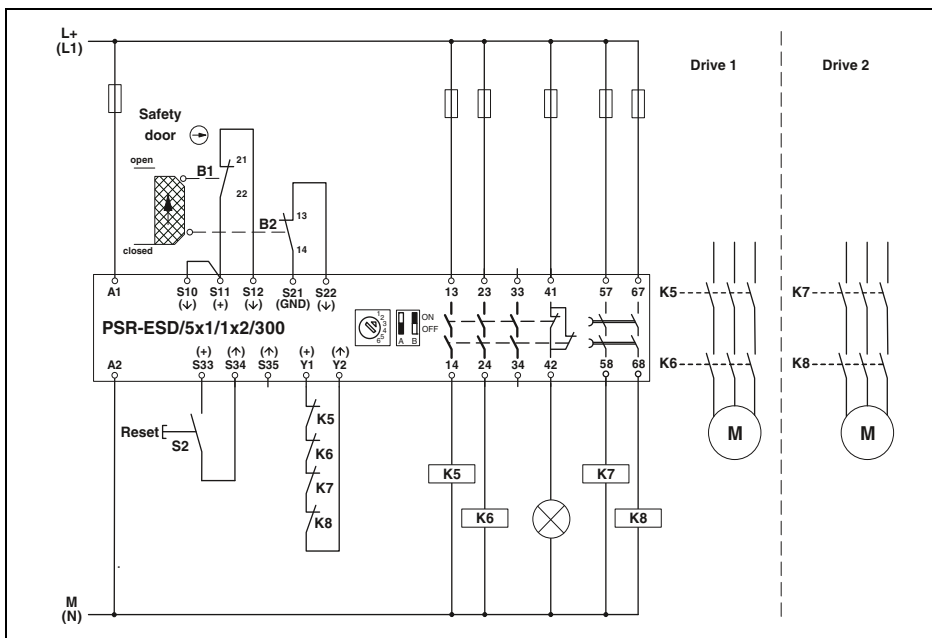
**PSR-URM4 and PSR-URM4-B**

- Two-channel emergency stop monitoring with manual, monitored start
- Linking with PSR-ESAM4/2X1
- Integration of the confirmation current path in the basic device



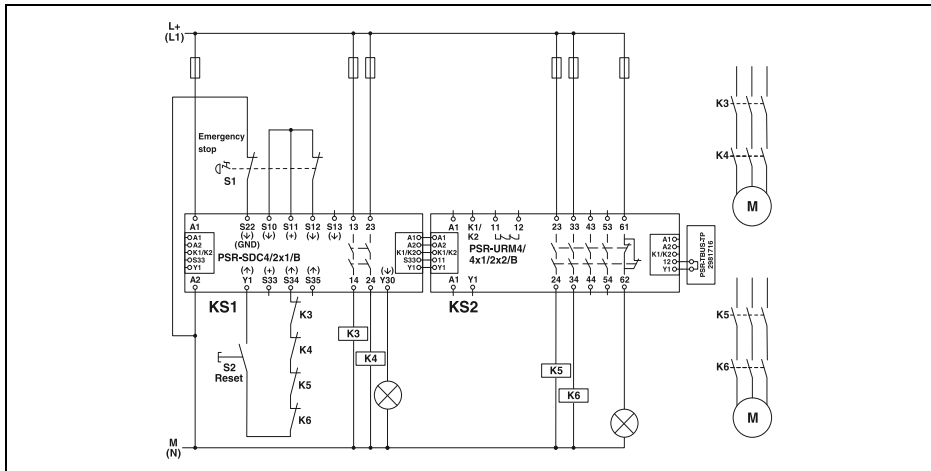
PSR-ESD-30

- Two-channel emergency stop monitoring
- Automatic activation: bridge at A1/S35
- with manual, monitored start;
- cross-circuit detection

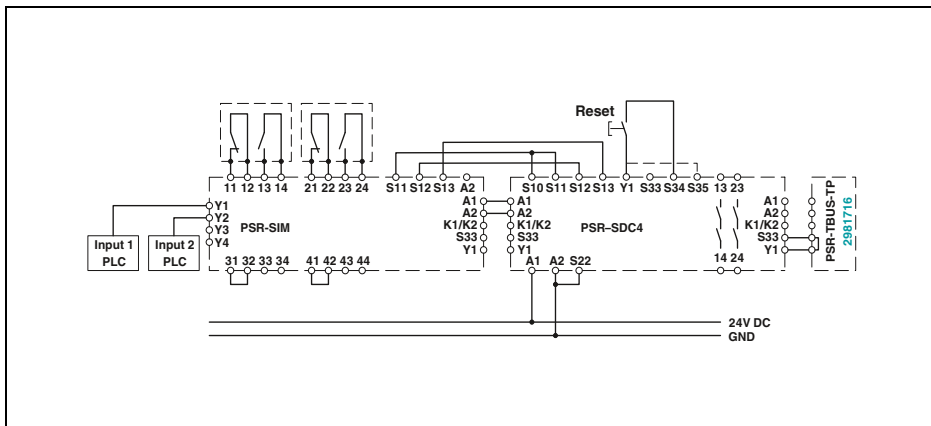


PSR-ESD-300

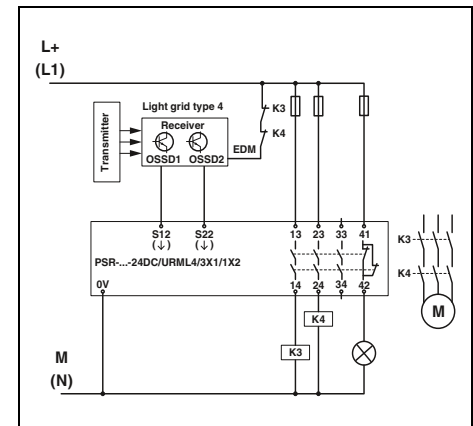
- Two-channel safety door monitoring
- Automatic activation: bridge at S33/S35
- with manual, monitored start;
- cross-circuit detection

**PSR-SDC4 with PSR-URM4-B**

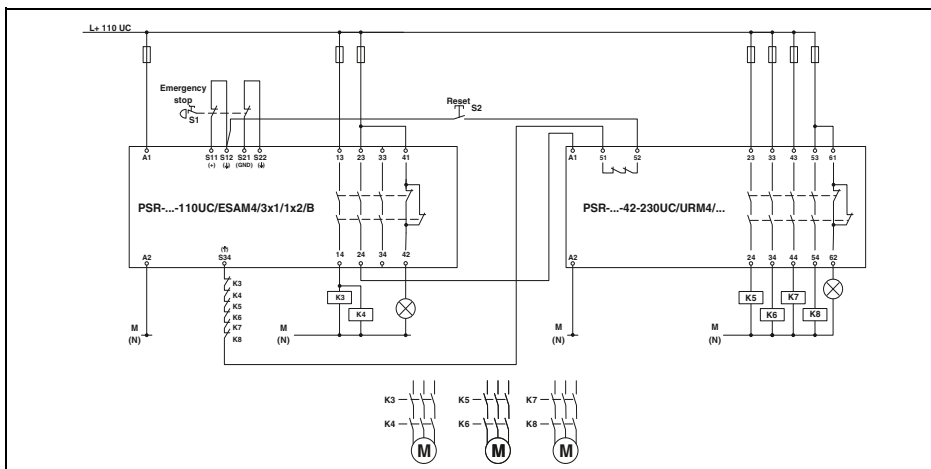
- Two-channel emergency stop monitoring with manual, monitored start
- Contact extension via PSR-TBUS
- Automatic activation: bridge at S33/S35

**PSR-SIM4 with PSR-SDC4**

- Safety door monitoring with manual, monitored start
- Contact extension via interface module
- Automatic activation: bridge at S33/S35

**PSR-URML4**

- Two-channel light grid monitoring
- Cross-circuit detection via light grid

**PSR-URM4/42-230UC and PSR-ESAM4/3X1-B**

- Two-channel emergency stop monitoring with manual, monitored start
- Linking with PSR-ESAM4/3X1-B
- Integration of the confirmation current path in the basic device

Functional safety

Safety relay modules – PSRmotion

Zero-speed and over-speed safety relays



PSR-MM25 sensorless zero-speed safety relay

The highly compact PSR-MM25 safety relay module monitors the zero speed of single and three-phase AC and DC motors without additional sensor technology.

The residual voltage induced by the motor windings is analyzed in order to detect zero speed.

PSR-MM30 zero-speed and over-speed safety relay

With the PSR-MM30 combined zero-speed and over-speed safety relay, you can monitor up to three different operating modes in addition to zero-speed mode. You can connect an encoder or proximity switch to the safety relay module in order to monitor motion. The PSR-MM30 ensures high system availability, thanks to the reliable measuring procedure.

The integrated safety door monitoring system makes it compatible with PSRswitch non-contact safety switches.

PSRmotion software

The PSR-MM30 zero-speed and over-speed safety relay can be started up, configured, and monitored conveniently using the PSRmotion software.

In live measuring mode, you can visualize the motion sequences of your machine. You can download the Windows-based software free of charge. Adaptations are made via a USB interface.

i Your web code: **#1546**

Note:

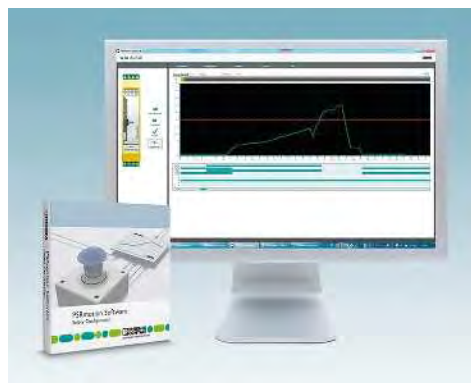
Pre-assembled cable adapters are available for connecting the PSR-MM30 safe zero-speed and over-speed safety relay to the motor feedback system of the controller.



PSR-MM25 sensorless zero-speed safety relay



PSR-MM30 zero-speed and over-speed safety relay



Live monitoring with the PSRmotion software

Zero-speed monitoring

PSR-MM25: sensorless zero-speed monitoring

- Two-channel evaluation of the residual voltage induced in the motor windings
- Adjustable switching threshold and time delay
- 1 enabling current path, 2 signal outputs
- Up to Cat. 3/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

PSR-MM30: over-speed and zero-speed monitoring

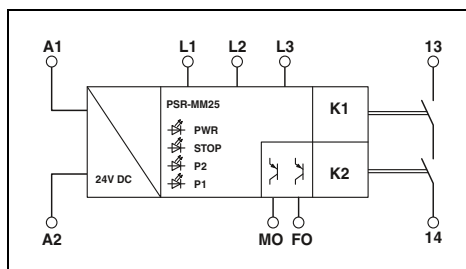
- Startup via USB connection
- 2 enabling current paths, 2 signal outputs
- Monitoring of zero speed and up to 3 different operating modes
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061



Sensorless zero-speed monitoring of AC or DC motors



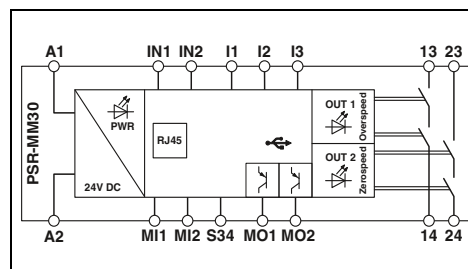
Zero-speed and over-speed safety relay for connecting external sensors



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 50 mA
Typical starting time with U_s	< 1 s
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 24 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	5 A (observe derating)
Inrush current	min. 3 mA / max. 5 A
Switching capacity	min. 72 mW
Short-circuit protection of the output circuits	5 A gL/gG
General data	
Ambient temperature range	-20°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Basic insulation 4 kV: between all current paths and housing
	Basic insulation 8 kV: between L1 and L2 between L1 and L3 between L2 and L3
	Safe isolation, reinforced insulation 6 kV: between A1/A2 and 13/14 between MO/FO and 13/14
	Safe isolation, reinforced insulation 8 kV: between L1/L2/L3 and A1/A2 between L1/L2/L3 and MO/FO between L1/L2/L3 and 13/14
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Description
Zero-speed safety relay , sensorless with screw connection with spring-cage connection
Zero-speed and over-speed safety relay with screw connection with spring-cage connection



Technical data

24 V DC -15% / +10% (provide external protection) typ. 74 mA	
2 enabling current paths	
AgSnO ₂	
min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)	
6 A	
min. 3 mA, max. 6 A	
min. 60 mW	
6 A gL/gG	
-40°C ... 55°C (observe derating)	
DIN EN 50178, EN 60947-5-1	
Basic insulation 4 kV between all current paths and housing	
Safe isolation, reinforced insulation 6 kV between input circuit (A1/A2, I1, I2, I3, MI1, MI2, IN1, IN2, S34, MO1, MO2, RJ45, USB) and the enabling current paths (13/14, 23/24)	
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12	
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16	
22.5 mm / 112.2 mm / 114.5 mm	
22.5 mm / 117.5 mm / 114.5 mm	
Class A product, see page 527	

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-MM30-2NO-2DO-24DC-SC	2702357	1
PSR-MM30-2NO-2DO-24DC-SP	2702358	1

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-MM25-1NO-2DO-24DC-SC	2702355	1
PSR-MM25-1NO-2DO-24DC-SP	2702356	1

Zero-speed and over-speed safety relays

- Monitors up to three different speeds plus zero speed
- Option to connect encoders (TTL, HTL, SIN/COS) and proximity switches
- Can be parameterized using free PSR-CONF-WIN configuration software
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

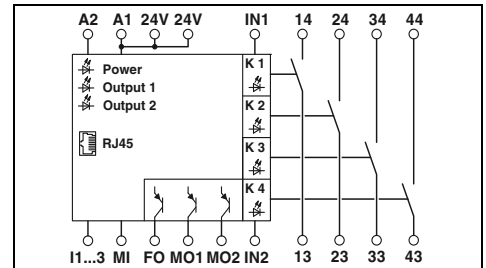
Notes:

Pre-assembled cable adapters are available for connecting the PSR-RSM4 safe zero-speed and over-speed safety relay to the motor feedback system (of the controller) – Order No. on request.

The necessary PSR-CONF-WIN configuration software can be downloaded free of charge from phoenixcontact.com.



Zero-speed and over-speed safety relay for connecting external sensors



Technical data

Input data

Nominal input voltage U_N
Permissible range (with reference to U_N)
Typical current consumption (with reference to U_N)
Typical response time
Typical release time
Recovery time

24 V DC
0.85 ... 1.1
100 mA
15 ms
12 ms
1 s

Output data

Contact type
Contact material
Max./min. switching voltage
Limiting continuous current
Max./min. inrush current
Min. switching power
Switching capacity (3600/h cycles)
Short-circuit protection of the output circuits

4 enabling current paths
AgNi10, + 5 µm Au
250 V AC/DC / 100 mV AC/DC
5 A, 100 mA (alarm outputs)
6 A / 1 mA
1 mW
2 A (24 V (DC13)) ; 3 A (230 V (AC15))
6 A gL

General data

Ambient temperature range
Air and creepage distances between the circuits
Rated surge voltage/insulation

-20°C ... 55°C
EN 60664/VDE 0110
4 kV/basic insulation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)

Screw connection rigid / flexible / AWG
Spring-cage connection rigid / flexible / AWG
Dimensions
W / H / D
EMC note

Screw version
Spring-cage version

0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
45 mm / 99 mm / 114.5 mm
45 mm / 112 mm / 114.5 mm
Class A product, see page 527

Ordering data

Description

Zero-speed and over-speed safety relay, 2-channel, automatic control with cable adapter or two initiators, activation: manual and automatic

with screw connection
with spring-cage connection

Type

Order No.

Pcs./Pkt.

