

Safety switch sensor - PSR-CT-M-SEN-1-8 - 2702975

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Proximity safety circuit up to Cat. 4, PL e (EN ISO 13849), SIL 3 (IEC 61508), multicode sensor with RFID coding, model 4 (EN ISO 14119), automatic or manual start, integrated diagnostics, 24 V DC supply, IP69K, M12 connector

The figure shows a product version of the article

Product Description

The PSR-CT safety circuit consists of a combination of a PSR-CT-...-SEN-1-8 sensor with varying coding types and a coded PSR-CT-C-ACT actuator. It provides maximum tamper protection and the highest level of safety in accordance with EN ISO 14119. The PSR-CT safety circuit is available with the following types of coding:

Fixcode: For the sensor to detect the actuator, the actuator must first be associated with the sensor via a learning process. The learning process can only be completed once. The sensor and actuator are then permanently assigned to each other by their coding. Safety circuits with fixcode evaluation achieve a high coding level.

Unicode: For the sensor to detect the actuator, the actuator must first be assigned to the sensor via a learning process. The learning process for a new actuator can be repeated any number of times. The sensor only detects the last learned actuator. Safety circuits with unicode evaluation achieve a high coding level.

Multicode: The sensor detects every actuator of the approved type. No specific actuator code can be assigned. Safety circuits with multicode evaluation achieve a low coding level.

Your advantages


- ✓ Integrated reset function on the switch
- ✓ 4 actuation settings, 3 travel directions
- ✓ Tamper protection via RFID transponder technology
- ✓ Rapid diagnostics, thanks to comprehensive status information
- ✓ Consistent M12 connection technology for convenient installation
- ✓ Safe series connection in accordance with EN ISO 14119
- ✓ Flexible use, thanks to compact design
- ✓ Safe, cost-effective complete solution



Key Commercial Data

Packing unit	1 pc
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Safety switch sensor - PSR-CT-M-SEN-1-8 - 2702975

GTIN	 4 055626 447025
GTIN	4055626447025
Weight per Piece (excluding packing)	40.000 g
Custom tariff number	85365019
Country of origin	Germany

Technical data

Dimensions

Width	26.5 mm
Height	40 mm
Depth	18 mm

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C

Power supply

Supply voltage	24 V DC $\pm 15\%$ (PELV, controlled, residual ripple < 5%)
Current consumption	max. 40 mA
Protection	min. 0.25 A (to be performed externally)
	max. 8 A (to be performed externally)

Alarm outputs

Designation	DGN
Output description	p-wired
Number of outputs	1
Short-circuit-proof	yes
Output voltage	min. ($U_B - 1.5\text{ V (HIGH)}$)
	max. ($U_B\text{ (HIGH)}$)
	min. 0 V DC (LOW)
	max. 1 V DC (LOW)
Current I_{DGN}	min. 1 mA

Safety outputs

Designation	FO1A, FO1B
Output description	Semiconductor outputs, p-wired
Number of outputs	2
Output voltage	min. ($U_B - 1.5\text{ V (HIGH FO1A, FO1B)}$)
	max. ($U_B\text{ (HIGH FO1A, FO1B)}$)
	min. 0 V DC (LOW FO1A/FO1B)

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Technical data

Safety outputs

	max. 1 V DC (LOW FO1A/FO1B)
Switching current	min. 1 mA (per safety output)
	max. 150 mA (per safety output)
Short-circuit-proof	yes
Utilization category in accordance with IEC 60947-5-2	150 mA (24 V (DC13))
Note on protection circuit	NOTE: Protect the outputs under inductive loads with a freewheeling diode.
Residual current	≤ 0.25 mA

Times

Switch-on delay	typ. 5 s (after switching U_B on)
Risk time according to EN 60947-5-3	max. 125 ms (Stand-alone device)
Delay time	typ. 10 ms (Risk time delay per device)
Switch-on time	max. 400 ms (for the safety outputs)
Discrepancy time	max. 10 ms (between the safety outputs)
Test pulses	typ. 300 µs (Test pulse duration)
	approx. 100 ms (Test pulse interval)

General

Net weight	41.6 g
Mounting position	any
Mounting type	not flush
Minimum distance	140 mm (between two safety circuits)
	7 mm (between sensor and actuator when traveling in the Y-direction)
Assembly instructions	Note EN ISO 14119
	Maximum tightening torque to secure: 0.8 Nm
Degree of protection	IP65/IP67/IP69/IP69K
	IP67 (with SAC cabling)
Protection class	III
Short-circuit current	typ. 100 A (conditional short-circuit current)
Switching frequency	max. 1 Hz
Housing material	PBT
Housing color	yellow
Status display	2 LEDs

