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Safety relays - PSR-SPP-120UC/ESAM4/3X1/1X2/B - 2901425

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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, 3 enabling current paths, nominal input voltage: 120 V AC/DC, plug-in spring-cage terminal block

The figure shows 120 UC version

Why buy this product

- Up to Cat.4/PL e according to EN ISO 13849-1, SILCL 3 according to EN 62061, SIL 3 according to IEC 61508
- Manually monitored and automatic activation in a single device
- 3 enabling current paths, 1 signaling current path
- Single and two-channel control
- Basic insulation



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 592031

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	112 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)

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Ambient conditions

Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Maximum altitude	≤ 2000 m (Above sea level)

Input data

Input voltage range	110 V AC/DC ... 120 V AC/DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	38 mA
Voltage at input/start and feedback circuit	~ 24 V DC
Typical response time	40 ms (man. start)
Typical pick-up time	330 ms (when controlled via A1)
Typical release time	60 ms (when controlled via A1)
	20 ms (when controlled via S11/S12 and S21/S22)
Concurrence input 1/2	∞
Recovery time	1 s
Status display	Green LED
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 , + 0.2 μm Au
Minimum switching voltage	10 V AC/DC
Maximum switching voltage	250 V AC/DC
Limiting continuous current	6 A (N/O contact)
	5 A (N/C contact)
Inrush current, minimum	10 mA
Maximum inrush current	6 A
Sq. Total current	72 A ²
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
	230 W (48 V DC, τ = 0 ms)
	68 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	2000 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.	100 mW
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)

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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	99.9 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

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

Safety-related characteristic data

Stop category	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 Claim Limit (SIL CL)	3
Designation	IEC 50156
Safety Integrity Level (SIL)	3

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

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Technical data

Standards and Regulations

Overvoltage category	III
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Classifications

eCl@ss

eCl@ss 4.0	27371102
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 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 / EAC / EAC / cULus Listed

Ex Approvals

Approvals submitted

Approval details

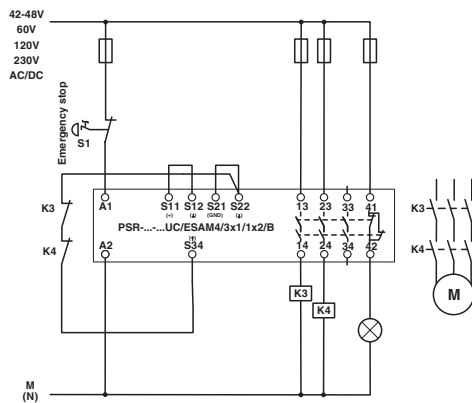
Safety relays - PSR-SPP-120UC/ESAM4/3X1/1X2/B - 2901425

Approvals

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EAC
cULus Listed

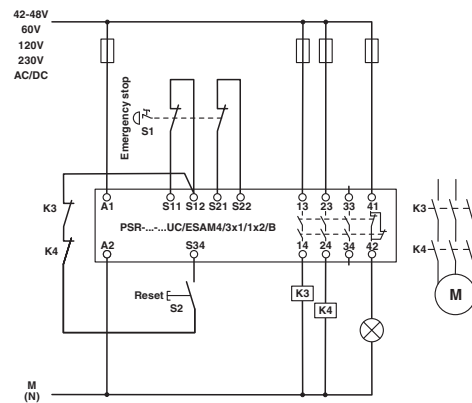
Drawings

Application drawing



Single-channel emergency stop monitoring

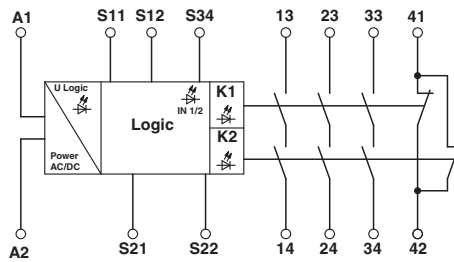
Application drawing



Two-channel emergency stop monitoring

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Circuit diagram



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Product	Code	Reference	Product link
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