

Safety relays - PSR-SCP- 24DC/ESP4/2X1/1X2 - 2981020

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Safety relay for SIL 3 high and low-demand applications, also approved according to EN 50156, Germanischer Lloyd, and EN ISO 13849, emergency stop and safety door monitoring, single-channel, 2 enabling current paths, 1 alarm contact, plug-in screw terminal blocks, width: 22.5 mm

Why buy this product

- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Single-channel control
- Safe isolation
- With inrush current reduction, therefore suitable for coupling to failsafe controllers (PSR-ESP4)



Key Commercial Data

Packing unit	1 STK
GTIN	 4 017918 911065

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Max. permissible relative humidity (operation)	75 %
Max. permissible humidity (storage/transport)	75 %

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Technical data

Ambient conditions

Maximum altitude	≤ 2000 m (Above sea level)
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Input data

Nominal input voltage U_N	24 V DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	50 mA DC
Typical inrush current	< 1 A
Voltage at input/start and feedback circuit	24 V DC
Typical response time	60 ms (Automatic/manual start)
Typical release time	20 ms
Recovery time	approx. 1 s
Status display	Green LED

Output data

Contact type	2 enabling current paths
	1 signaling current path (type B according to EN 50205)
Contact material	AgSnO ₂ , gold-flashed
Minimum switching voltage	10 V
Maximum switching voltage	250 V AC/DC
Limiting continuous current	6 A (N/O contact/N/C contact, high demand)
	4 A (N/O contact/N/C contact, low demand)
Inrush current, minimum	10 mA
Maximum inrush current	6 A
Sq. Total current	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0$ ms)
	200 W (48 V DC, $\tau = 0$ ms)
	77 W (110 V DC, $\tau = 0$ ms)
	70 W (220 V DC, $\tau = 0$ ms)
	1500 VA (250 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	42 W (24 V DC, $\tau = 40$ ms)
	40 W (48 V DC, $\tau = 40$ ms)
	35 W (110 V DC, $\tau = 40$ ms)
	33 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.2 W
Output fuse	6 A gL/gG NEOZED (High demand)
	4 A gL/gG NEOZED (Low demand)

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Mechanical service life	Approx. 10^7 cycles
Net weight	24 g

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Technical data

General

Mounting type	DIN rail mounting
Degree of protection	IP54
	IP20
Min. degree of protection of inst. location	IP54
Mounting position	On horizontal and vertical DIN rail
Control	single-channel
Housing material	Polyamide PA non-reinforced

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	1 (up to SIL 3 depending on the application)
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	1 (up to SIL 3 depending on the application)
Designation	EN ISO 13849
Performance level (PL)	c (up to PL e depending on the application)
Category	1 (up to Cat. 4 depending on the application)
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	1 (up to SILCL 3 depending on the application)

Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated insulation voltage	250 V
Rated surge voltage/insulation	6 kV / Safe isolation, increased insulation
Degree of pollution	2
Overvoltage category	III

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Classifications

eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371901
eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819

ETIM

ETIM 2.0	EC001449
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001449

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

Approvals

Approvals

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UL Listed / cUL Listed / GL / Functional Safety / EAC / Functional Safety / EAC / Functional Safety / cULus Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed

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Approvals

cUL Listed
GL
Functional Safety
EAC
Functional Safety
EAC
Functional Safety
EAC
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cULus Listed

Drawings

Circuit diagram