PSR-SCP- 24DC/RSM4/4X1	2981538	1
PSR-SPP- 24DC/RSM4/4X1	2981541	1

Accessories

Cable adapter for PSR-RSM4, cable length: 2.5 m, for controller:

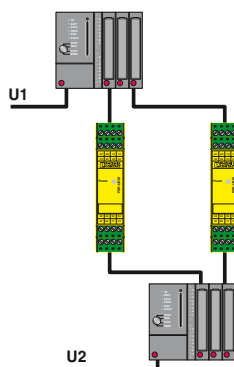
Lenze
Siemens Heidenhain, 15/8-pos.
Siemens Heidenhain, 25/8-pos.
Further types on request

Configuration software for parameterizing the PSR-RSM4 safe zero-speed and over-speed safety relay, with programming cable

CABLE- 9/8/250/RSM/LENZE	2981826	1
CABLE-15/8/250/RSM/SIMO611D	2981606	1
CABLE-25/8/250/RSM/SIMO611D	2981583	1
PSR-CONF-WIN1.0	2981554	1

Safe coupling relays for universal applications

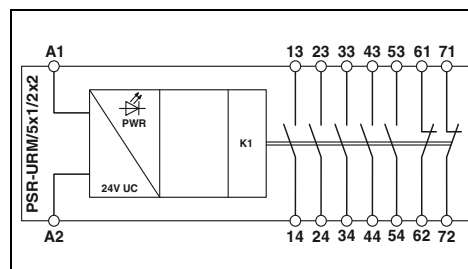
- Single- or two-channel control
- Forcibly guided contacts in accordance with EN 50205
- Up to Cat. 1/PL c in accordance with EN ISO 13849-1, SILCL 1 in accordance with IEC 62061



Reliable signal exchange between two systems
with confirmation function.



5 N/O contacts, 2 N/C contacts,
for $U_s = 24 \text{ V AC/DC}$ or 120 V AC/DC



Technical data

Input data	
Rated control supply voltage U_s	24 V AC/DC -15% / +10% 120 V AC/DC -20% ... +10%
Rated control supply current I_s	typ. 47 mA typ. 11 mA
Typical starting time with U_s	typ. 20 ms typ. 20 ms
	(when controlled via A1) (when controlled via A1)
Typical release time	typ. 20 ms typ. 20 ms
	(when controlled via A1) (when controlled via A1)
Output data	
Contact type	5 enabling current paths 2 confirmation current paths
Contact material	AgSnO ₂
Max./min. switching voltage	230 V AC/DC / 5 V AC/DC
Limiting continuous current	6 A (N/O contact), 3 A (N/C contact)
Max./min. inrush current	6 A / 10 mA
Switching capacity (360/h cycles)	4 A (24 V (DC13)) ; 4 A (250 V (AC15))
General data	
Ambient temperature range	-20°C ... 55°C
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	Safe isolation 4 kV between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	22.5 mm / 114.5 mm / 99 mm
W / H / D	22.5 mm / 114.5 mm / 112 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Coupling relay , with forcibly guided contacts			
with screw connection for 24 V AC/DC	PSR-SCP- 24UC/URM/5X1/2X2	2963747	1
with spring-cage connection for 24 V AC/DC	PSR-SPP- 24UC/URM/5X1/2X2	2963970	1
Coupling relay , with forcibly guided contacts			
with screw connection for 120 V AC/DC	PSR-SCP-120UC/URM/5X1/2X2	2981402	1

Functional safety

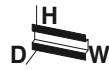
Safety relay modules – PSRclassic

Safe coupling relays for universal applications

- Single- or two-channel control
- Forcibly guided contacts in accordance with EN 50205
- Up to Cat. 1/PL c in accordance with EN ISO 13849-1, SILCL 1 in accordance with IEC 62061

Notes:

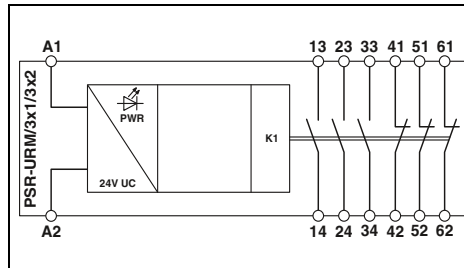
Marking systems and mounting material
See Catalog 3



3 N/O contacts, 3 N/C contacts,
for $U_s = 24 \text{ V AC/DC}$



5 N/O contacts, 1 N/C contact,
for $U_s = 24 \text{ V AC/DC}$



Technical data

Input data

Rated control supply voltage U_s

Rated control supply current I_s

Typical starting time with U_s

Typical response time

Typical release time

Output data

Contact type

Contact material

Max./min. switching voltage

Limiting continuous current

Max./min. inrush current

General data

Ambient temperature range

Air and creepage distances between the circuits

Rated surge voltage/insulation

24 V AC/DC -15% / +10%

typ. 45 mA

typ. 15 ms (when controlled via A1)

-

typ. 15 ms (when controlled via A1)

3 enabling current paths

3 confirmation current paths

AgSnO₂

230 V AC/DC / 5 V AC/DC

6 A (N/O contact), 3 A (N/C contact)

8 A / 10 mA

-20°C ... 55°C

DIN EN 50178

4 kV/basic insulation, (safe isolation, reinforced insulation, and 6 kV between input circuit and enabling current paths.)

Screw connection rigid / flexible / AWG

Spring-cage connection rigid / flexible / AWG

Dimensions

W / H / D

EMC note

Screw version

Spring-cage version

0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12

0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16

22.5 mm / 114.5 mm / 99 mm

22.5 mm / 114.5 mm / 112 mm

Class A product, see page 527

Ordering data

Description

Coupling relay, with forcibly guided contacts

with screw connection

with spring-cage connection

Universal safety relay, with forcibly guided contacts

with screw connection for 120 V AC/DC

Relay, with forcibly guided contacts

Type

Order No.

Pcs./Pkt.

PSR-SCP- 24UC/URM/3X1/3X2

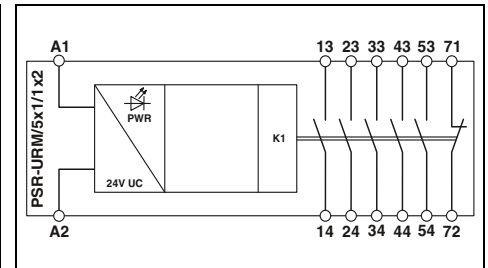
PSR-SPP- 24UC/URM/3X1/3X2

2981839

2981842

1

1



Technical data

24 V AC/DC -15% / +10%

typ. 47 mA

typ. 20 ms (when controlled via A1)

-

typ. 20 ms (when controlled via A1)

5 enabling current paths

1 confirmation current path

AgSnO₂

230 V AC/DC / 5 V AC/DC

6 A (N/O contact), 6 A (N/C contact)

6 A / 10 mA

-20°C ... 55°C

DIN EN 50178

4 kV/basic insulation (safe isolation, reinforced insulation, and 6 kV between A1/A2, 53/54, 71/72 and 13/14, 23/24, 33/34, 43/44.)

0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12

0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16

22.5 mm / 114.5 mm / 99 mm

22.5 mm / 114.5 mm / 112 mm

Class A product, see page 527

Ordering data

Type

Order No.

Pcs./Pkt.

PSR-SCP- 24UC/URM/5X1/1X2

PSR-SPP- 24UC/URM/5X1/1X2

2981952

2981965

1

1



PL
EN ISO 13849

SIL
IEC 61508



4 N/O contacts, 2 N/C contacts,
for $U_s = 24 \text{ V AC/DC}$



PL
EN ISO 13849

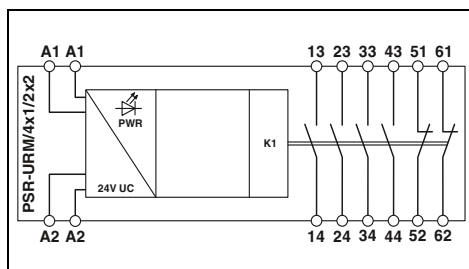
SIL
IEC 61508



2 PDTs,
for $U_s = 24 \text{ V AC/DC}$ or 120 V AC/DC



2 PDTs,
for $U_s = 24 \text{ V DC}$



Technical data

24 V AC/DC -20% / +10%

typ. 52 mA

typ. 10 ms (when controlled via A1)

-

typ. 10 ms (when controlled via A1)

4 enabling current paths
2 confirmation current paths
AgSnO₂
230 V AC/DC / 5 V AC/DC

6 A / 10 mA

-20°C ... 55°C

DIN EN 50178

Safe isolation, reinforced insulation 6 kV between input circuit (A1/A2) and all output current paths

Basic insulation 4 kV between all output current paths

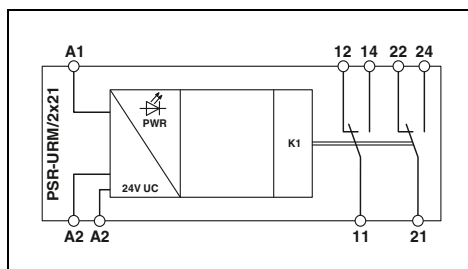
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12

0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16

40 mm / 111 mm / 55 mm

40 mm / 114.5 mm / 50.1 mm

Class A product, see page 527



Technical data

24 V AC/DC -15% / +10%

typ. 30 mA

typ. 10 ms

-

typ. 10 ms

2 PDT

AgNi

230 V AC/DC / 5 V AC/DC

5 A (N/O contact), 3.5 A (N/C contact)

6 A / 10 mA

-20°C ... 50°C

DIN EN 50178

4 kV/basic insulation (safe isolation, reinforced insulation, and 6 kV between logic and signaling current paths).

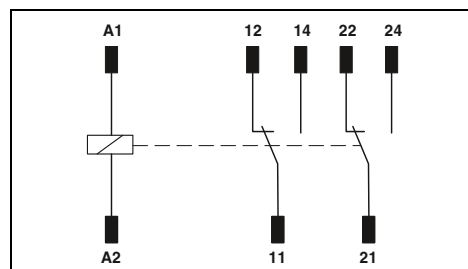
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12

-

17.5 mm / 75 mm / 60.5 mm

-

Class A product, see page 527



Technical data

24 V DC -15% / +10%

typ. 29 mA

-

10 ms

4 ms

2 PDT

AgNi

250 V AC/DC / 15 V

6 A (N/O contact), 6 A (N/C contact)

6 A / 10 mA

-25°C ... 70°C

DIN EN 50178

-

-

-

12.6 mm / 29 mm / 25.5 mm

-

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SCF- 24UC/URM/4X1/2X2	2981444	1
PSR-SPF-24UC/URM/4X1/2X2	2981457	1

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SCF- 24UC/URM/2X21	2981363	10
PSR-SCF-120UC/URM/2X21	2981376	10

Ordering data

Type	Order No.	Pcs./Pkt.
REL-SR- 24DC/2X21	2961574	10



PSRmini highly compact safe coupling relays

Thanks to the relay technology developed in-house, the PSRmini coupling relays are the narrowest coupling relays in the world for safe switch-on and switch-off.

The force-guided contacts enable quick and easy diagnostics. Thanks to visual LED diagnostics, SIL 3-qualified inspection is possible directly on the module. Furthermore, active error feedback to the controller ensures short downtimes during planned maintenance phases.

Main features:

- Overall width of 6 mm and 12 mm
- Safe diagnostics and easy proof test in accordance with IEC 61508
- Proven safety, thanks to force-guided relay contacts
- TÜV-certified
- Approvals for all global markets
- SIL 3 in accordance with IEC 61508 / IEC 61511 / EN 50156

i Your web code: #0507

PSRclassic conventional safe coupling relays

In the PSRclassic series, you will find conventional coupling relays with force-guided contacts for safe switch-off.

The conventional coupling relays are characterized by a wide range of functions and versions. They are compatible with common safe systems. With a housing width starting from 17.5 mm, they correspond with market-standard housing dimensions.

Main features:

- Overall width starting from 17.5 mm
- Proven safety, thanks to force-guided relay contacts
- Safe diagnostics and easy proof test in accordance with IEC 61508
- Approvals for all global markets
- SIL 3 in accordance with IEC 61508 / IEC 61511 / EN 50156

i Your web code: #1548

Standardized system cabling

The Termination Carrier from Phoenix Contact enables quick, error-free mounting and connection to common safe systems. Signal connection is established by Plug and Play using standardized system cables. Standardized or controller-specific front adapters are used for connection to your safe system.

Main features:

- Compact, for high packing density
- Robust, for high system availability
- Flexible, for optimum adaptation
- Fast, thanks to Plug and Play cabling



PSRmini highly compact safe coupling relays



PSRclassic conventional safe coupling relays



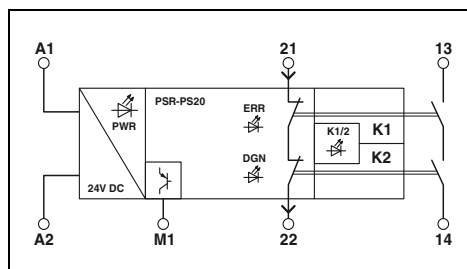
Standardized system cabling

Highly compact, safe coupling relays for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Single-channel control
- 1 enabling current path,
1 digital signal output,
1 diagnostic current path
- Easy proof test
- Active error acknowledgment via A1
- Integrated test pulse filter
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156
- Other approvals:
ATEX/IECEX Zone 2,
UL Class 1 Zone 2 / Class 1 Div. 2,
ISA-S71.04 (G3), DNV GL (applied for)



**SIL 3 in accordance with IEC 61508,
1 enabling current path,
1 diagnostic current path**



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 45 mA
Typical starting time with U_s	< 100 ms (with U_s when controlled via A1)
Typical release time	< 35 ms (when controlled via A1)
Recovery time	500 ms
Output data	
Contact type	
Contact material	
Switching voltage	
Limiting continuous current	
Inrush current	
Switching capacity	
Short-circuit protection of the output circuits	
Alarm outputs	
Number of outputs	
Output current	
Short-circuit protection	
Output fuse	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

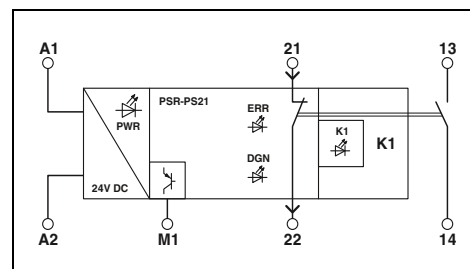
W / H / D

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PS20-1NO-1NC-24DC-SC	2700356	1



**SIL 2 in accordance with IEC 61508,
1 enabling current path,
1 diagnostic current path**



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 45 mA
Typical starting time with U_s	< 100 ms (with U_s when controlled via A1)
Typical release time	< 35 ms (when controlled via A1)
Recovery time	500 ms
Output data	
Contact type	
Contact material	
Switching voltage	
Limiting continuous current	
Inrush current	
Switching capacity	
Short-circuit protection of the output circuits	
Alarm outputs	
Number of outputs	
Output current	
Short-circuit protection	
Output fuse	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PS21-1NO-1NC-24DC-SC	2700357	1

Description
Coupling relay for failsafe controllers

Functional safety

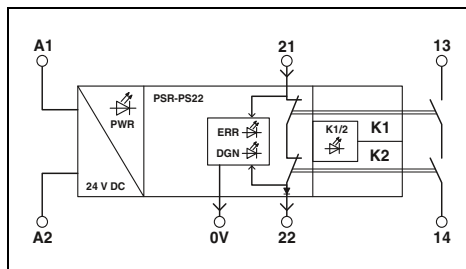
Safety relay modules for the process industry – PSRmini

Highly compact, safe coupling relays for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Single- or two-channel control
- 1 enabling current path, 1 diagnostic current path
- Easy proof test
- Integrated test pulse filter
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156
- Other approvals: ATEX/IECEX Zone 2, UL Class 1 Zone 2 / Class 1 Div. 2, ISA-S71.04 (G3)



SIL 3 in accordance with IEC 61508, active error feedback via A1



Technical data

Input data	
Rated control supply voltage U_s	
Rated control supply current I_s	
Typical starting time with U_s	
Typical release time	
Recovery time	
Output data	
Contact type	
Contact material	
Switching voltage	
Limiting continuous current	
Inrush current	
Switching capacity	
Short-circuit protection of the output circuits	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	
Dimensions	W / H / D
EMC note	

