

PSR-SPP-230AC/ESAM2/3X1/1X2/B - Safety relays



2901431

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Safety relay for emergency stop and safety door up to SIL 1, Cat. 1, PL c, depending on the application up to SIL 3, Cat. 4, PL e, single-channel operation, 3 enabling current paths, nominal input voltage of 230 V AC/DC, pluggable Push-in terminal block

Your advantages

- Up to Cat. 1/PL c in accordance with ISO 13849-1, SIL 1 in accordance with EN IEC 62061, SIL 1 in accordance with IEC 61508
- Depending on the application, up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- 1-channel control
- Basic insulation

Commercial data

Item number	2901431
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DNA111
Catalog page	Page 229 (C-6-2019)
GTIN	4046356592178
Weight per piece (including packing)	235.4 g
Weight per piece (excluding packing)	167.21 g
Country of origin	DE

Technical data

Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop Safety door
Mechanical service life	approx. 10^7 cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Electrical properties

Maximum power dissipation for nominal condition	2.88 W
Nominal operating mode	100% operating factor

Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V AC
Rated surge voltage/insulation	4 kV / basic insulation (safe isolation, reinforced insulation, and 6 kV between A1-A2/logic/enabling and signaling current paths)

Input data

General

Rated control circuit supply voltage U_S	230 V AC -15 % / +10 %
Rated control supply current I_S	22 mA
Voltage at input/start and feedback circuit	~ 24 V DC
Typical response time	50 ms (manual start) 300 ms (automatic start)
Typ. starting time with U_S	300 ms (when controlled via A1 or S11/S12)
Typical release time	20 ms (when controlled via S11/S12) 150 ms (when controlled via A1)
Recovery time	1 s
Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Suppressor diode Surge protection; Varistor
Max. permissible overall conductor resistance	50 Ω

Output data

Contact switching type	3 enabling current paths 1 signaling current path
Contact material	AgSnO ₂ , gold-flashed
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	10 V AC/DC
Limiting continuous current	6 A (Enabling current paths) 5 A (Signaling current path)

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Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A ²
Interrupting rating (ohmic load) max.	144 W (at 24 V DC)
	230 W (at 48 V DC)
	68 W (at 110 V DC)
	88 W (at 220 V DC)
	2000 VA (for 250 V AC)
Maximum interrupting rating (inductive load)	48 W (at 24 V DC)
	40 W (at 48 V DC)
	35 W (at 110 V DC)
	33 W (at 220 V DC)
Switching capacity min.	100 mW
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V AC)
Switching capacity (3600/h cycles)	3 A (24 V (DC13))
	3 A (230 V (AC 15))
Output fuse	10 A gL/gG NEOZED (Enabling current paths)
	6 A gL/gG NEOZED (Signaling current paths)

Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Signaling

Status display	2 x green LEDs
Operating voltage display	1 x green LED

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide
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Characteristics

Safety data

Stop category	0
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Safety data: EN ISO 13849

Category	1 (up to Cat. 4 depending on the application)
Performance level (PL)	c (up to PL e depending on the application)

Safety data

Safety Integrity Level (SIL)	1 (up to SIL 3 depending on the application)
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Approvals

Conformity/Approvals

Conformance	CE-compliant
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Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	IEC 60664-1
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Mounting

Mounting type	DIN rail mounting
Mounting position	any

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Classifications

ECLASS

ECLASS-11.0	27371819
ECLASS-12.0	27371819
ECLASS-13.0	27371819

ETIM

ETIM 9.0	EC001449
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UNSPSC

UNSPSC 21.0	39122200
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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