

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



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 in accordance with ISO 13849-1, SIL 1 in accordance with 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 IEC 62061, SIL 3 in accordance with IEC 61508
- 1-channel control
- Basic insulation

Commercial Data

Item number	2901430
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DNA111
Catalog Page	Page 229 (C-6-2019)
GTIN	4046356592185
Weight per Piece (including packing)	235 g
Weight per Piece (excluding packing)	165.8 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
Operating voltage display	Green LED
Status display	2 x green LEDs

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

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Limiting continuous current	6 A (Enabling current paths)
	5 A (Signaling current path)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2)$
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
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	Screw connection
Conductor cross section rigid	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

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide
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Characteristics

Safety data

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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 Integrity Level (SIL)	1 (up to SIL 3 depending on the application)
Safety Integrity Level (SIL)	1 (up to SIL 3 depending on the application)

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

Standards and regulations

Air clearances and creepage distances between the power circuits

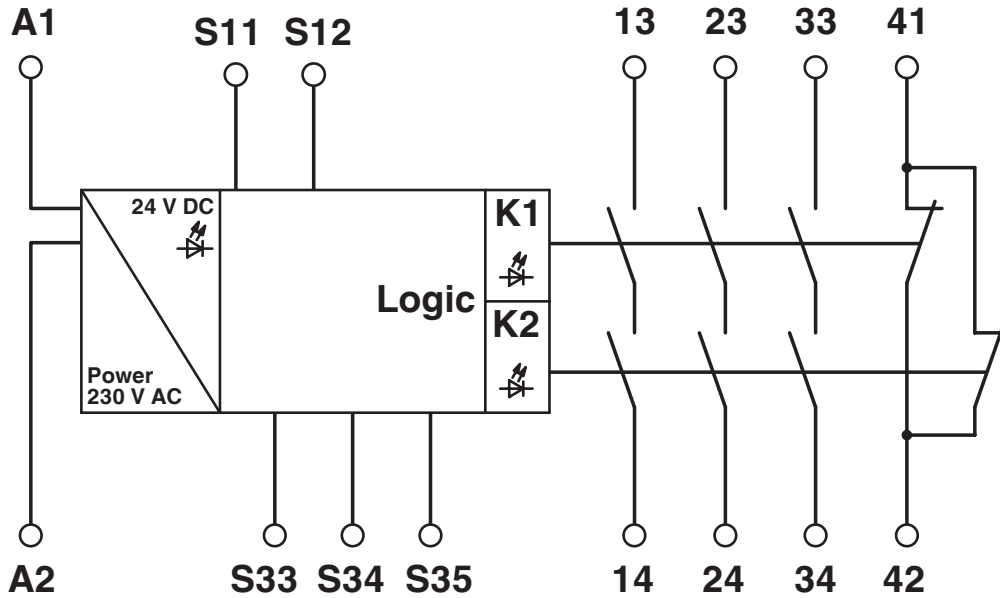
Standards/regulations	IEC 60664-1
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Mounting

Mounting type	DIN rail mounting
Mounting position	any
Connection method	Screw connection

Drawings

Circuit diagram



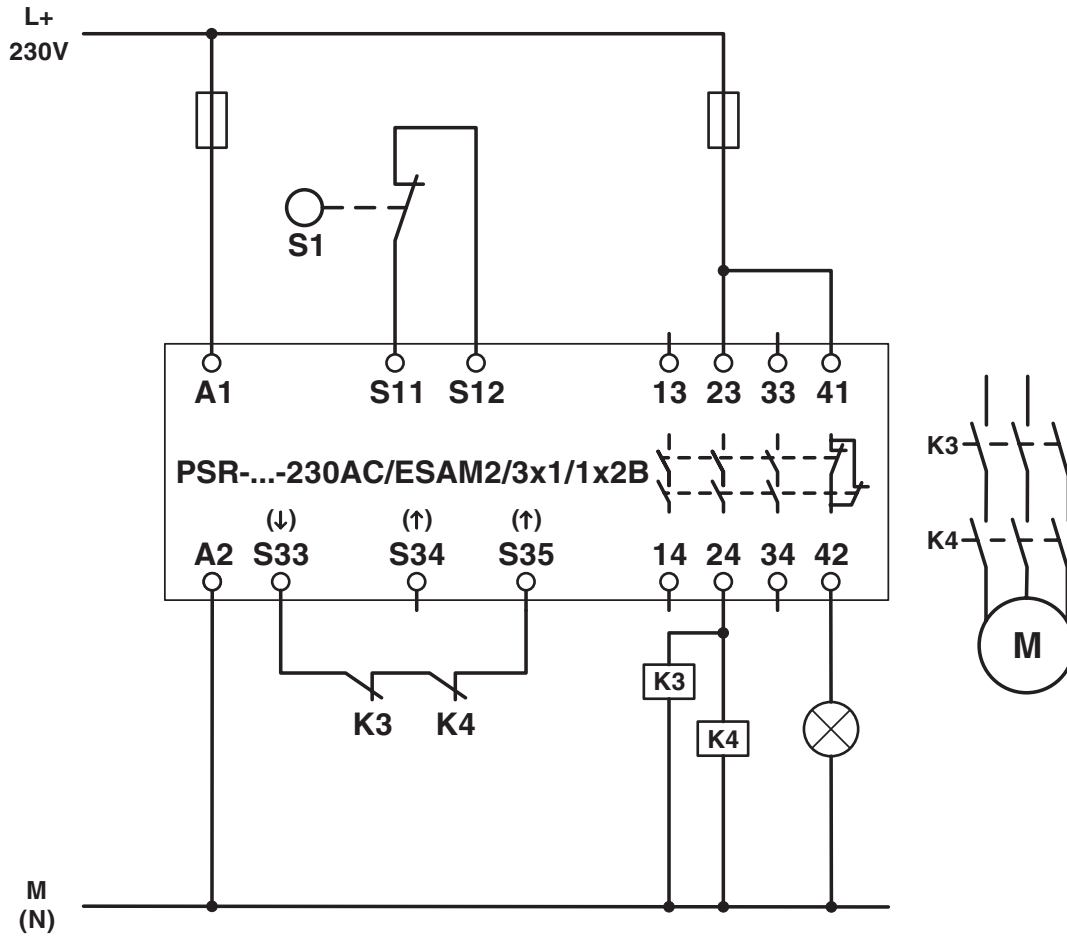
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Circuit diagram