24 V DC -15% / +10% (A1/A2)
typ. 45 mA
< 150 ms (with U_s when controlled via A1)
< 30 ms (when controlled via A1)
500 ms
1 enabling current path
1 confirmation current path
AgSnO ₂
min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
6 A (high demand), 4 A (low demand)
min. 3 mA / max. 6 A
min. 60 mW
6 A gL/gG
4 A gL/gG (for low-demand applications)
-40°C ... 70°C (observe derating)
DIN EN 50178, EN 60079-15
Basic insulation 4 kV between all current paths and housing
Safe isolation, 6 kV reinforced insulation from the control circuit (A1/A2) and diagnostics circuit (0V/21/22) to the enabling current path (13/14)
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
6.8 mm / 93.1 mm / 102.5 mm
Class A product, see page 527

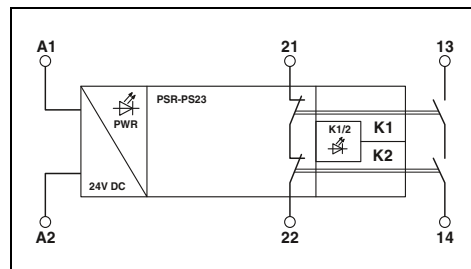
Ordering data

Description
Coupling relay for failsafe controllers

Type	Order No.	Pcs./Pkt.
PSR-PS22-1NO-1NC-24VDC-SC	2702524	1



SIL 3 in accordance with IEC 61508, floating diagnostic current path



Technical data

24 V DC -20% / +25% (A1/A2)
typ. 45 mA
< 70 ms (with U_s when controlled via A1)
< 30 ms (when controlled via A1)
500 ms
1 enabling current path
1 confirmation current path
AgSnO ₂
min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
6 A (high demand), 4 A (low demand)
min. 3 mA, max. 6 A
min. 60 mW
6 A gL/gG
4 A gL/gG (for low-demand applications)
-40°C ... 70°C (observe derating)
DIN EN 50178, EN 60079-15
Basic insulation 4 kV between all current paths and housing
Safe isolation, 6 kV reinforced insulation from the control circuit and confirmation current path to the enabling current path
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
6.8 mm / 93.1 mm / 102.5 mm
Class A product, see page 527

Ordering data

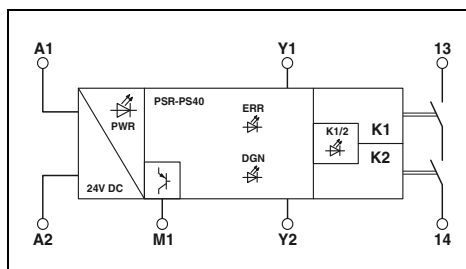
Type	Order No.	Pcs./Pkt.
PSR-PS23-1NO-1NC-24VDC-SC	2702663	1

Highly compact, safe coupling relays for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Single- or two-channel control
- 1 digital signal output
- Easy proof test
- Active error acknowledgment via A1
- Integrated test pulse filter
- Self-monitoring, with device-internal locking
- Manual or automatic activation
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156
- Other approvals:
ATEX/IECEx Zone 2,
UL Class 1 Zone 2 / Class 1 Div. 2,
ISA-S71.04 (G3), DNV GL (applied for)



SIL 3 in accordance with IEC 61508,
1 enabling current path



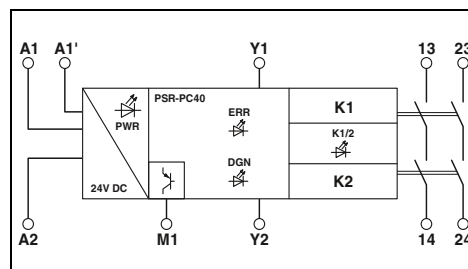
Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 50 mA (depending on load M1 +100 mA)
Typical starting time with U_s	
Typical release time	< 200 ms (when controlled via A1, automatic start)
Recovery time	< 35 ms (when controlled via A1)
Output data	
Contact type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (high demand), 4 A (low demand)
Inrush current	min. 3 mA / max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (non-safety-related)
Output current	max. 100 mA
Short-circuit protection	no
Output fuse	150 mA fast blow
General data	
Ambient temperature range	-40°C ... 70°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178, EN 60079-15
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV from control circuit, start circuit, signal output to the enabling current path; 4 kV / basic insulation between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 26 - 12
Spring-cage connection rigid / flexible / AWG	-
Dimensions	6.8 mm / 93.1 mm / 102.5 mm
W / H / D	-
EMC note	Class A product, see page 527

Description
Coupling relay for failsafe controllers
with screw connection
with spring-cage connection



SIL 3 in accordance with IEC 61508,
2 enabling current paths



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 75 mA (depending on load M1 +100 mA)
Typical starting time with U_s	
Typical release time	< 200 ms (when controlled via A1, automatic start)
Recovery time	< 35 ms (when controlled via A1)
Output data	
Contact type	2 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (high demand), 4 A (low demand)
Inrush current	min. 3 mA, max. 6 A
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (non-safety-related)
Output current	max. 100 mA
Short-circuit protection	no
Output fuse	150 mA fast blow
General data	
Ambient temperature range	-40°C ... 70°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178, EN 60079-15
Rated surge voltage/insulation	Safe isolation, 6 kV reinforced insulation from control circuit, start circuit, signal output to the enabling current paths, 4 kV/basic insulation between the enabling current paths and between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Description
Coupling relay for failsafe controllers
with screw connection
with spring-cage connection

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PS40-1NO-1DO-24DC-SC	2700398	1

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PC40-2NO-1DO-24DC-SC	2700588	1
PSR-PC40-2NO-1DO-24DC-SP	2700589	1

Functional safety

Safety relay modules for the process industry – PSRmini

Highly compact, safe coupling relays for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Easy proof test
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156
- Other approvals:
 - ATEX/IECEX Zone 2,
 - UL Class 1 Zone 2 / Class 1 Div. 2,
 - ISA-S71.04 (G3), DNV GL (applied for)

PSR-PC20:

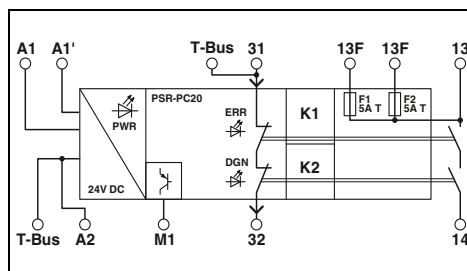
- Single-channel control
- Active error acknowledgment via A1
- Integrated test pulse filter
- DIN rail connector for easy bridging of the supply voltage

PSR-PC32:

- Wide-range input
- 2 enabling current paths:
 - One to 230 V AC/DC
 - One to 60 V AC/DC



**SIL 3 in accordance with IEC 61508,
1 enabling current path (protected as an option),
1 diagnostic current path**



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 50 mA
Typical starting time with U_s	< 100 ms (with U_s when controlled via A1)
Typical release time	< 35 ms (when controlled via A1)
Recovery time	500 ms
Output data	
Contact type	1 enabling current path 1 confirmation current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC / max. 250 V AC/DC (observe the load curve)
Limiting continuous current	6 A (13/14 for high-demand), 4 A (13F/14 for high/low-demand, 13/14 for low-demand)
Inrush current	min. 3 mA / max. 6 A (N/O contact 13/14)
Switching capacity	min. 60 mW
Short-circuit protection of the output circuits	6 A gL/gG (N/O contact 13/14) 4 A gL/gG (for low-demand applications)
Alarm outputs	
Number of outputs	1 (non-safety-related)
Output current	max. 100 mA
Short-circuit protection	no
Output fuse	150 mA fast blow
General data	
Ambient temperature range	-40°C ... 70°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178, EN 60079-15
Rated surge voltage/insulation	Safe isolation, 6 kV reinforced insulation from control circuit, start circuit, confirmation current path, signal output to the enabling current path; 4 kV/basic insulation between all current paths and housing
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	12.5 mm / 112.2 mm / 114.5 mm
W / H / D	12.5 mm / 116.6 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description
Coupling relay for failsafe controllers
with screw connection
with spring-cage connection

Type	Order No.	Pcs./Pkt.
PSR-PC20-1NO-1NC-24DC-SC	2700577	1
PSR-PC20-1NO-1NC-24DC-SP	2700578	1

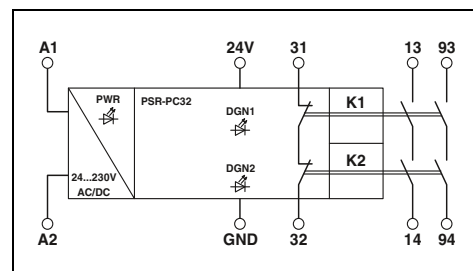
Accessories

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN	2869728	10
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DIN rail connector (TBUS), for bridging the supply voltage, with UL approval



**SIL 3 in accordance with IEC 61508,
2 enabling current paths,
1 diagnostic current path, wide-range input**



Technical data

24 V AC/DC ... 230 V AC/DC -15% ... +10%
75 mA (24 V DC)
< 200 ms (with U_s when controlled via A1)
< 500 ms
2 enabling current paths 1 confirmation current path
AgSnO ₂
min. 12 V AC/DC / max. 250 V AC/DC (13/14, observe the load curve) / max. 60 V AC/DC (93/94, observe the load curve)
6 A (observe derating)
min. 3 mA, max. 6 A
min. 60 mW
6 A gL/gG
4 A gL/gG (for low-demand applications)
-40°C ... 70°C (observe derating)
DIN EN 50178, EN 60079-15
Basic insulation 4 kV between all current paths and housing
Safe isolation, reinforced insulation 2.5 kV between (93/94) and (31/32, 24V/GND)
Safe isolation, reinforced insulation 6 kV: between (A1/A2) and (13/14) and (31/32, 24V/GND) between (A1/A2) and (93/94) between (13/14) and (93/94)
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
12.5 mm / 112.2 mm / 114.5 mm
12.5 mm / 117.4 mm / 114.5 mm
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PC32-2NO-1NC-24-230UC-SC	2700581	1
PSR-PC32-2NO-1NC-24-230UC-SP	2700582	1

Accessories

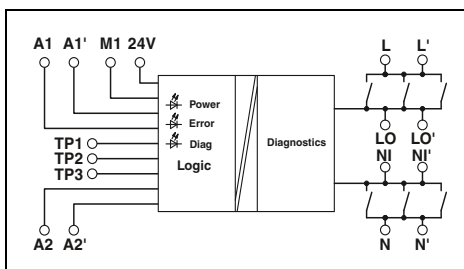
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Highly compact, safe coupling relays for failsafe controllers

- SIL coupling relay for safety-related switch-on
- Single- or two-channel control
- Can be used in low-demand applications
- Integrated test pulse filter
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156



SIL-3-certified coupling relay for safe switch-on (F&G), Off state diagnostics



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10% (A1/A2)
Rated control supply current I_s	typ. 65 mA (A1/A2)
Typical starting time with U_s	30 ms (when controlled via A1)
Typical release time	30 ms (when controlled via A1)
Recovery time	1 s
Output data	
Contact type	1 enabling current path
Contact material	AgNi, gold-flashed
Switching voltage	min. 15 V AC/DC without diagnostics / min. 20 V AC/DC (with diagnostics) / max. 250 V AC
Limiting continuous current	5 A
Inrush current	min. 100 mA / max. 5 A
Switching capacity	min. 1.5 W
Alarm outputs	
Number of outputs	1 (digital)
Output current	max. 100 mA
Short-circuit protection	no
Output fuse	150 mA fast blow
General data	
Ambient temperature range	-20°C ... 55°C
Air and creepage distances between the circuits	DIN EN 50178
Rated surge voltage/insulation	6 kV/safe isolation (through protective impedance)

Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	17.5 mm / 112.2 mm / 114.5 mm
W / H / D	17.5 mm / 117.4 mm / 114.5 mm
EMC note	Class A product, see page 527

Screw version
Spring-cage version

Description

Coupling relay for failsafe controllers

with screw connection
with spring-cage connection

Coupling relay for failsafe controllers

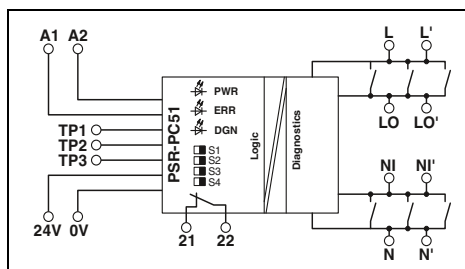
with screw connection
with spring-cage connection

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PC50-1NO-1DO-24DC-SC	2904664	1
PSR-PC50-1NO-1DO-24DC-SP	2904665	1



SIL-3-certified coupling relay for safe switch-on (F&G), Off and On state diagnostics



Technical data

24 V DC -15% / +10%
typ. 75 mA
typ. 100 ms (when controlled via A1-A2)
typ. 30 ms (when controlled via A1-A2)
1 s (when controlled via A1-A2)
1 enabling current path
1 signaling current path
AgNi, gold-flashed, Ag alloy
min. 16 V AC/DC / max. 250 V AC / max. 125 V DC
3 A (observe derating, load type, and on-load voltage)
min. 50 mA, max. 5 A ($\Delta t \leq 1$ s)
min. 1 W
-
-
-
-
-25°C ... 60°C (observe derating)
DIN EN 50178
Basic insulation 4 kV between all current paths and housing
Safe isolation, 6 kV reinforced insulation from (A1/A2, 24V/0V, 21/22, and TP1/TP2/TP3) to the enabling current path (L, L', LO, LO', NI, NI', N, N')

0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
17.5 mm / 112.2 mm / 114.5 mm
17.5 mm / 117.4 mm / 114.5 mm
Class A product, see page 527

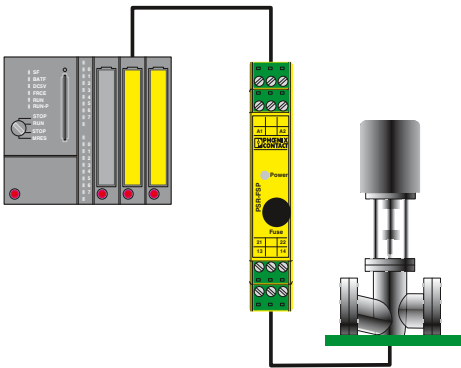
Ordering data

Type	Order No.	Pcs./Pkt.
PSR-PC51-1NO-1NC-24DC-SC	2702522	1
PSR-PC51-1NO-1NC-24DC-SP	2702523	1
PSR-PC52-1NO-1NC-24DC-SC	1017062	1
PSR-PC52-1NO-1NC-24DC-SP	1017064	1

Emergency stop coupling relay for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Single- or two-channel control
- 1 enabling current path, 1 confirmation current path
- Can be used in high and low-demand applications
- Easy proof test
- Integrated test pulse filter
- Replaceable fuse
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 in accordance with IEC 61508, IEC 61511, and IEC 50156

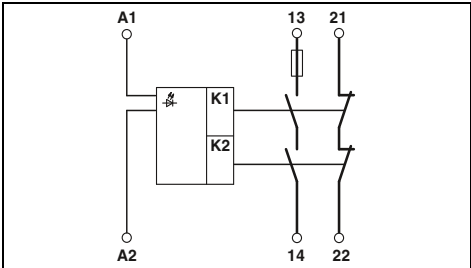
Notes:
Can be used for system cabling with the Termination Carrier.
For further information, see page 257



Example of electrical isolation of a safety PLC output from the field.



