



## PROTECT-PE-02

- Possibility to connect up to 4 sensors with non-isolated signals, e.g. the CSS products from Schmersal as well as AOPD's (only PROTECT-PE-02)
- Input for up to 4 sensors per interface e.g.: magnetic safety switches type BNS, emergency stop devices, interlocking devices and others
- Signalling output for each sensor (monitoring of both circuits of the sensors) and and all sensors (Y5, group signal)
- 2 safety contacts

## Data

### Ordering data

EAN (European Article Number)	4030661505862
eCl@ss number, Version 9.0	27-37-18-19
eCl@ss number, Version 11.0	27-37-18-19
ETIM number, version 6.0	EC001449
Available until	31.12.2022

### Approval - Standards

Certificates	cULus EAC
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### General data

Standards	IEC 61508 IEC/EN 60204-1 EN 60947-5-1 EN ISO 13849-1
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Climatic stress	EN 60068-2-78
Enclosure material	Glass-fibre reinforced thermoplastic, ventilated
Gross weight	180 g

## General data - Features

Stop-Category	0
Electronic Fuse	Yes
Wire breakage detection	Yes
Automatic reset function	Yes
Earth connection detection	Yes
Integral System Diagnostics, general	Yes
Number of auxiliary contacts	2 9
Number of LEDs	6
Number of openers	2
Number of signalling outputs	7

## Safety appraisal

Standards	EN 60947-5-1 IEC 61508
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## Safety appraisal - Relay outputs

Performance Level, up to	d
Control category to EN13849	3
Diagnostic Coverage (DC) Level	60 %
PFH-value	$2.00 \times 10^{-7}$ /h
Safety Integrity Level (SIL), suitable for applications in	2
Mission time	20 Year(s)
Common Cause Failure (CCF), minimum	65

## Mechanical data

Mechanical life, minimum	10,000,000 Operations
Mounting	Snaps onto standard DIN rail to EN 60715

## Mechanical data - Connection technique

Terminal Connector	Cage clamps
Terminal designations	IEC/EN 60947-1
Cable section, minimum	0.2 mm <sup>2</sup>
Cable section, maximum	2.5 mm <sup>2</sup>

## Mechanical data - Dimensions

Width	65.5 mm
Height	126 mm
Depth	61 mm

## Ambient conditions

Degree of protection of the enclosure	IP20
Degree of protection of the mounting space	IP20
Degree of protection of clips or terminals	IP20
Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+55 °C
Storage and transport temperature, minimum	-40 °C
Storage and transport temperature, maximum	+85 °C
Resistance to vibrations to EN 60068-2-6	10...55 Hz, Amplitude 0.35 mm, ± 15 %
Resistance to shock	30 g / 11 ms

## Ambient conditions - Insulation value

Rated impulse withstand voltage $U_{imp}$	4 kV
Overvoltage category	III
Degree of pollution to VDE 0110	2

### Electrical data

Rated operating voltage	24 VDC -15% / +20%, residual ripple max. 10 %
Rated AC voltage for controls, 50 Hz, minimum	21.1 VAC
Rated control voltage at AC 50 Hz, maximum	26.4 VAC
Rated AC voltage for controls, 60 Hz, minimum	21.1 VAC
Rated control voltage at AC 60 Hz, maximum	26.4 VAC
Rated AC voltage for controls at DC minimum	21.1 VDC
Rated control voltage at DC, maximum	28.8 VDC
Electrical power consumption	1.7 W
Input resistance at $U_e$	2,900 $\Omega$
Contact resistance, maximum	0.1 $\Omega$
Note (Contact resistance)	in new state
Drop-out delay in case of power failure, maximum	60 ms
Drop-out delay in case of "emergency stop", maximum	10 ms
Pull-in delay at automatic start, maximum, typically	10 ms

### Electrical data - Safe relay outputs

Voltage, Utilisation category DC13	24 VDC
Current, Utilisation category DC13	2 A
Switching capacity, minimum	10 VDC
Switching capacity, minimum	10 mA
Switching capacity, maximum	24 VAC
Switching capacity, maximum	2 A

### Electrical data - Digital inputs

Input signal, HIGH Signal "1"	19 - 28,8 VDC
Input signal, LOW Signal "0"	0 - 1 VDC
Conduction resistance, maximum	40 $\Omega$

### Electrical data - Digital Output

Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.1 A

### Electrical data - Relay outputs (auxiliary contacts)

Switching capacity, maximum	24 VDC
Switching capacity, maximum	0.1 A

### Electrical data - Electromagnetic compatibility (EMC)

EMC rating	EMC-Directive
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### Status indication

Indicated operating states	Position relay K2 Position relay K1 Internal operating voltage $U_i$ Position relay K3 Position relay K3
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### Other data

Note (applications)	Safety sensor Guard system Emergency-Stop button Pull-wire emergency stop switches Safety light curtain
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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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