Connection data

Connection method	Connector
Connection technology	M12 connector
pluggable	no

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Technical data

Connection data

Number of positions	8
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Safety-related characteristic data

Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4

Standards and Regulations

Rated insulation voltage	max. 300 V
Rated surge voltage	max. 1.5 kV
Degree of pollution	3
Vibration (operation)	in accordance with EN 60947-5-2
EMC conformance	EN 60947-5-3

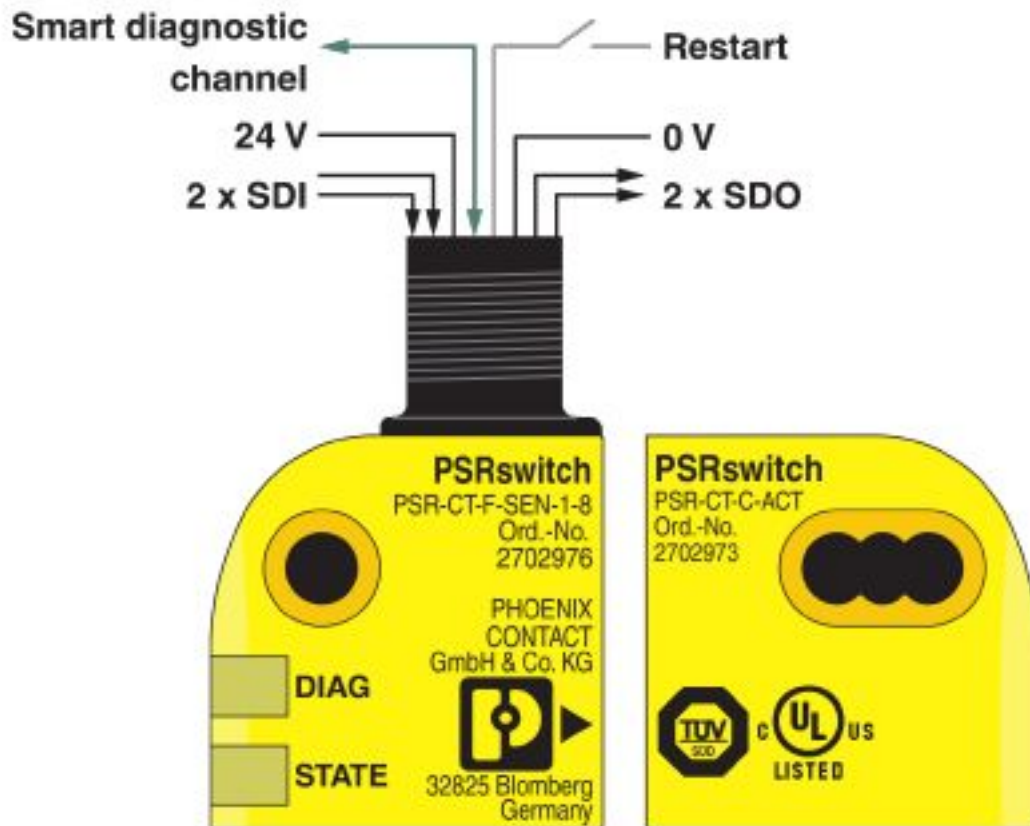
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

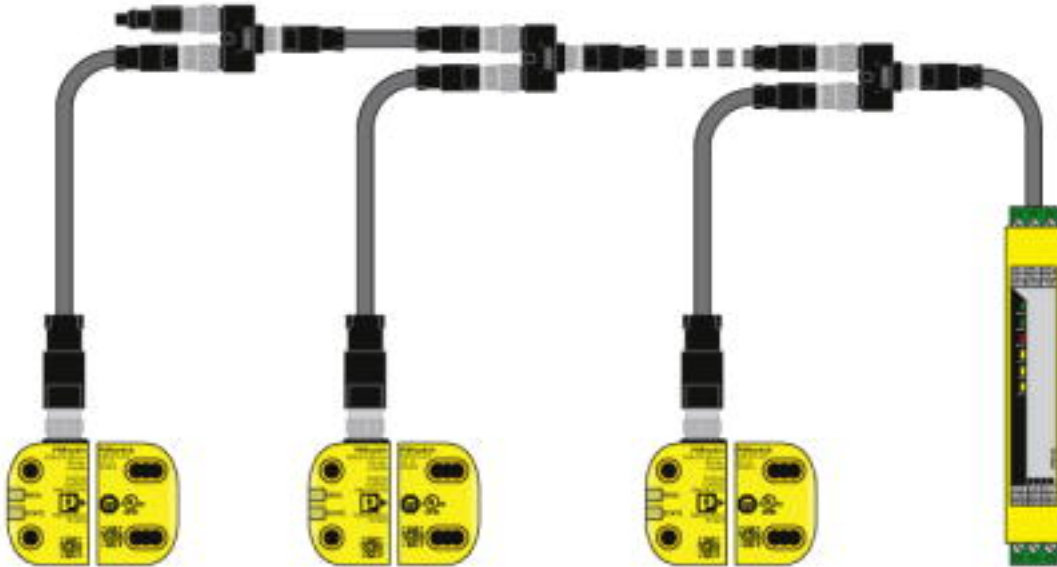
Safety switch sensor - PSR-CT-M-SEN-1-8 - 2702975