SIL 3 in accordance with IEC 61508, 1 protected enabling current path



Input data	
Rated control supply voltage U_s	
Rated control supply current I_s	
Typical starting time with U_s	
Typical release time	
Recovery time	
Output data	
Contact type	
Contact material	
Max./min. switching voltage	
Limiting continuous current	
Max./min. inrush current	
Switching capacity (3600/h cycles)	
Short-circuit protection of the output circuits	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	
Spring-cage connection rigid / flexible / AWG	
Dimensions	Screw version
W / H / D	Spring-cage version
EMC note	

Technical data	
24 V DC -15% / +10%	
typ. 55 mA	
50 ms	
50 ms	
1 s	
1 enabling current path	
1 confirmation current path	
AgCuNi, + 0.2 µm Au	
250 V AC/DC / 15 V AC/DC	
5 A (N/O contact, observe derating), 100 mA (N/C contact)	
5 A (N/O contact), 100 mA (N/C contact) / 5 mA	
5 A (24 V (DC13)) ; 5 A (230 V (AC15))	
5 A T fuse (N/O contact)	
150 mA Fast-blow (N/C contact)	
-20°C ... 55°C (observe derating)	
DIN EN 50178/VDE 0160	
Safe isolation, reinforced insulation 6 kV between the control circuits (A1/A2), (21/22), (13/14)	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	
0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16	
17.5 mm / 99 mm / 114.5 mm	
17.5 mm / 112 mm / 114.5 mm	
Class A product, see page 527	

Description
Emergency stop coupling relay for failsafe controllers in process engineering, with protected enabling current path
with screw connection
with spring-cage connection

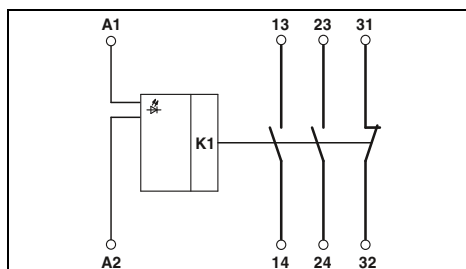
Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/FSP/1X1/1X2	2981978	1
PSR-SPP- 24DC/FSP/1X1/1X2	2981981	1

Emergency stop coupling relay for failsafe controllers

- SIL coupling relay for safety-related switch-off
- Single- or two-channel control
- 2 enabling current paths, 1 confirmation current path
- Can be used in high and low-demand applications
- Easy proof test
- Integrated test pulse filter
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 2/3 in accordance with IEC 61508, IEC 61511, and IEC 50156



SIL 2 in accordance with IEC 61508, 2 enabling current paths



Technical data

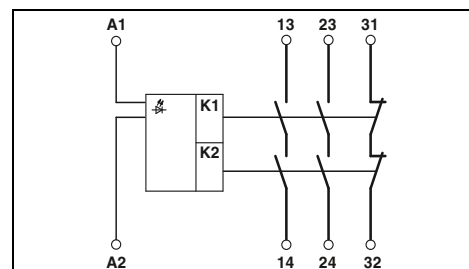
Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 55 mA
Typical starting time with U_s	50 ms
Typical release time	50 ms
Recovery time	1 s
Output data	
Contact type	
Contact material	2 enabling current paths 1 confirmation current path AgCuNi, + 0.2 µm Au
Max./min. switching voltage	250 V AC/DC / 15 V AC/DC
Limiting continuous current	5 A (N/O contact, observe derating), 100 mA (N/C contact)
Max./min. inrush current	5 A (N/O contact), 100 mA (N/C contact) / 5 mA
Switching capacity (3600/h cycles)	5 A (24 V (DC13)) ; 5 A (230 V (AC15))
Short-circuit protection of the output circuits	10 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications) 150 mA Fast-blow (N/C contact)
General data	
Ambient temperature range	-20°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178/VDE 0160
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between the control circuits (A1/A2), (31/32), (13/14, 23/24)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	17.5 mm / 99 mm / 114.5 mm
W / H / D	17.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

Description
Emergency stop coupling relay , for failsafe controllers, two enabling current paths, SIL 2 in accordance with IEC 61508
with screw connection
with spring-cage connection
Emergency stop coupling relay , for failsafe controllers, two enabling current paths, SIL 3 in accordance with IEC 61508
with screw connection
with spring-cage connection

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/FSP2/2X1/1X2	2986575	1
PSR-SPP- 24DC/FSP2/2X1/1X2	2986588	1



SIL 3 in accordance with IEC 61508, 2 enabling current paths



Technical data

Input data	
Rated control supply voltage U_s	24 V DC -15% / +10%
Rated control supply current I_s	typ. 55 mA
Typical starting time with U_s	50 ms
Typical release time	50 ms
Recovery time	1 s
Output data	
Contact type	
Contact material	2 enabling current paths 1 confirmation current path AgCuNi, + 0.2 µm Au
Max./min. switching voltage	250 V AC/DC / 15 V AC/DC
Limiting continuous current	5 A (N/O contact, observe derating), 100 mA (N/C contact)
Max./min. inrush current	5 A (N/O contact), 100 mA (N/C contact) / 5 mA
Switching capacity (3600/h cycles)	5 A (24 V (DC13)) ; 5 A (230 V (AC15))
Short-circuit protection of the output circuits	10 A gL/gG (N/O contact) 4 A gL/gG (for low-demand applications) 150 mA Fast-blow (N/C contact)
General data	
Ambient temperature range	-20°C ... 55°C (observe derating)
Air and creepage distances between the circuits	DIN EN 50178/VDE 0160
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between the control circuits (A1/A2), (31/32), (13/14, 23/24)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	17.5 mm / 99 mm / 114.5 mm
W / H / D	17.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

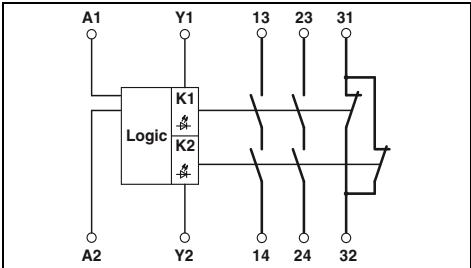
Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/FSP2/2X1/1X2	2986960	1
PSR-SPP- 24DC/FSP2/2X1/1X2	2986957	1

Safe coupling relay for emergency stop and safety door monitoring

- SIL coupling relay for safety-related switch-off
- Single and two-channel control
- 2 enabling current paths, 1 confirmation current path
- Manual and automatic activation in a single device
- With inrush current reduction, therefore suitable for coupling to failsafe controllers
- Forcibly guided contacts in accordance with EN 50205
- Up to SIL 3 Termination Carrier IEC 61508 and IEC 61511



Manual or automatic activation, also suitable for failsafe PLC



Input data	
Rated control supply voltage U_s	
Rated control supply current I_s	
Typical response time	
Typical release time	
Recovery time	
Output data	
Contact type	
Contact material	
Max./min. switching voltage	
Limiting continuous current	
Max./min. inrush current	
Switching capacity (360/h cycles)	
Switching capacity (3600/h cycles)	
Short-circuit protection of the output circuits	
General data	
Ambient temperature range	
Air and creepage distances between the circuits	
Rated surge voltage/insulation	
Screw connection rigid / flexible / AWG	
Spring-cage connection rigid / flexible / AWG	
Dimensions	Screw version
W / H / D	Spring-cage version
EMC note	

Technical data	
24 V DC -15% / +10%	
typ. 50 mA DC	
60 ms (automatic/manual start)	
20 ms	
approx. 1 s	
2 enabling current paths	
1 signaling current path (type B in accordance with EN 50205)	
AgSnO ₂ , gold-flashed	
250 V AC/DC / 10 V	
6 A (N/O contact/N/C contact, high demand),	
4 A (N/O contact/N/C contact, low demand)	
6 A / 10 mA	
5 A (24 V DC) ; 5 A (230 V AC)	
5 A (24 V (DC13)) ; 5 A (230 V (AC 15))	
6 A gL/gG NEOZED (high demand)	
4 A gL/gG NEOZED (low demand)	
-20°C ... 55°C	
DIN EN 50178/VDE 0160	
6 kV / Safe isolation, reinforced insulation	
0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12	
0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16	
22.5 mm / 99 mm / 114.5 mm	
22.5 mm / 112 mm / 114.5 mm	
Class A product, see page 527	

Description
Process technology, emergency stop and safety door monitoring , single-channel, activation: manual and automatic
with screw connection
with spring-cage connection

Ordering data		
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/ESP4/2X1/1X2	2981020	1
PSR-SPP- 24DC/ESP4/2X1/1X2	2981017	1

Termination Carriers for coupling relays

- Convenient and error-free connection using pre-assembled system cables
- 1:1 signal allocation to a 37-pos. D-SUB connector
- Redundant power supply, decoupled from diode and protected against polarity reversal
- Integrated undervoltage detection with separate signal path

Notes:

Cables and bridge plugs are not supplied as standard with the Termination Carriers.

PSRmini – Termination Carriers for highly compact coupling relays can be found at phoenixcontact.net/products.



Termination Carrier for up to 16 PSR-FSP modules

EAC

Housing width 304 mm

Technical data

D-SUB pin strip
37
< 50 V DC (per signal/channel)
1 A (signal/channel)
50 V (basic insulation)
-20°C ... 60°C
V0
304 / 170 / 160 mm
Class A product, see page 527

21.1 V DC ... 26.4 V DC
yes, decoupled from diodes
Yes
2.5 A on PCB, slow-blow (replaceable)
2 x red LED (error)
2 x green LEDs (PWR1 and PWR2)
At < 18 V (alarm contact, 1 N/O contact)

General data

Connection to the control system level
No. of pos.
Maximum operating voltage
Maximum permissible current
Rated insulation voltage
Ambient temperature range
Flammability rating in accordance with UL 94
Dimensions W/H/D
EMC note
Supply
Input voltage range
Redundant supply
Polarization and surge protection
Fuse
Status indication
Undervoltage monitoring



Termination Carrier for up to 16 PSR-PC50 modules

Housing width 304 mm

Technical data

D-SUB pin strip
37
< 50 V DC (per signal/channel)
1 A (signal/channel)
50 V (basic insulation)
-20°C ... 60°C
V0
304 / 170 / 160 mm
Class A product, see page 527

21.1 V DC ... 26.4 V DC
yes, decoupled from diodes
Yes
2.5 A on PCB, slow-blow (replaceable)
2 x red LED (error)
2 x green LEDs (PWR1 and PWR2)
At < 18 V (alarm contact, 1 N/O contact)

Description

Termination Carrier for 16 coupling relays
For safety-related **switch-off**

For safety-related **switch-on**

Ordering data

Type	Order No.	Pcs./Pkt.
TC-2D37SUB-DO16-ESD-AR-UNI	2902913	1

Cable set without use of confirmation contact, suitable for PSR-FSP/Order No.: 2981978

Cable set with use of confirmation contact, suitable for PSR-FSP/Order No.: 2986960 and 2986575

Bridge plug for occupying unused module slots, suitable for PSR-FSP/Order No.: 2986960 and 2986575

Cable set

Accessories

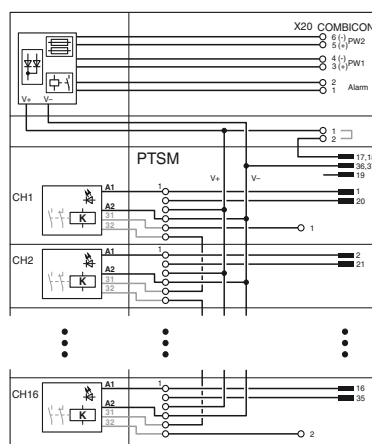
TC-C-PSR3-SC-A10000A20000	2903389	16
TC-C-PSR3-SC-A10000A23132	2903390	16
TC-C-PTSM-50-00000000J1J1	2903388	8

Ordering data

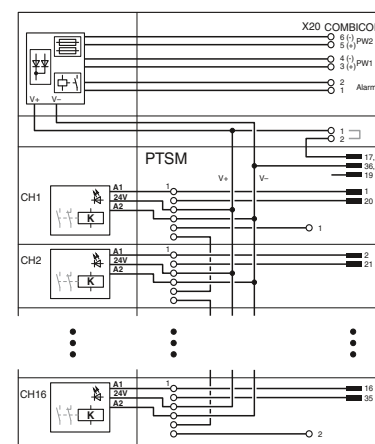
Type	Order No.	Pcs./Pkt.
TC-2D37SUB-DO16-F&G-AR-UNI	2902914	1

Accessories

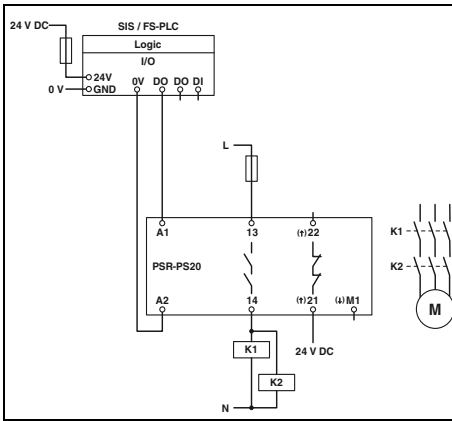
TC-C-PCX3-SC-A100V+A20000	2906003	16
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Connection scheme TC-2D37SUB-DO16-ESD-AR-UNI

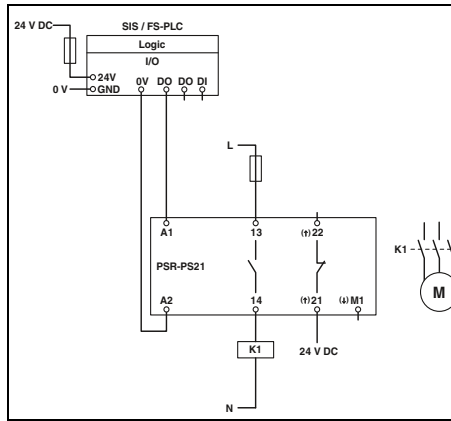


Connection scheme TC-2D37SUB-DO16-F&G-AR-UNI



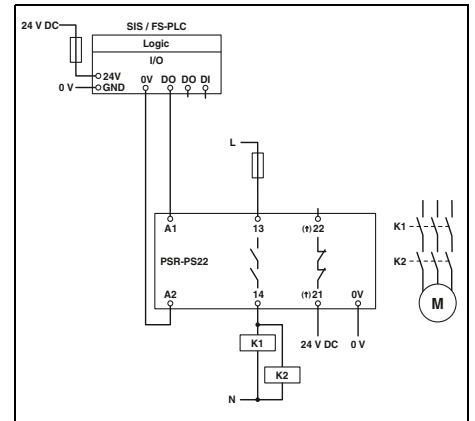
PSR-PS20

- Single-channel control via A1 with diagnostic supply voltage applied to contact 21
- Suitable for low-demand applications



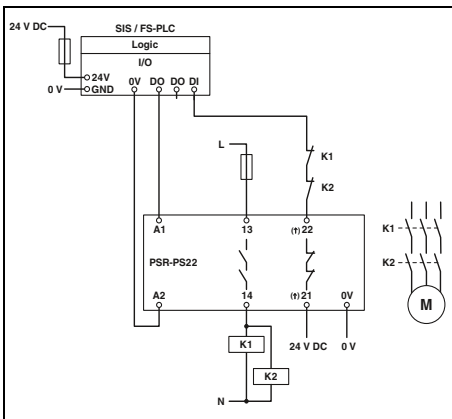
PSR-PS21

- Single-channel control via A1 with diagnostic supply voltage applied to contact 21
- Suitable for low-demand applications



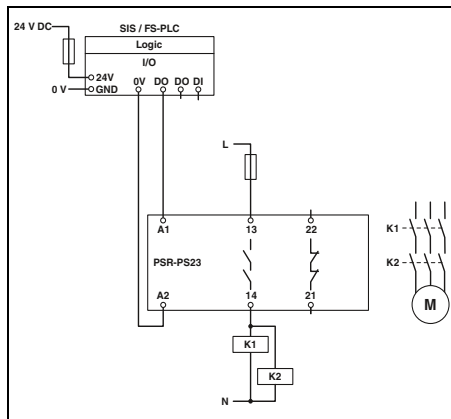
PSR-PS22

- Single-channel control via A1 with diagnostic supply voltage applied to contact 21
- Suitable for low-demand applications