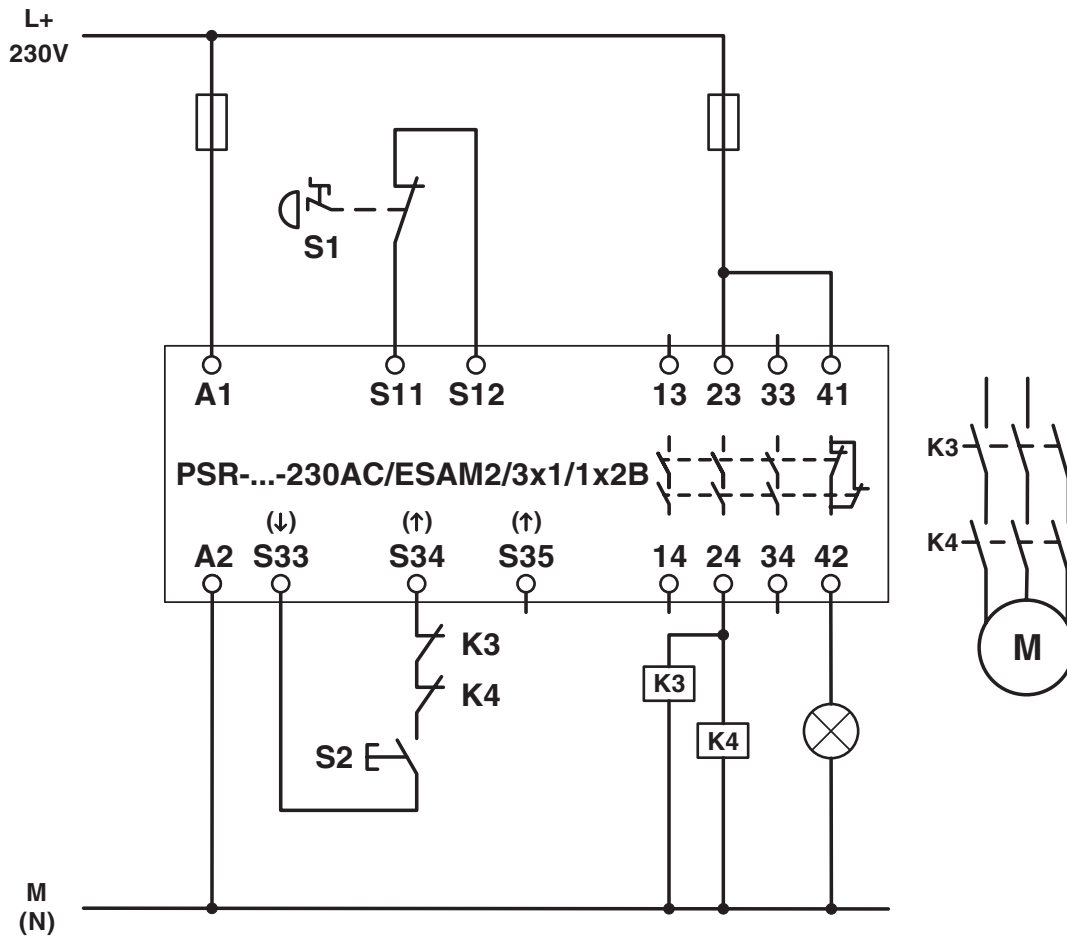
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Circuit diagram



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Approvals

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EAC

Approval ID: TR_TS_D_00573_c



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 01/205/5117.03/21



Functional Safety

Approval ID: 968/EZ 496.04/21

cULus Listed

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Classifications

ECLASS

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

ETIM

ETIM 8.0	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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