

Safety relays - PSR-SCP-230AC/ESAM2/3X1/1X2/B - 2901430

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

Your advantages

- Up to Cat. 1/PL c according to ISO 13849-1, SILCL 1 according to IEC 62061, SIL 1 according to IEC 61508
- Depending on the application, 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
- Basic insulation



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 592185
GTIN	4046356592185

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)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Maximum altitude	≤ 2000 m (Above sea level)

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Technical data

Input data

Nominal input voltage U_N	230 V AC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	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
Operating voltage display	Green LED
Status display	2 x green LEDs
Protective circuit	Surge protection Suppressor diode Surge protection Varistor
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	50 Ω

Output data

Contact 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 (N/O contact) 5 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2)$
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
Mechanical service life	approx. 10^7 cycles
Switching capacity (360/h cycles)	6 A (24 V DC)

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Technical data

Output data

	5 A (230 V AC)
Output fuse	10 A gL/gG NEOZED (Enabling current paths)
	6 A gL/gG NEOZED (Signaling current paths)

General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor
Net weight	23 g
Mounting position	any
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54

Connection data

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

Safety-related characteristic data

Stop category	0
Safety Integrity Level (SIL)	1 (up to SIL 3 depending on the application)
	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)
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 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)
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Environmental Product Compliance

Safety relays - PSR-SCP-230AC/ESAM2/3X1/1X2/B - 2901430

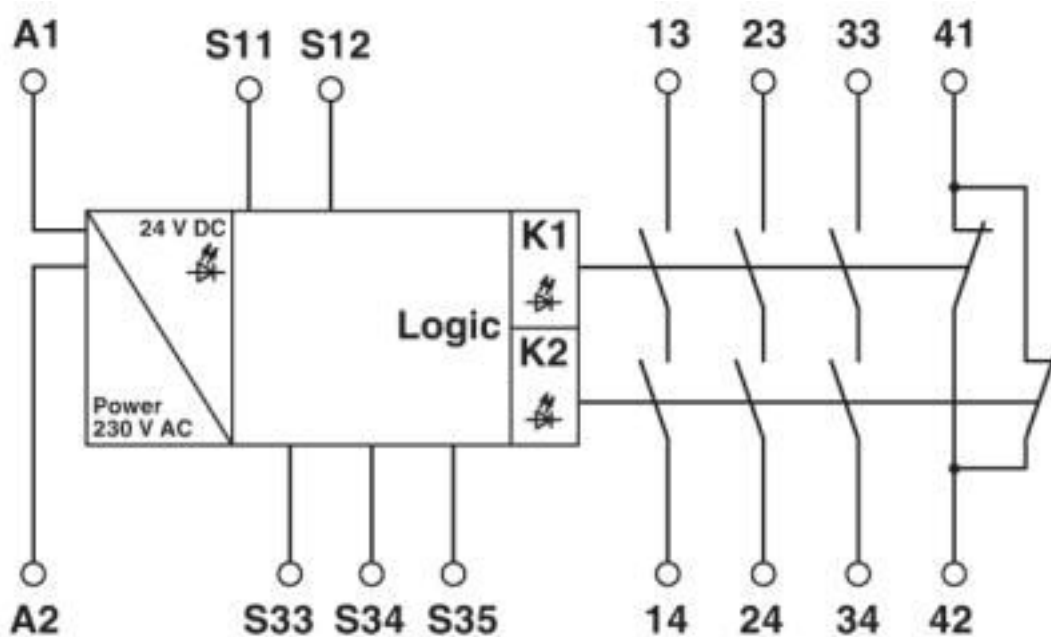
Technical data

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

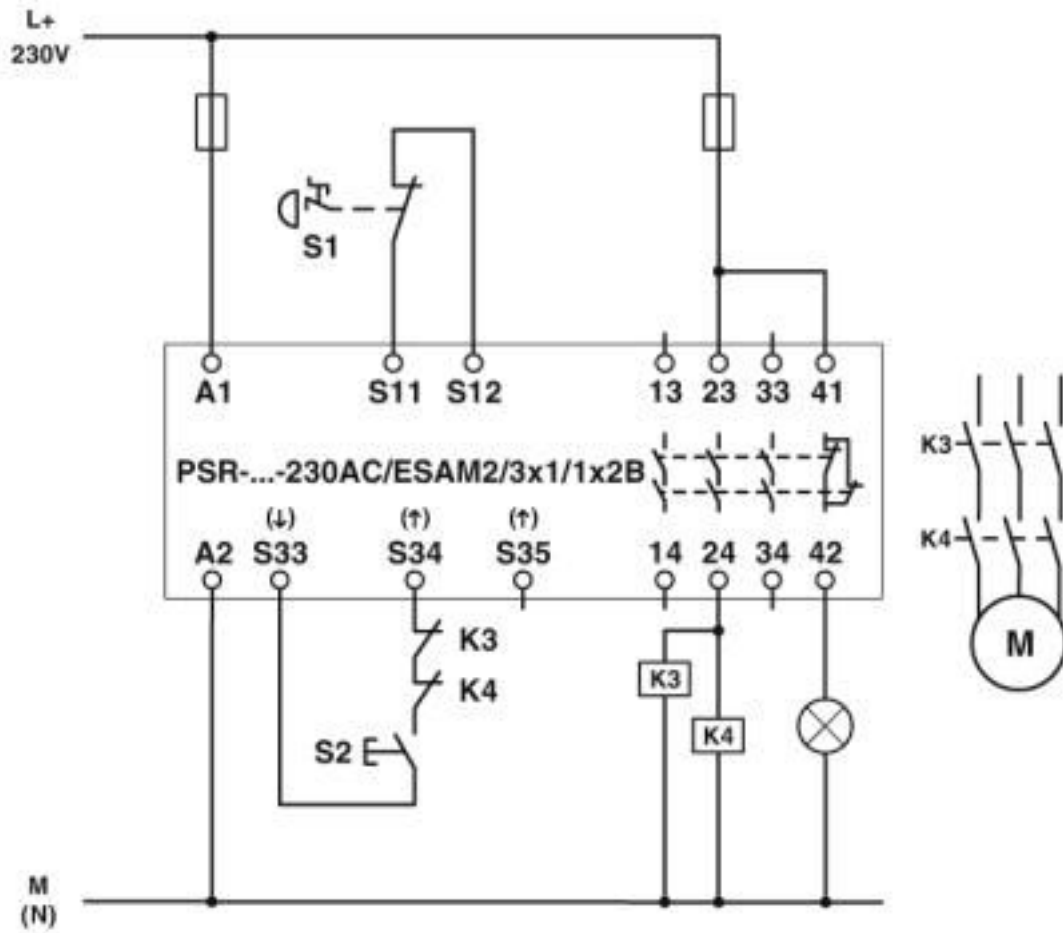
Drawings

Circuit diagram



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Circuit diagram



Single-channel emergency stop monitoring

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Classifications

ETIM

ETIM 4.0	EC001449
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501
UNSPSC 18.0	39122205
UNSPSC 19.0	39122205
UNSPSC 20.0	39122205
UNSPSC 21.0	39122205

Approvals

Approvals

Approvals

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

Ex Approvals

Approval details


UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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Functional Safety		01/205/5117.01/16
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Approvals

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B.01082
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cULus Listed		
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