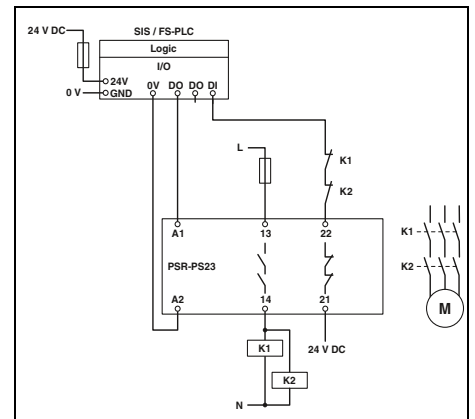
PSR-PS22

- Single-channel control via A1 with diagnostic supply voltage applied to contact 21
- Integration of the confirmation current path
- Suitable for high-demand applications



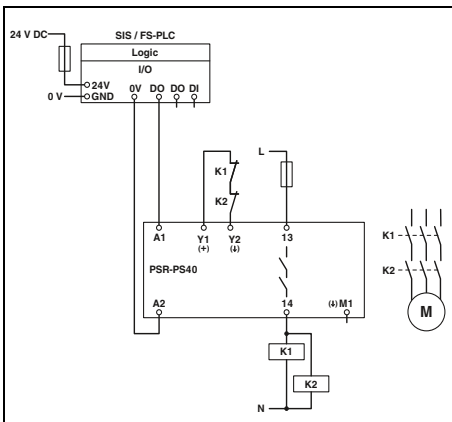
PSR-PS23

- Single-channel control via A1
- Suitable for low-demand applications



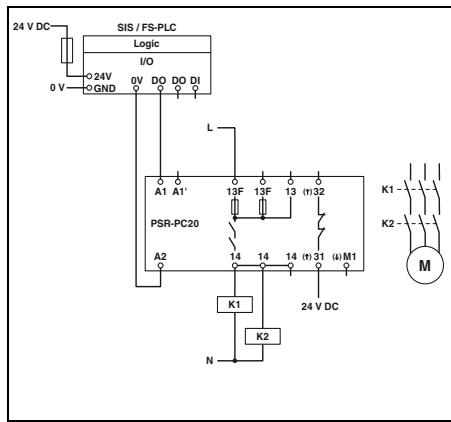
PSR-PS23

- Single-channel control via A1 with diagnostic supply voltage applied to contact 21
- Integration of the confirmation current path
- Suitable for high-demand applications



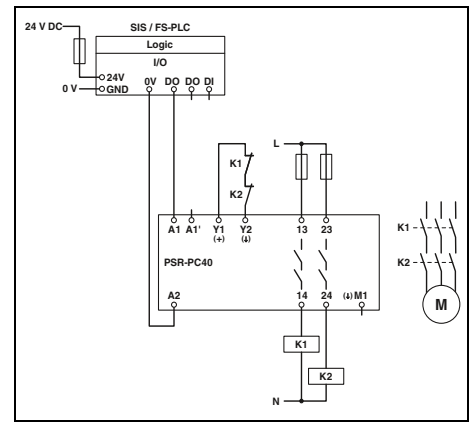
PSR-PS40

- Single-channel control via A1 with automatic activation
- Suitable for low-demand applications



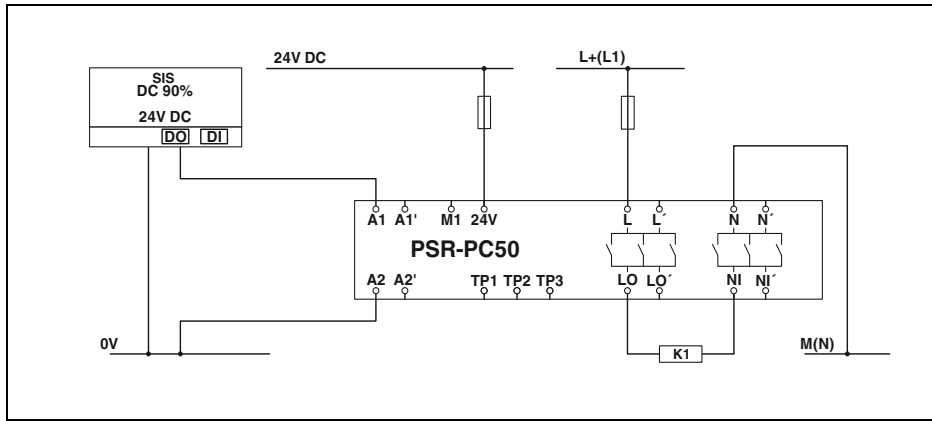
PSR-PC20

- Single-channel control via A1 with diagnostic supply voltage applied to contact 31
- Suitable for low-demand applications

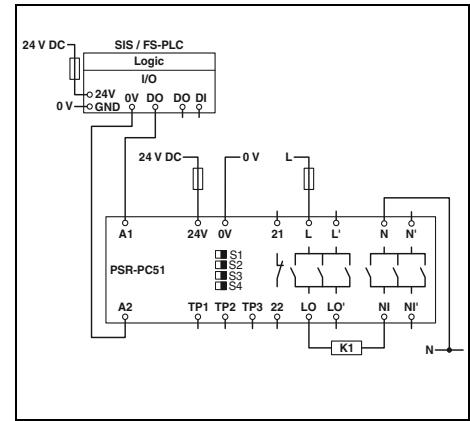


PSR-PC40

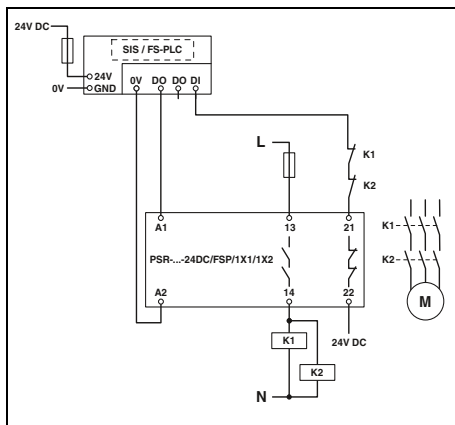
- Single-channel control via A1 with automatic activation
- Suitable for low-demand applications

**PSR-PC50**

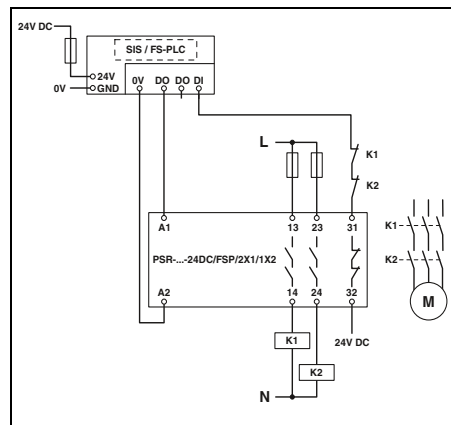
- Single-channel control via A1 with diagnostic supply voltage applied
- Suitable for low-demand applications

**PSR-PC51/PC52**

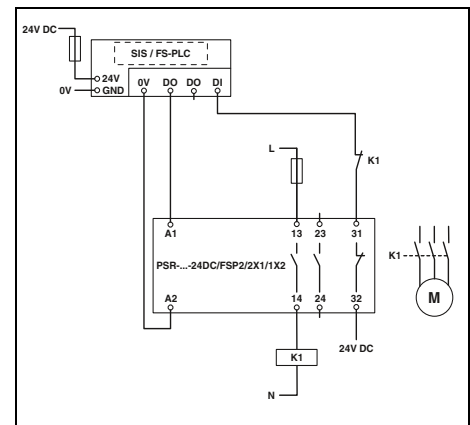
- Single-channel control via A1 with diagnostic supply voltage applied
- Suitable for low-demand applications

**PSR-FSP/1X1**

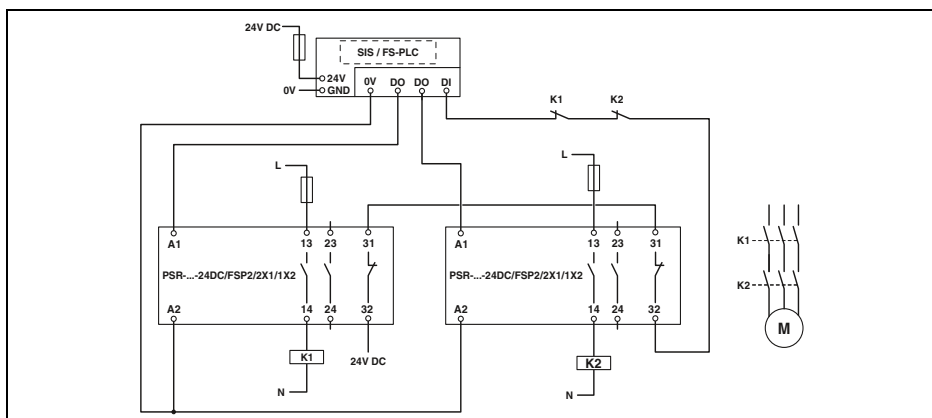
- Single-channel control with integration of the confirmation current path
- Suitable for high- and low-demand applications

**PSR-FSP/2X1**

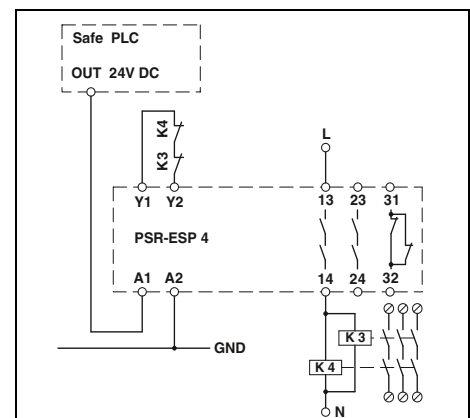
- Single-channel control with integration of the confirmation path
- Suitable for high- and low-demand applications

**PSR-FSP2/2X1**

- Single-channel control via A1 with integration of the confirmation current path
- Suitable for high- and low-demand applications

**PSR-FSP2/2X1**

- Two-channel control with integration of the confirmation path
- Suitable for high- and low-demand applications

**PSR-ESP4**

- Single-channel connection to failsafe controller with automatic start



Use the PSRtrisafe configurable safety modules to combine all safety functions in accordance with your requirements.

You can flexibly adapt the PSRtrisafe system to your application requirements using various safe extension modules and fieldbus couplers. The safety logic is created very easily with the SAFECONF configuration software via drag and drop.

PSRtrisafe configurable safety modules

The PSR-TRISAFE-S stand-alone version is available with 20 safe inputs and four safe outputs. The PSR-TRISAFE-M master module can be extended with additional digital inputs and outputs. You can integrate additional relay outputs using the PSR-TS-SDOR4 extension module.

The diagnostic LEDs indicate the states of all inputs and outputs. The safety module can communicate with the higher-level controller via a fieldbus coupler, thereby enabling convenient remote diagnostics.

i Your web code: #1257

Easy configuration

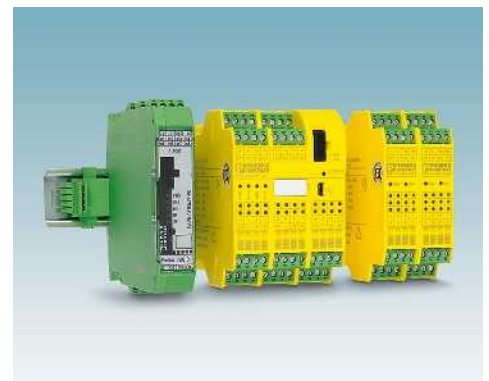
With SAFECONF, you can easily create the safety logic for PSRtrisafe with TÜV-certified blocks via drag and drop. All tools are arranged in one window, enabling you to work intuitively with the software.

The SAFECONF configuration software can be downloaded free of charge at phoenixcontact.com.

Further information on the SAFECONF configuration software can be found on page 279.

Simulation and diagnostics

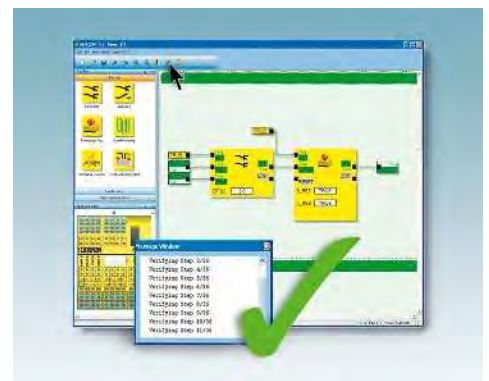
Thanks to the integrated simulation mode, you can shorten your project processing times and the standard-compliant implementation of safety circuits. The safety logic can be tested and validated directly on the PC.



Configurable PSRtrisafe safety modules



Easy configuration with SAFECONF



Simulation and diagnostics

Master module

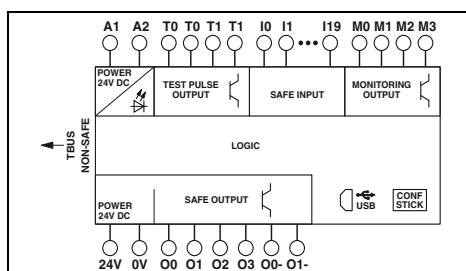
- Freely configurable safety module for monitoring emergency stop, safety doors, light grids, etc.
- With 20 safe inputs, 4 safe outputs, 4 alarm outputs, and 2 clock outputs on an overall width of just 67.5 mm
- Easily graphically configurable with the SAFECONF software
- Quick startup by means of comprehensive simulation and test functions
- Option for connecting fieldbus gateways for diagnostics and signaling functions
- Incl. IFS-CONFSTICK memory stick for easy storage and backup of the configuration
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

Notes:

Further information on fieldbus gateways can be found in the "Motor management" section of Catalog 5 or at phoenixcontact.net/products.



Cannot be extended



Technical data

Input data	
Rated control supply voltage U_s	24 V DC (A1/A2)
Rated control supply current I_s	typ. 110 mA
Max. response time	max. 30 ms (plus response time of PSR-TS-SDOR4)
Interfaces	USB
Safe digital inputs	10 (two-channel, up to SIL 3) 20 (single-channel, up to SIL 2) 0 V DC ... 5 V DC (for safe Off) 11 V DC ... 30 V DC
Input voltage range "0" signal	
Input voltage range "1" signal	
Output data	
Safe digital outputs	4 (safe semiconductor outputs, up to Cat. 4 in accordance with EN ISO 13849-1) 2 (ground switching outputs)
Nominal voltage	24 V DC
Alarm outputs	4
Clock outputs	2
General data	
Ambient temperature range	-20°C ... 55°C
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	67.5 mm / 99 mm / 114.5 mm
W / H / D	67.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

Description

Freely configurable safety module, for monitoring emergency stop, safety doors, light grids, etc., with 20 safe inputs and 4 safe outputs, 4 signaling and 2 cycle outputs

with screw connection
with spring-cage connection

Copy and delete station, for IFS-CONFSTICK memory modules for copying data from a master stick to up to four slave sticks, connection via USB/mini USB cable

Starter kit for the PSR-TRISAFE safety module, consists of PSR-TRISAFE demo board (with inputs and outputs), SAFECONF software, USB connecting cable (3 m), power supply

Multifunctional memory module for the Interface system

PSR-TBUS DIN rail connector, for supplying/controlling/monitoring (depending on the module)

Ordering data

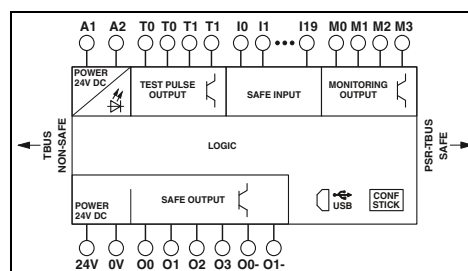
Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/TS/S	2986229	1
PSR-SPP- 24DC/TS/S	2986232	1

