

Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, 1 or 2-channel operation, 2 enabling current paths, nominal input voltage: 24 V AC/DC, plug-in spring-cage terminal block

The figure shows a version with a screw connection

Product Features

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



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	220.0 g
Custom tariff number	85364900
Country of origin	Germany

Technical data

Note

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

Dimensions

Width	22.5 mm
Height	112 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-SPP- 24UC/ESM4/2X1/1X2 - 2963705

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 input 1/2	∞
Recovery time	1 s
Status display	Green LED
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 μ m Au
Minimum switching voltage	15 V AC/DC
Maximum switching voltage	250 V AC/DC
Limiting continuous current	6 A (N/O contact)
Inrush current, minimum	25 mA
Maximum inrush current	6 A
Sq. Total current	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0$ ms)
	288 W (48 V DC, $\tau = 0$ ms)
	77 W (110 V DC, $\tau = 0$ ms)
	88 W (220 V DC, $\tau = 0$ ms)
	1500 VA (250 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	48 W (24 V DC, $\tau = 40$ ms)
	40 W (48 V DC, $\tau = 40$ ms)
	35 W (110 V DC, $\tau = 40$ ms)
	35 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.4 W
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)

Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

Technical data

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Mechanical service life	Approx. 10 ⁷ cycles
Net weight	202.1 g
Mounting type	DIN rail mounting
Degree of protection	IP54
	IP20
Min. degree of protection of inst. location	IP54
Mounting position	any
Control	one and two channel
Parameters as per EN ISO 13849	4
Stop category	0
Parameters for IEC 61508	3

Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

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
Pollution degree	2
Overvoltage category	III
Safety Integrity Level Claim Limit (SIL CL)	3

Classifications

eCl@ss

eCl@ss 4.0	27371102
------------	----------

Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

Classifications

eCl@ss

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	EC000196
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

Approvals

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

Ex Approvals

Approvals submitted

Approval details



Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

Approvals

cUL Listed

Functional Safety

UL Listed

cUL Listed

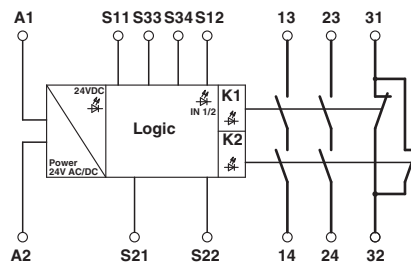
EAC

Functional Safety

cULus Listed

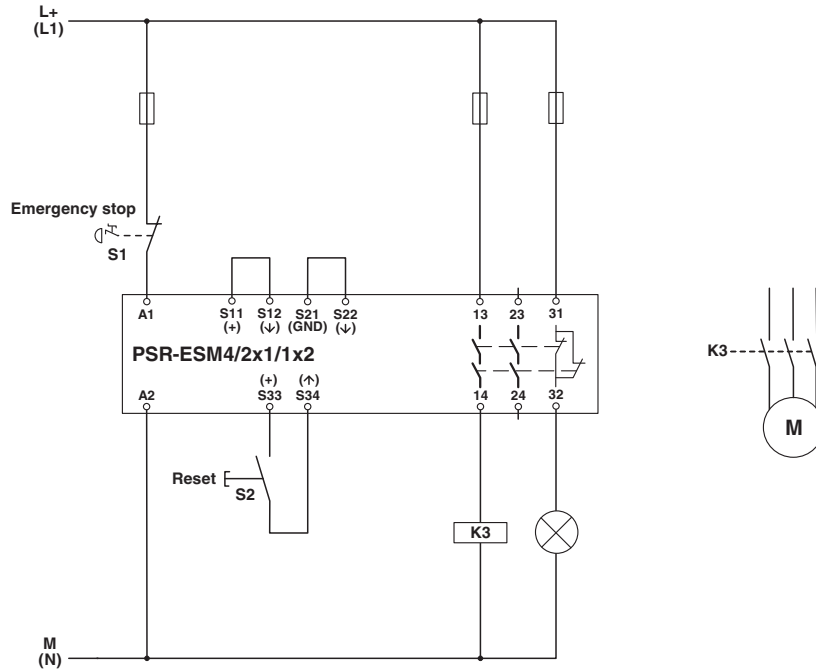
Drawings

Circuit diagram



Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

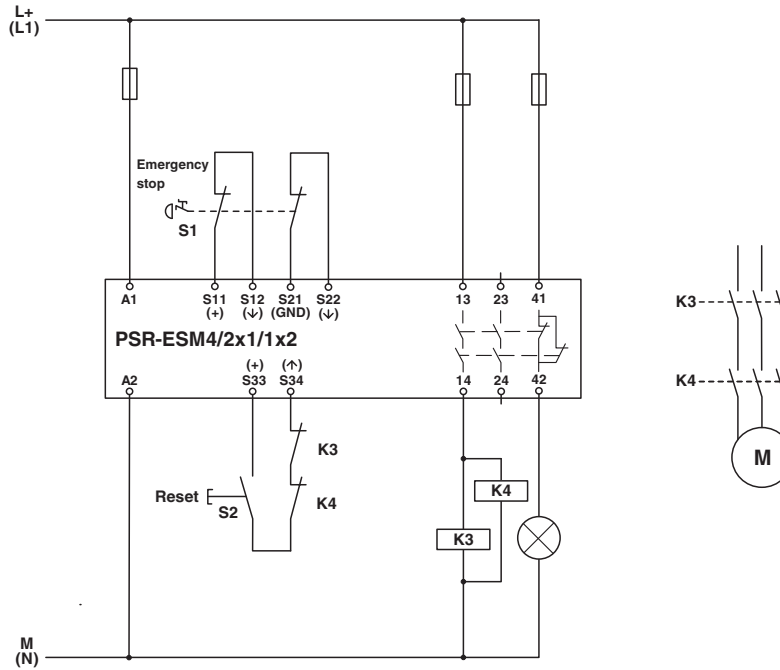
Circuit diagram



Single-channel emergency stop monitoring

Safety relays - PSR-SPP- 24UC/ESM4/2X1/1X2 - 2963705

Circuit diagram



Two-channel emergency stop monitoring