Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 2-channel operation

Your advantages

- Up to Cat. 4/PL e according to EN ISO 13849-1, SIL 3 according to EN 62061, SIL 3 according to IEC 61508
- 2 channel control
- 2 enabling current paths, 1 signaling current path

RoHS



Key Commercial Data

Packing unit	1 pc
GTIN	4 017918 599379
GTIN	4017918599379
Weight per Piece (excluding packing)	220.000 g
Custom tariff number	85371098
Country of origin	Germany

Technical data

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

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Technical data

Ambient conditions

Maximum altitude	≤ 2000 m (Above sea level)

Input data

Nominal input voltage U_N	24 V AC/DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	140 mA AC
	65 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	20 ms (Monitored/manual start)
Typical release time	45 ms (single-channel)
	10 ms (two-channel)
Concurrence	∞
Recovery time	1 s
Operating voltage display	Green LED
Status display	Green LED
Protective circuit	Surge protection Suppressor diode
Max. permissible overall conductor resistance	approx. 50 Ω (Input and start circuits at U_N)

Output data

Contact type	2 enabling current paths
	1 signaling current path
Contact material	$AgSnO_2$, + 0.2 µm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
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, τ = 0 ms)
	288 W (48 V DC, τ = 0 ms)
	77 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	48 W (24 V DC, τ = 40 ms)
	40 W (48 V DC, τ = 40 ms)
	35 W (110 V DC, τ = 40 ms)
	35 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Technical data

Output data

Mechanical service life	approx. 10^7 cycles
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V AC)
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)

General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor
Net weight	192.1 g
Mounting position	any
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	Polyamide
Housing color	yellow

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3

Safety-related characteristic data

Stop category in accordance with IEC 60204	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4
Designation	EN 62061
Safety Integrity Level (SIL)	3

Standards and Regulations

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Technical data

Standards and Regulations

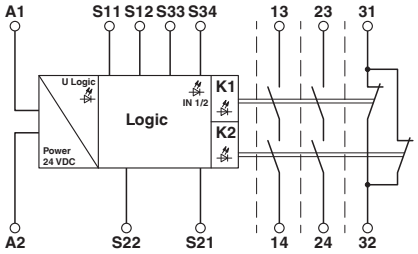
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated insulation voltage	250 V
Rated surge voltage/insulation	6 kV / Safe isolation, increased insulation
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

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

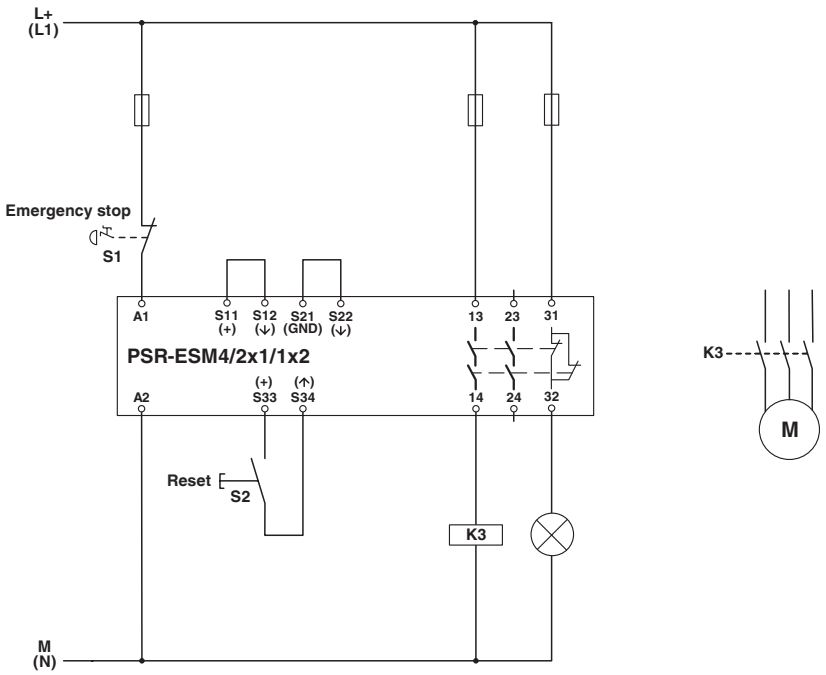
Circuit diagram



Block diagram

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

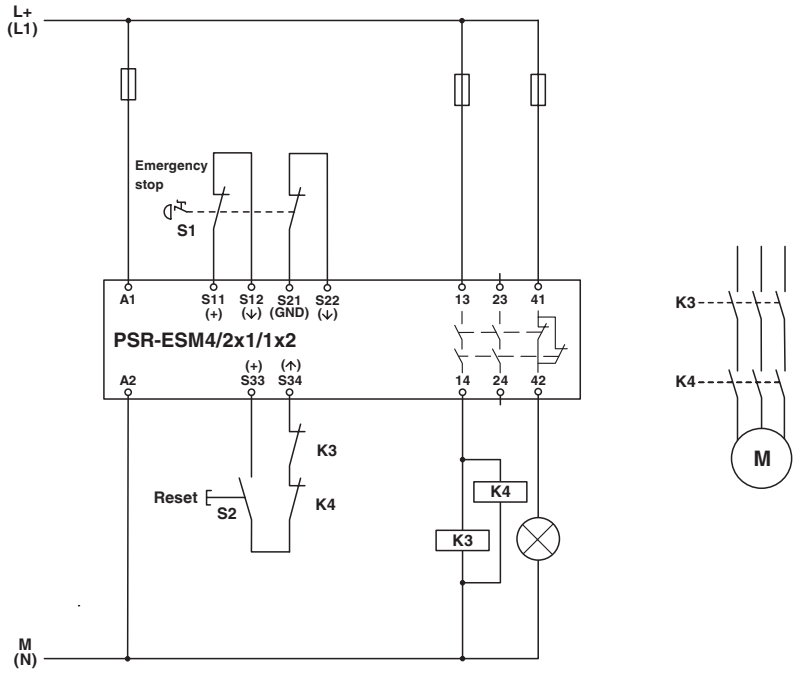
Circuit diagram



Single-channel emergency stop monitoring

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Circuit diagram



Two-channel emergency stop monitoring

Classifications

eCl@ss

eCl@ss 10.0.1	27371819
eCl@ss 11.0	27371819
eCl@ss 4.0	40020600
eCl@ss 4.1	40020600
eCl@ss 5.0	27371900
eCl@ss 5.1	27371900
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 2.0	EC000196
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Classifications

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

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

Ex Approvals

Approval details

Functional Safety			968/EZ 404.05/22
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
Functional Safety			01/205/0652.03/22

Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

Approvals

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

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