Accessories

COPYSTATION - IFS	2901985	1
PSR-TRISAFE STARTER KIT	2986300	1
IFS-CONFSTICK	2986122	1
PSR-TBUS	2890425	50



Safe and standard extension, including PSR-TBUS DIN rail connector



Technical data

Input data	
Rated control supply voltage U_s	24 V DC (A1/A2)
Rated control supply current I_s	typ. 110 mA
Max. response time	max. 30 ms (plus response time of PSR-TS-SDOR4)
Interfaces	USB
Safe digital inputs	10 (two-channel, up to SIL 3) 20 (single-channel, up to SIL 2) 0 V DC ... 5 V DC (for safe Off) 11 V DC ... 30 V DC
Input voltage range "0" signal	
Input voltage range "1" signal	
Output data	
Safe digital outputs	4 (safe semiconductor outputs, up to Cat. 4 in accordance with EN ISO 13849-1) 2 (ground switching outputs)
Nominal voltage	24 V DC
Alarm outputs	4
Clock outputs	2
General data	
Ambient temperature range	-20°C ... 55°C
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	67.5 mm / 99 mm / 114.5 mm
W / H / D	67.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-SCP- 24DC/TS/M	2986012	1
PSR-SPP- 24DC/TS/M	2986025	1

Accessories

COPYSTATION - IFS	2901985	1
PSR-TRISAFE STARTER KIT	2986300	1
IFS-CONFSTICK	2986122	1
PSR-TBUS	2890425	50

Functional safety

Configurable safety modules – PSRtrisafe

Extension modules

- I/O extension for PSR-TRISAFE-M
- Slim 22.5 mm housing
- Including PSR-TBUS DIN rail connector for adapting to the PSR-TRISAFE-M master module
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061

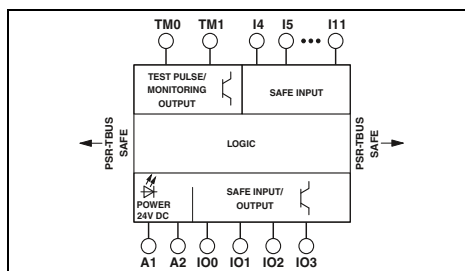
Notes:
For PSR-TRISAFE-M master module, see page 261



8 safe inputs,
plus 4 safe inputs or outputs



4 safe relay outputs (1-channel) or
2 safe relay outputs (2-channel)

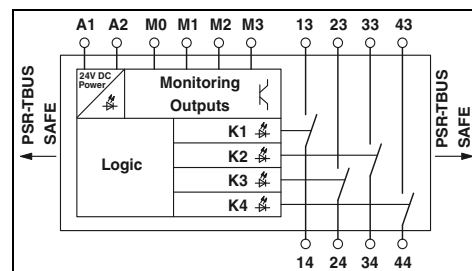


Technical data

Input data	
Rated control supply voltage U_s	24 V DC (electrical supply via PSR-TBUS)
Rated control supply current I_s	Electrical supply via PSR-TBUS
Max. response time	max. 30 ms (plus response time of PSR-TS-SDOR4)
Interfaces	
Safe digital inputs	DIN rail TBUS for connection to the master module, supplied as standard
Input voltage range "0" signal	12 (of which 4 can be configured as input or output)
Input voltage range "1" signal	0 V DC ... 5 V DC (for safe Off)
Output data	
Safe digital outputs	11 V DC ... 30 V DC
Safe digital outputs	4 (if the configurable inputs/outputs are used as outputs)
Nominal voltage	24 V DC
Cycle/alarm outputs	2
Switching voltage	-
Limiting continuous current	-
Switching current	-
Switching capacity	-
Alarm outputs	-
Short-circuit protection of the output circuits	-
General data	
Ambient temperature range	-20°C ... 55°C
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	22.5 mm / 99 mm / 114.5 mm
W / H / D	22.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Extension module with screw connection with spring-cage connection	PSR-SCP- 24DC/TS/SDI8/SDIO4	2986038	1
	PSR-SPP- 24DC/TS/SDI8/SDIO4	2986041	1
Accessories			
PSR-TBUS DIN rail connector, for supplying/controlling/monitoring (depending on the module)	PSR-TBUS	2890425	50



Technical data

Input data	
Rated control supply voltage U_s	24 V DC (electrical supply via PSR-TBUS)
Rated control supply current I_s	Electrical supply via PSR-TBUS
Max. response time	max. 50 ms
Interfaces	
Safe digital inputs	DIN rail TBUS for connection to the master module, supplied as standard
Input voltage range "0" signal	-
Input voltage range "1" signal	-
Output data	
Safe digital outputs	-
Safe digital outputs	-
Nominal voltage	-
Cycle/alarm outputs	-
Switching voltage	min. 12 V AC/DC (from HW 03) / max. 250 V AC/DC
Limiting continuous current	4 A (see derating)
Switching current	min. 3 mA (from HW 03)
Switching capacity	min. 60 mW
Alarm outputs	4
Short-circuit protection of the output circuits	6 A gL/gG 6 A (gL / gG) 4 A (gL/gG for low-demand applications)
General data	
Ambient temperature range	-20°C ... 55°C (see derating)
Screw connection rigid / flexible / AWG	0.2 - 2.5 mm ² / 0.2 - 2.5 mm ² / 24 - 12
Spring-cage connection rigid / flexible / AWG	0.2 - 1.5 mm ² / 0.2 - 1.5 mm ² / 24 - 16
Dimensions	22.5 mm / 99 mm / 114.5 mm
W / H / D	22.5 mm / 112 mm / 114.5 mm
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Extension module with screw connection with spring-cage connection	PSR-SCP- 24DC/TS/SDOR4/4X1	2986096	1
	PSR-SPP- 24DC/TS/SDOR4/4X1	2986106	1
Accessories			
PSR-TBUS DIN rail connector, for supplying/controlling/monitoring (depending on the module)	PSR-TBUS	2890425	50

PLC series**Terminal block with integrated test pulse and EMC filter**

The **PSR-FTB** filter terminal block is used in the event of problems with 24 V signals affected by EMI and test-pulse-sensitive loads.

- Filtering of test-pulse-safe electronic outputs
- EMC filter for constant 24 V signals
- Easy wiring via Push-in connection technology

Notes:

The selection of the filter terminal block depends on several parameters (load resistance/current, voltage drop, accepted shutdown time). The parameters can be determined with the aid of more detailed documentation, see phoenixcontact.net/products.

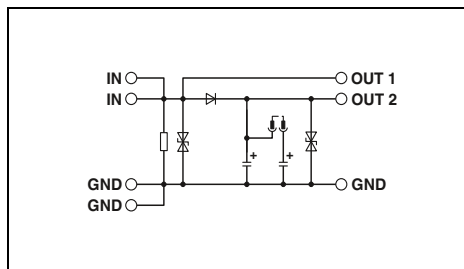


For low loads up to a maximum of 65 mA



For high loads up to a maximum of 530 mA

ERC

**Technical data**

Input data	
Nominal input voltage U_N	
Typical input current at U_N	
Protective circuit	
General data	
Ambient temperature range	
Rated surge voltage/insulation	
Push-in connection rigid / flexible / AWG	
Dimensions	W / H / D
EMC note	

24 V DC $\pm 20\%$ (control voltage U_{ST} right/left)

max. 15 mA
Surge protection

-25°C ... 55°C
1.5 kV / Basic insulation
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 26
6.2 mm / 94 mm / 80 mm
Class A product, see page 527

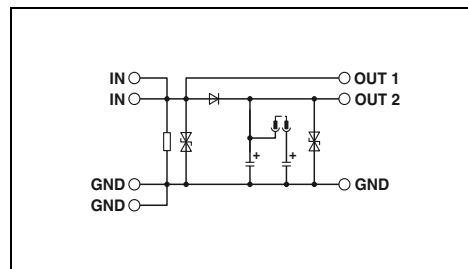
Ordering data

Description

PLC filter terminal block, with integrated test pulse and EMC filter

Type	Order No.	Pcs./Pkt.
PSR-FTB/1.5/11.5	2904476	1

ERC

**Technical data**24 V DC $\pm 20\%$ (control voltage U_{ST} right/left)

max. 20 mA
Surge protection

-25°C ... 55°C
1.5 kV / Basic insulation
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 26
6.2 mm / 94 mm / 80 mm
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
PSR-FTB/20/86	2904477	1

Functional safety

Safe I/Os

Safe I/Os



Integrate functional safety into your machine or system with the Inline, Axioline F, and Axioline E I/O systems.

Safe I/Os with PROFIsafe

Our safety-related I/O modules impress with their flexible use. Depending on the bus coupler and safety controller, the I/O modules work with PROFIsafe in PROFINET and PROFIBUS systems. We offer digital input and output modules as well as relay modules.

SafetyBridge Technology

SafetyBridge Technology means that you don't need a safety controller. You can still use your preferred standard network and standard controller.

The logic module with SafetyBridge Technology monitors safety-related communication between the safe I/O modules distributed throughout the network. The I/O extension modules acquire the safety signals and output them wherever they are required.

Axioline F – Particularly robust

The shielding concept and special design of Axioline F enable a particularly high level of EMC protection and reduced radiation. In addition, there is a good degree of mechanical robustness. Axioline F therefore increases the availability of your system.

i Your web code: #1948

Inline – Particularly flexible

Inline not only offers a particularly large choice of function terminals, but also allows you to use the appropriate number of channels on modules. The corresponding branch terminal can be used to extend the local bus to the field. You can therefore create your own individual I/O solution.

The Inline ECO Safe I/O terminal is particularly cost-effective. It performs the function of two safety relays and safely disconnects aligned standard output modules.

i Your web code: #1949

Axioline E – The block-based modular I/O system

Axioline E is the I/O system with a block design for field installation. Like all Axioline I/Os, Axioline E is also fast, robust, and easy.

Easy configuration

With SAFECNF, you can easily create the safety logic for SafetyBridge systems with TÜV-certified blocks via drag and drop. All tools are arranged in one window, enabling you to work intuitively with the software.

The SAFECNF configuration software can be downloaded free of charge at phoenixcontact.com.

Further information on the SAFECNF configuration software can be found on page 279.



Axioline F – Particularly robust



Inline – Particularly flexible



Axioline E – The block-based modular I/O system

Logic modules

The logic modules are output modules from the Inline product family with integrated safety logic. They are an integral component of a SafetyBridge system.

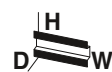
The logic module can be used at any point within an EtherCAT®, EtherNet/IP™, Sercos, Modbus, PROFINET or PROFIBUS system.

Features:

- Generation and monitoring of the SafetyBridge protocol
- Processing of the parameterized safety logic
- Control of 8 safe outputs onboard

Depending on the installation and parameterization, you can achieve the following safety characteristics with this module:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508



Connection to max. 5 safe input/output modules



Connection to max. 16 safe input/output modules



Technical data	
Local bus interface	
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (can be switched)
Power supply for module electronics	
Main circuit supply U_M	24 V DC (see safety data)
Supply voltage range U_M	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Digital outputs	
Connection technology	2-, 3-, 4-conductor
Number of outputs	4 (for two-channel assignment) 8 (for single-channel assignment)
Maximum output current per channel	2 A
Protective circuit	Overload protection, short-circuit protection of outputs
SafetyBridge properties	
Connection to I/O modules	max. 5 (safe digital I/O modules)
Logic memory	24 kByte
General data	
Connection method	Spring-cage connection
Connection data rigid / flexible / AWG	0.2 ... 1.5 mm ² / 0.2 ... 1.5 mm ² / 24 - 16
Dimensions	48.8 mm / 119.8 mm / 71.5 mm
Ambient temperature (operation)	-25°C ... 55°C
EMC note	Class A product, see page 527

W / H / D

Ordering data	
Type	Order No.
IB IL 24 LPSDO 8 V2-PAC	2700606

Connector set, consisting of four Inline connectors with integrated discharge electronics

Configuration software for SafetyBridge and PSR-TRISAFE modules, can be downloaded free of charge at phoenixcontact.net/products

Starter kit, including ILC 130 ETH, LPSDO and PSDI SafetyBridge modules, control panel, power supply unit, plus accessories with preconfigured safety application

Zack marker strip, flat (see Catalog 3)

Ordering data		
Type	Order No.	Pcs./Pkt.
IB IL 24 LPSDO 8 V2-PAC	2700606	1

Accessories		
IB IL 24 PSDO 8-PLSET/CP/R	2700722	1
SAFECONF	2986119	1
ILC 130 SBT V2 STARTERKIT	2700993	1

ZBF 6...

Technical data	
Local bus interface	
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (can be switched)
Power supply for module electronics	
Main circuit supply U_M	24 V DC (see safety data)
Supply voltage range U_M	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Digital outputs	
Connection technology	2-, 3-, 4-conductor
Number of outputs	4 (for two-channel assignment) 8 (for single-channel assignment)
Maximum output current per channel	2 A
Protective circuit	Overload protection, short-circuit protection of outputs
SafetyBridge properties	
Connection to I/O modules	max. 16 (safe digital I/O modules)
Logic memory	60 kByte
General data	
Connection method	Spring-cage connection
Connection data rigid / flexible / AWG	0.2 ... 1.5 mm ² / 0.2 ... 1.5 mm ² / 24 - 16
Dimensions	48.8 mm / 119.8 mm / 71.5 mm
Ambient temperature (operation)	-25°C ... 55°C
EMC note	Class A product, see page 527

Ordering data		
Type	Order No.	Pcs./Pkt.
IB IL 24 LPSDO 8 V3-PAC	2701625	1

Accessories		
IB IL 24 PSDO 8-PLSET/CP/R	2700722	1
SAFECONF	2986119	1

ZBF 6...

The safe I/O modules can be used universally. The modules can be used in INTERBUS-Safety systems, PROFIsafe systems via PROFIBUS or PROFINET, and SafetyBridge systems.

The product range comprises safe input modules, output modules (positive and positive/negative switching), floating switching output modules with integrated relay contacts, as well as an Inline ECO safety module with two sensor circuits for safety-related shutdown of the segment voltage.

An Inline station can be made up of safe and standard modules here, whereby a variety of function terminals are available to the user. The station is configured with high granularity with digital and analog inputs or outputs.

Within the relevant safety system, safety functions can be implemented in accordance with the following requirements:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508



**Digital input module,
16 inputs**



Local bus interface	
Connection method	
Transmission speed	
Power supply for module electronics	
Main circuit supply U_M	
Supply voltage range U_M	
Digital inputs	
Connection technology	
Number of inputs	
Digital outputs	
Connection technology	
Number of outputs	
Maximum output current per channel	
Protective circuit	
General data	
Dimensions	W / H / D
Ambient temperature (operation)	
EMC note	

Technical data	
Inline data jumper	
500 kbps / 2 Mbps (can be switched)	
24 V DC	
19.2 V DC ... 30 V DC (including all tolerances, including ripple)	
2-, 3-conductor	
8 (for two-channel assignment)	
16 (for single-channel assignment)	
-	
-	
-	
-	
-	
48.8 mm / 141 mm / 71.5 mm	
-25°C ... 55°C	
Class A product, see page 527	

Description
Failsafe digital input module
Failsafe digital output module
- 8 outputs
- 4 outputs, +/- switching
Connector set, consisting of four Inline connectors with integrated discharge electronics
Zack marker strip, flat (see Catalog 3)

Ordering data		
Type	Order No.	Pcs./Pkt.
IB IL 24 PSDI 16-PAC	2700994	1

Accessories	
ZBF 6...	



PL
EN ISO 13849

SILCL
IEC 62061



**Digital input module,
8 inputs**



PL
EN ISO 13849

SILCL
IEC 62061



Digital output module



PL
EN ISO 13849

SILCL
IEC 62061



**Digital output module,
+/- switching**



Technical data

Inline data jumper
500 kbps / 2 Mbps (can be switched)

24 V DC
19.2 V DC ... 30 V DC (including all tolerances, including ripple)

2-, 3-, 4-conductor
4 (for two-channel assignment)
8 (for single-channel assignment)

-
-
-
-
-

48.8 mm / 119.8 mm / 71.5 mm
-25°C ... 55°C
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
IB IL 24 PSDI 8-PAC	2985688	1

Accessories

IB IL 24 PSDI 8-PLSET/CP/R	2700720	1
ZBF 6...		



Technical data

Inline data jumper
500 kbps / 2 Mbps (can be switched)

24 V DC
19.2 V DC ... 30 V DC (including all tolerances, including ripple)

-
-
-
2-, 3-conductor
4 (for two-channel assignment)
8 (for single-channel assignment)
2 A
Overload protection, short-circuit protection of outputs

48.8 mm / 119.8 mm / 71.5 mm
-25°C ... 55°C
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
IB IL 24 PSDO 8-PAC	2985631	1

Accessories

IB IL 24 PSDO 8-PLSET/CP/R	2700722	1
ZBF 6...		