Application drawing



Safety switch sensor - PSR-CT-M-SEN-1-8 - 2702975

Application drawing

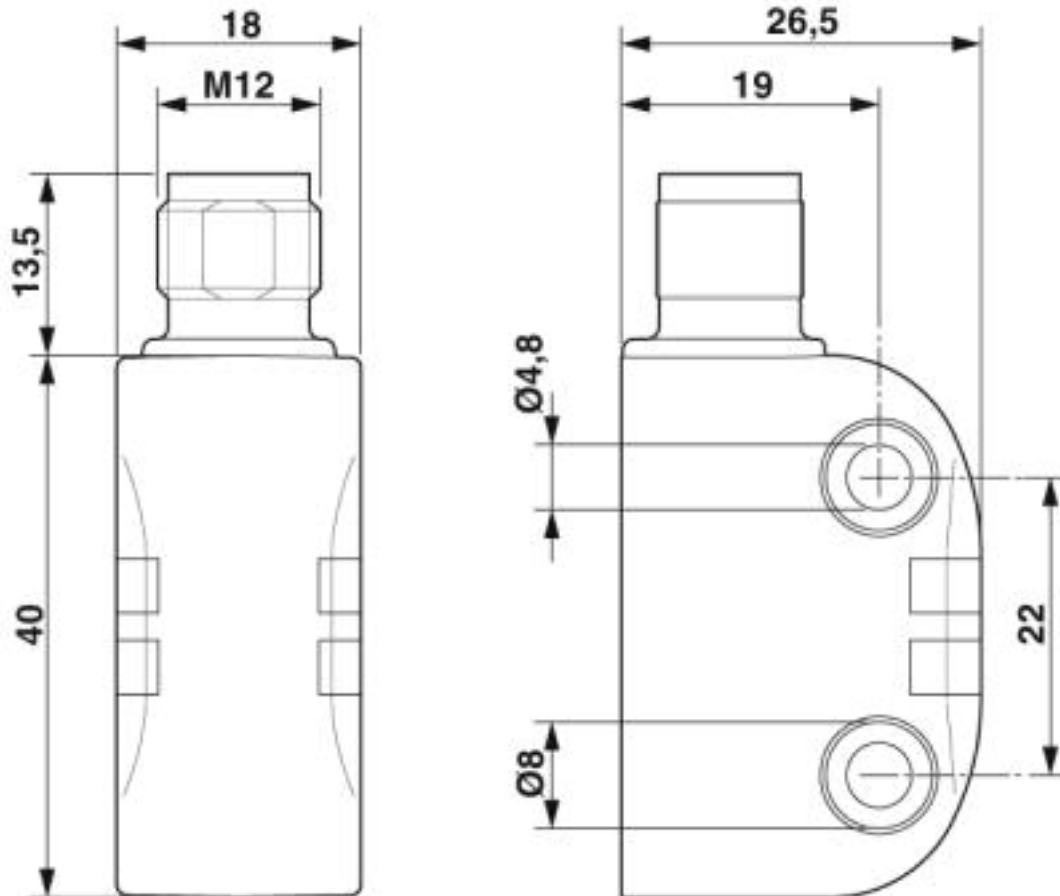


Application drawing

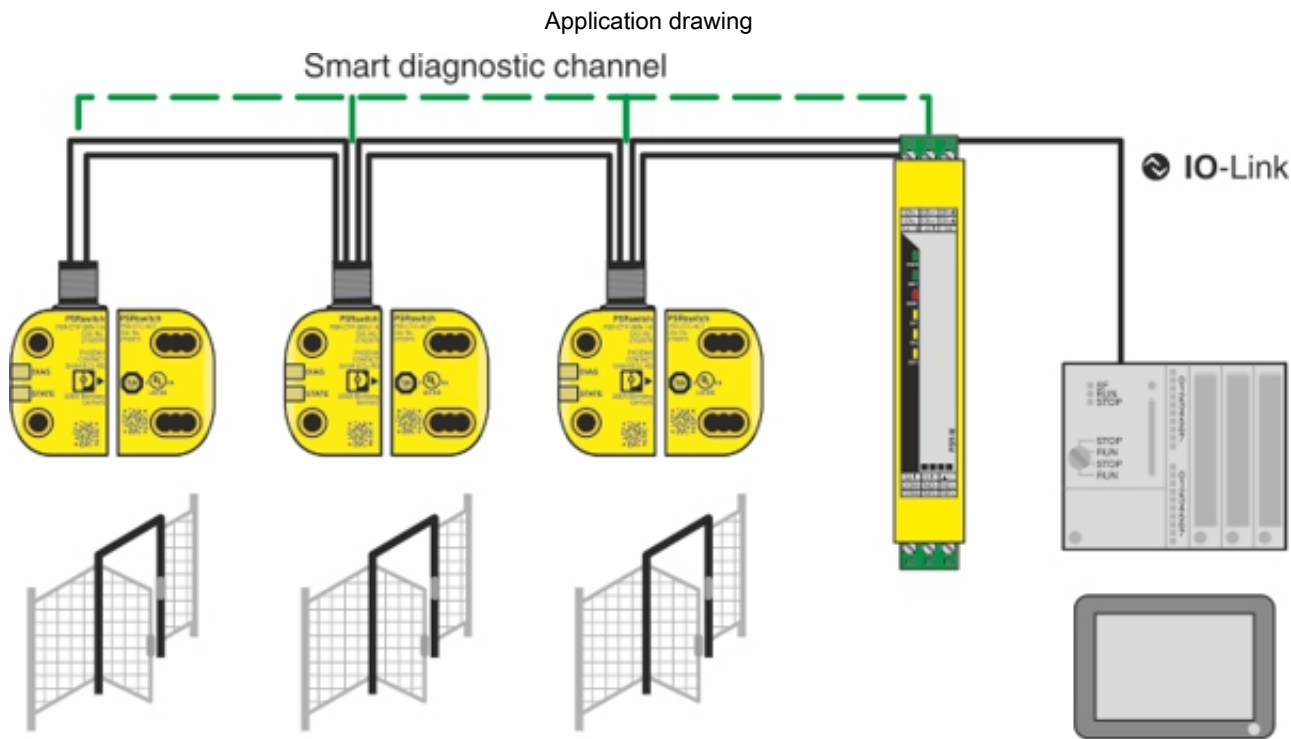


Safety switch sensor - PSR-CT-M-SEN-1-8 - 2702975

Dimensional drawing



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Classifications

eCl@ss

eCl@ss 5.0	27272400
eCl@ss 6.0	27272400
eCl@ss 7.0	27272403
eCl@ss 9.0	27272403

ETIM

ETIM 5.0	EC001526
ETIM 6.0	EC001526
ETIM 7.0	EC001526

Approvals

Approvals

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Approvals

Approvals

UL Listed / cUL Listed / Functional Safety / FCC / Industry Canada / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 196162
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 196162
Functional Safety		http://www.tuev-sued.de	Z10 18 04 29429 005
FCC			YG3-PSR1
Industry Canada			4720B-PSR1
cULus Listed			

Accessories

Accessories

Safety switches

Safety switch actuator - PSR-CT-C-ACT - 2702973



Proximity safety circuit up to Cat. 4, PL e (EN ISO 13849), SIL 3 (IEC 61508), coded actuator, compatible with all sensor coding types, supplied inductively via the sensor, IP69K

Terminal resistor

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Accessories

Short-circuit connector - SAC-5P-M12MS BK BR 1-2-4 - 1054366



Termination plug for PSR-CT series RFID transponder switches, M12 male, 5-pos., closes the circuit at the last Y distributor in a series connection

Y-distributor

Y distributor - SAC-8PY-M/2XF BK 1-PSR - 1054338



Y distributor for PSR-CT series RFID transponder switches, M12 male/female, 5- and 8-pos., for safe series connection of up to 30 devices

Y distributor - SAC-8PY-M/2XF BK 2-PSR - 1054339



Y distributor for PSR-CT series RFID transponder switches, M12 male/female, 5- and 8-pos., for implementation of a manual start circuit in the field

Y distributor - SAC-8PY-M/2XF BK 3-PSR - 1054341



Y distributor for PSR-CT series RFID transponder switches, M12 male/female, 5- and 8-pos., for signal contact feedback to the PLC