

PSR-SPP- 24UC/ESM4/3X1/1X2/B

Order No.: 2963925

The figure shows a version with a screw connection



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Safety relay to emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, one- or two-channel operation, manual activation, 3 enabling current paths, nominal input voltage 24 V AC/DC



Commercial data

EAN	 4 017918 904760
sales group	G502
Pack	1 Pcs.
Customs tariff	85364900
Gross weight in pieces	0.2256 KG
Net weight per piece	0.19298 KG
Catalog page information	Page 21 (IF-2009)

Product notes

WEEE/RoHS-compliant since:
12/05/2006



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Technical data

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	Infinite
Recovery time	1 s
Max. permissible overall conductor resistance	approx. 50 Ω (Input and start circuits at U _N)

Output data

Contact type	3 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	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2)$
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)
	33 W (220 V DC, τ = 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)

General data

Width	22.5 mm
Height	112 mm
Depth	114.5 mm
Ambient temperature (operation)	-20 °C ... 55 °C

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 ⁷ cycles
Mounting position	Any
Category according to EN 13849-1	4
Stop category	0
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated surge voltage / insulation	4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Stripping length	8 mm
Connection method	Spring-cage conn.

Certificates / Approvals



Certification

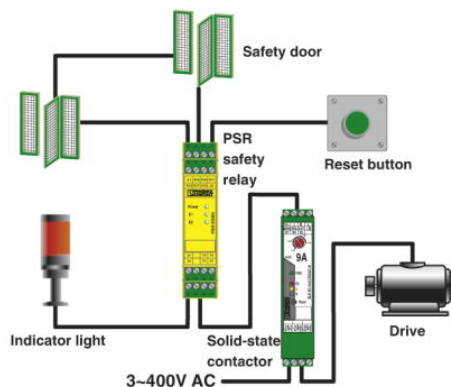
cULus Listed, GOST, Functional Safety

Certifications applied for:

Certification Ex:

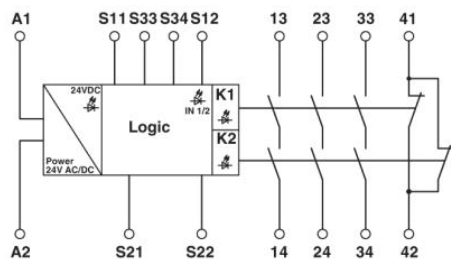
Drawings

Application drawing

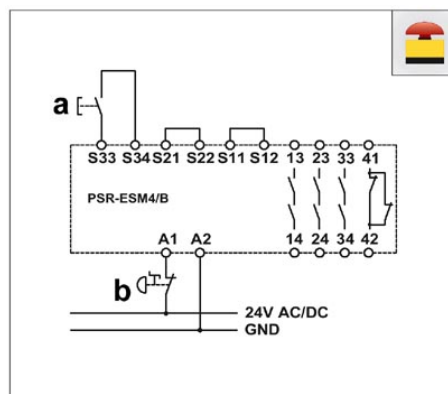


Example of a safety door application with a PSR safety relay PSR-ESM4.

Circuit diagram



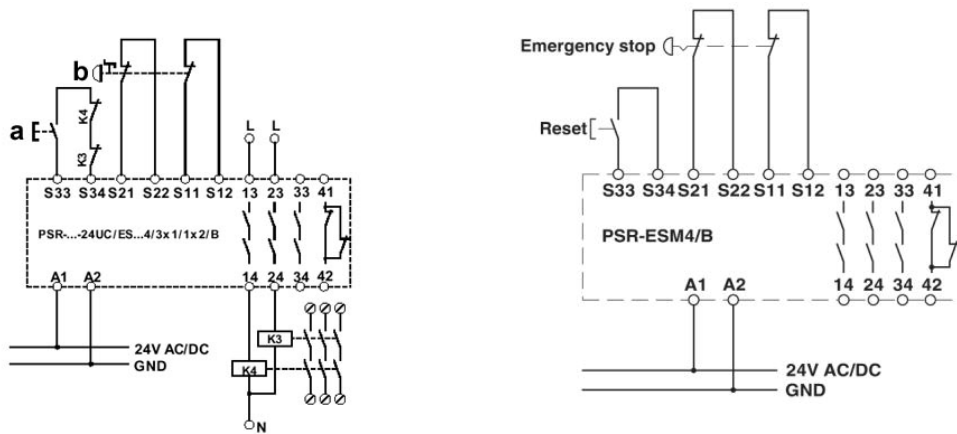
1 = logics



a = RESET

b = Emergency stop

One-channel emergency stop circuit with manual activation, suitable up to safety category 2



a = RESET

b = Emergency stop

Two-channel emergency-stop circuit with manual activation and monitored contact expansion (automatic activation: Bridge on S33/S35), suitable up to safety category 3.

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