Technical data

Inline data jumper
500 kbps / 2 Mbps (can be switched)

24 V DC
19.2 V DC ... 30 V DC (including all tolerances, including ripple)

-
-
-
2-, 3-conductor
4 (for two-channel assignment, +/- switching)
4 (for single-channel assignment, + switching)
2 A
Overload protection, short-circuit protection of outputs

48.8 mm / 119.8 mm / 71.5 mm
-25°C ... 55°C
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
IB IL 24 PSDO 4/4-PAC	2916493	1

Accessories

IB IL 24 PSDO 4/4-PLSET/CP/R	2700721	1
ZBF 6...		

Functional safety

Safe I/Os

Safe I/Os for Inline

Within the relevant safety system, safety functions can be implemented in accordance with the following requirements:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508



Relay output module



Inline ECO safety module with two sensor circuits



Technical data

Local bus interface	
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (can be switched)
Power supply for module electronics	
Main circuit supply U_M	24 V DC
Supply voltage range U_M	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Digital inputs	
Number of inputs	-
Relay outputs	
Number of outputs	4 (safety relays with 2 floating contacts each)
Limiting continuous current	4 A
Switching current	min. 5 mA max. 4 A
Switching capacity	min. 60 mW
General data	
Dimensions	W / H / D 73.2 mm / 119.8 mm / 71.5 mm
Ambient temperature (operation)	-25°C ... 55°C
EMC note	Class A product, see page 527

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Failsafe relay output module			
- 4 outputs	IB IL 24 PSDOR 4-PAC	2985864	1
Inline ECO safety module			



Technical data

Inline data jumper	500 kbps
24 V DC -20% / +15%	-
4 (for 2 sensor circuits (1- or 2-channel, non-equivalent/equivalent))	
1 (internal, two-channel enabling current path)	
6 A (observe derating)	
min. 3 mA	
max. 6 A (30 V DC)	
min. 60 mW	
24.4 mm / 119.8 mm / 71.5 mm	
0°C ... 55°C (observe derating)	

Ordering data

Type	Order No.	Pcs./Pkt.
IB IL SAFE 2-ECO	2702446	1

Logic module

The safety module is an output module from the Axioline F product range with integrated safety logic for use in a SafetyBridge Technology V3 system.

The logic module can be used as part of an Axioline F station at any point within an EtherCAT®, EtherNet/IP™, Sercos, Modbus, PROFINET or PROFIBUS system.

Features:

- Generation and monitoring of the SafetyBridge protocol
- Processing of the parameterized safety logic
- Control of 8 safe outputs onboard

Depending on the installation and parameterization, you can achieve the following safety characteristics with this module:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508



Connection to max. 16 safe input/output modules



Local bus interface	Axioline F local bus
Designation	Bus base module
Connection method	
Power supply for module electronics	5 V DC (via bus base module)
Communications power U_{Bus}	max. 280 mA
Current consumption from U_{Bus}	
I/O supply	24 V DC
Supply of digital output modules U_O	19.2 V DC ... 30.2 V DC (including all tolerances, including ripple)
Supply voltage range U_O	typ. 25 mA (all outputs set; power supply from U_O with 30.2 V DC; without power supply to the actuator)
Current consumption from U_O	Protection against polarity reversal, EMC protective circuit, undervoltage detection
Protective circuit	
Digital outputs	2-, 3-conductor
Connection technology	4 (for two-channel assignment)
Number of outputs	8 (for single-channel assignment)
Output current	max. 2 A (per channel)
Maximum output current per module / terminal block	8 A
Protective circuit	Overload protection, freewheeling circuit for inductive loads, Discharge circuit for accelerated discharge of capacitive loads
SafetyBridge properties	
Connection to I/O modules	max. 16 (safe digital I/O modules)
Logic memory	30 kByte
General data	
Connection method	Push-in connection
Connection data rigid / flexible / AWG	0.2 ... 1.5 mm ² / 0.2 ... 1.5 mm ² / 24 - 16
Weight	220 g
Dimensions	53.6 mm / 126.1 mm / 54 mm
Ambient temperature (operation)	-35°C ... 60°C (mounting position: any)

Ordering data		
Type	Order No.	Pcs./Pkt
AXL F LPSDO8/3 1F	2702171	1

Description
Safety-related digital logic module
- Connection to a maximum of 16 safe I/O modules

Description
Safety-related digital logic module
- Connection to a maximum of 16 safe I/O modules

Safe I/Os for Axioline F

You can install the safety-related I/O modules from the Axioline F product family for PROFI-safe and SafetyBridge anywhere inside an Axioline station. In addition to standard signals, this means you can now also read and output safe signals in the Axioline system.

Depending on the installation and parameterization, you can achieve the following safety characteristics with these modules:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508



Digital input module



Technical data

Local bus interface	
Designation	Axioline F local bus
Connection method	Bus base module
Power supply for module electronics	
Communications power U_{Bus}	5 V DC (via bus base module)
Current consumption from U_{Bus}	max. 310 mA
I/O supply	
Supply of digital input modules U_i	24 V DC
Supply voltage range U_i	19.2 V DC ... 30.2 V DC (including all tolerances, including ripple)
Current consumption from U_i	typ. 9 mA (all inputs set; power supply from U_i with 30.2 V DC; without power supply to the sensors via clock supplies T1 and T2)
Supply of digital output modules U_o	-
Supply voltage range U_o	-
Current consumption from U_o	-
Protective circuit	Protection against polarity reversal, EMC protective circuit, undervoltage detection
Digital inputs	
Connection technology	2-, 3-, 4-conductor
Number of inputs	4 (for two-channel assignment) 8 (for single-channel assignment)
Description of the inputs	IEC 61131-2 type 3
Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	typ. 4.2 mA
Input filter time	1.5 ms / 3 ms (default) / 5 ms / 15 ms
Digital outputs	
Connection technology	-
Number of outputs	-
Output voltage	-
Output current	-
Maximum output current per module / terminal block	-
Behavior in the event of overload	-
Protective circuit	-
General data	
Connection method	Push-in connection
Connection data rigid / flexible / AWG	0.2 ... 1.5 mm ² / 0.2 ... 1.5 mm ² / 24 - 16
Weight	220 g
Dimensions	53.6 mm / 126.1 mm / 54 mm
Ambient temperature (operation)	-35°C ... 60°C (mounting position: any)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Safety-related I/O module - For SafetyBridge	AXL F SSDI8/4 1F	2702263	1
Safety-related I/O module - For PROFI-safe	AXL F PSDI8/4 1F	2701559	1



Digital output module



Technical data

Axioline F local bus
Bus base module
5 V DC (via bus base module)
max. 280 mA
-
-
-
24 V DC
19.2 V DC ... 30.2 V DC (including all tolerances, including ripple)
typ. 25 mA (all outputs set; power supply from U ₀ with 30.2 V DC; without power supply to the actuator)
Protection against polarity reversal, EMC protective circuit, undervoltage detection
-
-
-
-
-
-
2-, 3-conductor
4 (for two-channel assignment)
8 (for single-channel assignment)
24 V DC
max. 2 A (per channel)
8 A
Affected output is disabled and a diagnostic message is generated.
Overload protection, freewheeling circuit for inductive loads, Discharge circuit for accelerated discharge of capacitive loads

Push-in connection
0.2 ... 1.5 mm ² / 0.2 ... 1.5 mm ² / 24 - 16
220 g
53.6 mm / 126.1 mm / 54 mm
-35°C ... 60°C (mounting position: any)

Ordering data

Type	Order No.	Pcs./Pkt.
AXL F SSD08/3 1F	2702264	1
AXL F PSD08/3 1F	2701560	1

Acquire safety-related input and output data directly in your systems and machines, without the need for a control cabinet or junction box. The safety module from the Axioline E product family is suitable for use in PROFI-safe and SafetyBridge systems.

The module is an IO-Link device. When used in conjunction with the IO-Link masters from the Axioline E product family, you can integrate the module into the relevant higher-level network.

Within the relevant safety system, safety functions can be implemented in accordance with the following requirements:

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SILCL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508

IO-Link



8 digital inputs and 8 digital outputs

Power supply for module electronics

Supply voltage
Supply voltage range

24 V DC
19.2 V DC ... 30.2 V DC (including all tolerances, including ripple)

Connection method Digital inputs

Connection method
Connection technology
Number of inputs

M12 connector (T-coded)

M12 connector, double occupancy
3-conductor
4 (for two-channel assignment)
8 (for single-channel assignment)

Description of the inputs
Input filter time
Protective circuit

IEC 61131-2 type 3
1.5 ms / 3 ms (default) / 5 ms / 15 ms
Overload protection, short-circuit protection of sensor supply

Digital outputs

Connection method
Connection technology
Number of outputs

M12 connector

3-conductor
4 (for two-channel assignment, +/- switching)
4 (for single-channel assignment, + switching)

Maximum output current per channel
Protective circuit

2 A
Overload protection, short-circuit protection of outputs

IO-Link ports

Connection method
Connection technology
Number of ports

M12 connector, A-coded
3-conductor
1 (Class B)

IO-Link port supply L+

Nominal voltage for I/O supply

24 V DC (is provided via the IO-Link interface of the IO-Link master.)

General data

Weight
Drill hole spacing
Dimensions
Degree of protection
Ambient temperature (operation)

350 g
201 mm
60 mm / 214 mm / 30 mm
IP65/IP67
-25°C ... 60°C

Ordering data

Description

Safety-related I/O module

Type

Order No.

Pcs./Pkt.

AXL E IOL SDI8 SDO4 2A M12 6P

2702833

1

Safe PROFINET gateway

The safe PROFINET gateway from Phoenix Contact enables safe communication between two PROFINET networks. This means that you can implement system-wide and manufacturer-independent functional safety, such as emergency stop concepts.

Your advantages:

- Coupling of two PROFINET systems
- Transmission of standard I/O data via PROFINET
- Transmission of safe I/O data via PROFIsafe
- Redundant power supply
- Controller-independent

Within a PROFIsafe system, the safety functions associated with the following requirements are supported:

- SIL 3 in accordance with IEC 61508
- SILCL 3 in accordance with IEC 61508
- PL e in accordance with EN ISO 13849-1



Safe PROFINET gateway

Supply	
Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 30 V DC (including ripple)
Current consumption	
Programming data	max. 250 mA
IN and OUT process data	128 Byte (2 - 11 bytes of safe IO process data)
General data	
Weight	550 g
Dimensions	130 mm / 27 mm / 145 mm
Ambient temperature (operation)	-25°C ... 60°C
EMC note	Class A product, see page 527

Description
Safe PROFINET gateway

Color marking for FL CAT... Patch...	
- Blue	
- Red	
Lockable security element for FL Patch...	
Key for FL PATCH GUARD	
Security element for FL CAT ...Patch...	



Technical data	
Supply	
Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 30 V DC (including ripple)
Current consumption	
Programming data	max. 250 mA
IN and OUT process data	128 Byte (2 - 11 bytes of safe IO process data)
General data	
Weight	550 g
Dimensions	130 mm / 27 mm / 145 mm
Ambient temperature (operation)	-25°C ... 60°C
EMC note	Class A product, see page 527

Ordering data		
Type	Order No.	Pcs./Pkt.
FL PN/PN SDIO-2TX/2TX	2700651	1

Accessories		
FL PATCH CCODE BU	2891291	20
FL PATCH CCODE RD	2891893	20
FL PATCH GUARD	2891424	20
FL PATCH GUARD KEY	2891521	1
FL PATCH SAFE CLIP	2891246	20

The RFC 4072S is the first high-performance controller based on PLCnext Technology. Use in applications with the highest safety requirements in accordance with SIL 3 or PL e is also possible. With PLCnext Engineer, standard and safety programming can be performed in a single engineering tool.

Your advantages:

- PLCnext Technology: preferred programming languages and programming environments, open-source software, apps, Proficloud, and also coming soon PLCnext Store with real-time execution
- Safety: maximum safety of machinery, thanks to diversified processors and support for up to 300 PROFSafe devices
- Performance: the use of an Intel® Core™ i5 Dual Core processor and two powerful processors based on Arm architecture enables one of the best performance capabilities on the market

Additional features:

- PROFINET controller and device
- Support for PROFSafe profile V2.6.1
- M2M system networking with OPC UA
- Communication in up to three separate subnets
- Convenient operation via the touch display

The RFC 4072S is able to satisfy the following requirements in safety-related applications:

- SIL 3 in accordance with IEC 61508
- PL e in accordance with EN ISO 13849-1

PLCnext TechnologyTM
Designed by PHOENIX CONTACT

PROFINET[®]



High-performance safety PLC with PLCnext Technology

Interfaces	
Ethernet	
USB 2.0	
PROFINET master	
Number of supported devices	max. 256
IEC 61131 runtime system	
Processor	
Program memory	
Mass storage	
Retentive mass storage	
Real-time clock	
Power supply	
Power supply connection	
Supply voltage	
Supply voltage range	
Typical current consumption	1 A
General data	
Dimensions	W / H / D
Degree of protection	IP20
Ambient temperature (operation)	0°C ... 55°C (from 40°C only with fan module)

Description
Safety controller

Program and configuration memory.
Flash card for storing application programs and other files in the PLC file system

Fan module for Remote Field Controller

Engineering software

Technical data	
4 x RJ45 socket	
1 x USB type A, male connector	
max. 256	
Intel® Core™ i5-6300U 2x 2.4 GHz (Standard)	
Arm® Cortex®-A9 800 MHz (Safety)	
Arm® Cortex®-A8 600 MHz (Safety)	
16 Mbyte	
32 Mbyte	
2 Mbyte	
Integrated (battery backup)	
Screw terminal blocks, plug-in	
24 V DC	
19.2 V DC ... 30 V DC (including ripple)	
1 A	
122 mm / 182 mm / 173 mm	
IP20	
0°C ... 55°C (from 40°C only with fan module)	

Ordering data		
Type	Order No.	Pcs./Pkt.
RFC 4072S	1051328	1

Accessories		
SD FLASH 2GB PLCNEXT MEMORY	1043501	1
RFC FAN MODULE	2404085	1
PLCnext Engineer (see page 14)		

Safe PROFIsafe controller

Thanks to the use of powerful processors, the RFC 480S PN 4TX safety controller delivers high performance in the portfolio. You can integrate the latest safety devices using PROFIsafe profile V2.6.1. The OPC UA server enables modern communication with higher-level SCADA systems.

Your advantages:

- Safety: maximum safety of machinery, thanks to diversified processors and support for up to 300 PROFIsafe devices
- Performance: the use of an Intel® Core™ i5 Dual Core processor and two powerful processors based on Arm architecture enables one of the best performance capabilities on the market

Additional features:

- PROFINET controller and device
- Support for PROFIsafe profile V2.6.1
- M2M system networking with OPC UA
- Communication in up to three separate subnets
- Convenient operation via the touch display

Depending on the parameterization of the I/O modules and the programming, the RFC 480S can meet the following requirements:

- SIL 3 in accordance with IEC 61508
- PL e in accordance with EN ISO 13849-1



Class 400 compact controller with integrated safety controller



Interfaces	
Ethernet	
PROFINET master	
Number of supported devices	
IEC 61131 runtime system	
Processor	
Program memory	
Mass storage	
Retentive mass storage	
Real-time clock	
Power supply	
Power supply connection	
Supply voltage	
Supply voltage range	
Typical current consumption	
General data	
Dimensions	W / H / D
Degree of protection	
Ambient temperature (operation)	
EMC note	

Technical data	
4 x RJ45 socket	
max. 256	
Intel® Core™ i5-6300U 2x 2.4 GHz (Dual-Core)	
Arm® Cortex®-A9 800 MHz (Safety)	
Arm® Cortex®-A8 600 MHz (Safety)	
typ. 16 Mbyte	
32 Mbyte	
2 Mbyte	
Integrated (battery backup)	
Screw terminal blocks, plug-in	
24 V DC	
19.2 V DC ... 30 V DC (including ripple)	
1 A	
122 mm / 182 mm / 173 mm	
IP20	
0°C ... 55°C (from 40°C only with fan module)	
Class A product, see page 527	

Description
Remote Field Controller
- 4 x 10/100/1000 Ethernet, PROFINET controller

Ordering data		
Type	Order No.	Pcs./Pkt.
RFC 480S PN 4TX	2404577	1

Program and configuration memory, plug-in	
- 512 MB	
- 2 GB	
Fan module for Remote Field Controller	
AX OPC SERVER , communication interface for OPC-compatible visualization with PC Worx-based controllers	
- ILC 1x1, AXC 1xxx, ILC 3xx, AXC 3xxx, RFC 4xx, PC WORX RT BASIC/SRT	
SAFETYPROG programming software	
- Basic	
- Advanced	
- Professional	
Engineering software	

Accessories		
SD FLASH 512MB	2988146	1
SD FLASH 2GB	2988162	1
RFC FAN MODULE	2404085	1
AX OPC SERVER	2985945	1
SAFETYPROG BASIC	2700443	1
SAFETYPROG ADVANCED	2700441	1
SAFETYPROG PROFESSIONAL	2700442	1
PC WORX ... (see "Software" section)		



With the Easy Safe safety solution, in combination with the ILC 151 ETH or AXC 1050 controllers, you can quickly and easily integrate safe I/O modules into your machine. All the necessary configuration settings and initializations for the integration of SafetyBridge I/O modules in your standard application are applied automatically.

Your advantages:

- Easy safety-related programming by means of pre-configured software application
- Quick configuration, thanks to user-friendly web interface
- Comprehensive communication options, thanks to Modbus and PROFINET connection (PRO version)
- Always informed, thanks to notification function via e-mail (PRO version)

Additional features:

- Graphical interface
- Safety logic using drag and drop
- License key and user program



Safety solution for Inline

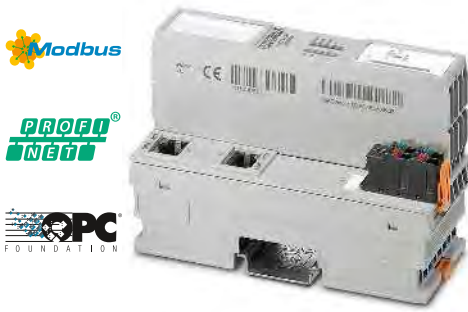


Interfaces	
Designation	
Connection method	
Ethernet	
Parameterization/operation/diagnostics	
System limits	
Number of devices with parameter channel	
Number of supported devices	
Amount of process data	
Digital inputs/outputs	
Number of inputs	8
Number of outputs	4
IEC 61131 runtime system	
Programming tool	
Processor	
Program memory	
Mass storage	
Retentive mass storage	
Number of data blocks	
Number of timers, counters	
Number of control tasks	
Real-time clock	
Power supply	
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Typical current consumption	210 mA
General data	
Dimensions	W / H / D
Degree of protection	IP20
Ambient temperature (operation)	-25°C ... 55°C
EMC note	Class A product, see page 527

Technical data	
INTERBUS local bus (master)	
Inline data jumper	
1 x RJ45 socket	
1 x 6-pos. MINI DIN socket (PS/2)	
max. 16	
max. 128	
max. 4096 Bit (INTERBUS)	
max. 16384 Bit (internal Modbus /TCP client)	
PC WORK	
PC WORK EXPRESS	
Altera Nios II 64 MHz	
256 kByte	
256 kByte	
8 kByte (NVRAM)	
depends on mass storage	
depends on mass storage	
8	
Yes	
Power supply	
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Typical current consumption	210 mA
General data	
Dimensions	W / H / D
Degree of protection	IP20
Ambient temperature (operation)	-25°C ... 55°C
EMC note	Class A product, see page 527

Description
Compact controller , complete with accessories (connector and marking field)
Program and configuration memory , Flash card with license key and user program for easy web-based configuration and startup of a SafetyBridge solution
- 2 GB, for Inline
- 2 GB, for Inline including communication via Modbus/TCP, PROFINET, and e-mail
- 2 GB, for AxioLine including communication via Modbus/TCP, PROFINET, and e-mail

Ordering data		
Type	Order No.	Pcs./Pkt.
ILC 151 ETH	2700974	1
SD FLASH 2GB EASY SAFE BASIC	2403297	1
SD FLASH 2GB EASY SAFE PRO	2403298	1



Safety solution for
Axioline PRO version



Technical data

Axioline F local bus
Bus base module
2 x RJ45 socket
1 x Micro USB type B

-

max. 63 (per station)
max. 4096 Bit (Axioline F local bus (input))
max. 4096 Bit (Axioline F local bus (output))
max. 32768 Bit (internal Modbus /TCP client)

-

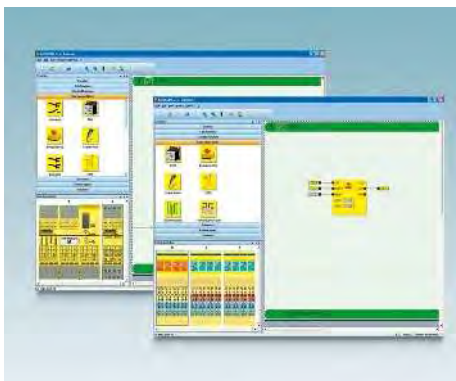
PC WORX
PC WORX EXPRESS
Altera Nios II 1x 100 MHz
2 Mbyte
2 Mbyte
48 kByte (NVRAM)
depends on mass storage
depends on mass storage
8
Yes

24 V DC
19.2 V DC ... 30 V DC
125 mA

45 mm / 125.9 mm / 74 mm
IP20
-25°C ... 60°C
Class A product, see page 527

Ordering data

Type	Order No.	Pcs./Pkt.
AXC 1050	2700988	1
SD FLASH 2GB AXC EASY SAFE PRO	2403730	1



SAFECONF

The software implements the consistent configuration of the safety function and the parameterization of the safe SafetyBridge and PSR-TRISAFE modules.

Instead of being programmed, the required functions and components are simply dragged to the connection editor, where they can be linked. It takes just three steps to create a project, test it, and transfer it to the safety module.

When using SafetyBridge modules, you can create the safe configuration independently of the controller and automation network used.

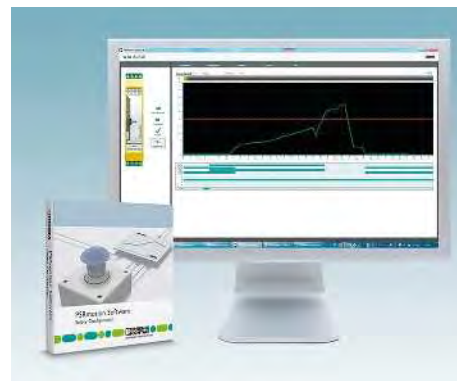
- Maximum flexibility, thanks to the wide range of driver interfaces for leading controller manufacturers



PSR-CONF-WIN

The PSR-CONF-WIN configuration package is used to parameterize the PSR-RSM4 safe zero-speed and over-speed safety relay.

Application-related safety parameters such as zero-speed and speed limits can be set in the software. The data is then transferred to the safety relay module.



PSRmotion software

Application-related parameters for the PSR-MM30 safe zero-speed and over-speed safety relay can be set and downloaded using the PSRmotion configuration software.

The software's online monitoring function enables you to visualize the data for the monitored movement during operation.

The PSRmotion configuration software can be downloaded free of charge online at phoenixcontact.net/products under Download on the product page for the PSR-MM30 zero-speed and over-speed safety relay.



Configuration software for PSR-TRISAFE and SafetyBridge modules



Configuration software and connecting cable

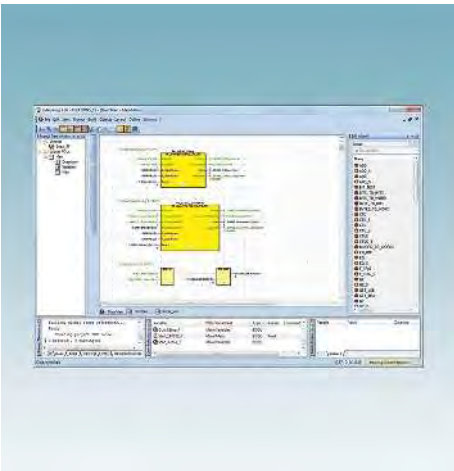
Technical data		Technical data	
Hardware requirements			
Processor	Pentium, 2 GHz (recommended), 1 GHz (min.)	Processor	Pentium, 2 GHz (recommended), 1 GHz (min.)
Main memory (RAM)	2 GByte (under Windows 7 / Windows 8: 1 GByte (min.) under Windows XP 512 Mbytes (min.))	Main memory (RAM)	1 GByte (under Windows 7 / under Windows XP: 512 Mbytes (min.))
Hard disk memory	min. 250 Mbyte (free hard disk memory space)	Hard disk memory	min. 250 Mbyte (free hard disk memory space)
Optical drive	CD-ROM	Optical drive	CD-ROM
Operating equipment	Keyboard, mouse	Operating equipment	Keyboard, mouse
Monitor resolution	800x600	Monitor resolution	800x600
Software requirements		Software requirements	
Operating system	Windows® 7 Professional SP1 (32-Bit/64-Bit) / Windows® 8 (32 bit/64 bit) / MS Windows XP (SP3) Multi-Language	Operating system	Windows® 7 (32-Bit/64-Bit) / Windows XP / MS Windows NT 4.0 with Service Pack > 4, MS Windows 2000 and MS Windows XP
Supported browsers	Internet Explorer 6 or higher	Supported browsers	-
Basic functions	Configuration software for PSR-TRISAFE and SafetyBridge technology	Basic functions	Configuration software for PSR-RSM4 safe zero-speed and over-speed safety relay
Languages supported	German, English, French, Spanish, Italian	Languages supported	German, English, French, Spanish, Italian
Ordering data		Ordering data	
Description	Type	Order No.	Pcs./Pkt.
Configuration software for SafetyBridge and PSR-TRISAFE modules, can be downloaded free of charge at phoenixcontact.net/products	SAFECONF	2986119	1
Configuration software for parameterizing the PSR-RSM4 safe zero-speed and over-speed safety relay, with programming cable			
		PSR-CONF-WIN1.0	2981554
			1

Description

Configuration software for SafetyBridge and PSR-TRISAFE modules, can be downloaded free of charge at phoenixcontact.net/products

Configuration software for parameterizing the PSR-RSM4 safe zero-speed and over-speed safety relay, with programming cable

SAFETYPROG –
Programming software



SafetyProg can be used to develop safe applications with safety controllers – using PROFIsafe networks.

The TÜV-certified programming tool guides you through the various development phases of a safety application:

- IEC 61131-compliant programming in function block diagram (FBD), ladder diagram (LD), and structured text (ST)
- Compiling the project
- Sending the project to the safety controller
- Controlling the safety controller, e.g., start, stop or reset
- Performing function tests
- Monitoring the safety controller and debugging the safety application
- Project documentation
- Printing project documentation

SAFETYPROG contains a comprehensive library with 20 certified function blocks for safety technology, all in accordance with PLCopen safety specification 1.0.

Useful tools

SAFETYPROG offers many innovative tools, which enable you to integrate functional safety in your automation system:

- User management
- Bus configuration project for importing process and diagnostic data
- Bus navigator
- Code editor and Edit wizard
- Coupling of safe and standard PLC
- Project tree
- Cross-reference and message windows
- Controller simulation
- Variable editor

Notes:
Further information on the safe PROFIsafe controller can be found on page 275



Programming software for
PROFIsafe controllers

Functional safety

Description
Programming software for PROFIsafe controllers , with graphical user interface in accordance with IEC 61131-3 in function block diagram (FBD) and ladder diagram (LD).
One library from the corresponding PLCopen libraries can be used per project.
Programming software for PROFIsafe controllers , with graphical user interface in accordance with IEC 61131-3 in function block diagram (FBD) and ladder diagram (LD).
Three of the libraries from the corresponding PLCopen libraries can be used per project.
Programming software for PROFIsafe controllers , with graphical user interface in accordance with IEC 61131-3 in function block diagram (FBD) and ladder diagram (LD).
All of the libraries from the corresponding PLCopen libraries can be used per project.

Ordering data		
Type	Order No.	Pcs./Pkt.
SAFETYPROG BASIC	2700443	1
SAFETYPROG ADVANCED	2700441	1
SAFETYPROG PROFESSIONAL	2700442	1

Safe analog value processing



Function block library for safety-related analog value acquisition with standard I/O modules.

Please contact the safety hotline before ordering **SAFE AI**.

24-hour safety hotline
+49 5281 9-462777
safety-service@phoenixcontact.com

Wherever analog values need to be processed in a safety-related manner, the Safe AI solution package from Phoenix Contact is the ideal solution. With this TÜV-certified and software-based analog value processing, no safety-related I/O modules are required. This saves you money and offers flexibility.

- Components of the Safe AI solution package:**
- Initial application advice via telephone on the required software and hardware components
 - License key for using the ANALOGINPUT_SF function block library including user documentation
 - Advice from the Competence Center Safety in the form of a web meeting



Ordering data		
Type	Order No.	Pcs./Pkt.
SAFE AI	2400057	1



Safety lifecycle for machinery

Our measures are based on the safety lifecycle for machinery, as per EN ISO 13849, EN 62061, and, for process technology, EN 61511.

Your advantage:

We provide consistent and traceable support that can be planned for the implementation of your safety-related requirements.

Machine operators

We support you in tasks relating to the Ordinance on Industrial Safety and Health applicable in Germany, hazard assessment, and the safe provision of equipment.

When you, as a machine operator, make changes to your machinery, your role may possibly change to that of a machine manufacturer.

Machine manufacturers

We support you in tasks compliant with the Machinery Directive, EMC Directive, Low Voltage Directive, and for CE declaration of conformity applicable in Europe.

We design the process based on the safety lifecycle for machinery from phase 0 to phase 7.

System integrators

We support you in tasks compliant with EN ISO 13849, EN 62061, the European EMC Directive, and the Low Voltage Directive, as well as the use of the SISTEMA software utility.

We design the process based on the safety lifecycle for machinery from phase 2 to phase 7.

24-hour safety hotline

If queries arise when selecting products or during startup and operation, in addition to your local specialists you can also contact our free 24-hour safety hotline at any time:

+49 (0) 5281 9 46 2777

Or send us an e-mail:
safety-service@phoenixcontact.com

Additional information:

For detailed information regarding our range of services for the safety of machinery and systems, use the web code.

i Your web code: #1075



Service and support

We will support you in all aspects regarding the safety of machinery with our flexible range of services. Choose between industry-specific services for the safety of machines and systems or services for safety in the process industry.

Our certified safety experts will be happy to advise you and support you during the necessary work steps and in the creation of the verification documentation.

Contact:
services@phoenixcontact.com



Consultation

We provide advice on various subjects in the planning and implementation of your system:

- Design of the safety lifecycle: standards and their implementation
- Machinery Directive
- Retrofitting of machines and systems



Engineering

To assess the safety integrity, we determine the PL (performance level) or SIL (safety integrity level) of the safety functions with the help of your technical documentation. These must be sufficiently robust to withstand random errors.

In the case of Machinery Directive requirements, we implement the entire safety lifecycle process, from the risk assessment all the way through to the instructions for use.



Product support

We provide support for any questions you may have regarding Phoenix Contact safety hardware and software. You can contact our support team about anything – from a preliminary clarification of the technical aspects, through planning and implementation, to operation.



Seminars

We provide instruction and practical training that is tailored to your individual requirements, such as:

Safety application software:

- Requirements for safety-related software
- Specification of safety requirements and software
- Implementation of safety functions
- Development of function blocks



FS Technician:

- Information regarding the requirements of the Machinery Directive and those of harmonized standards
- Practical implementation of technical and normative requirements regarding functional safety
- TÜV Rheinland certificate upon completion