Safety relays - PSR-MC37-3NO-1NC-24DC-SP - 2702412

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The figure shows a version with a screw connection

Safety relay for emergency switching off and safety doors as well as for elevator applications up to SILCL 3, Cat. 4, PL e, 1 or 2-channel operation, automatic or manual start, cross-circuit detection, 3 enabling current paths, U_S = 24 V DC, plug-in spring-cage terminal block

Why buy this product

- Up to Cat.4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061
- Suitable for lift applications according to EN 81-20
- Low housing width of only 22.5mm
- 3 enabling current paths, 1 signaling current path, 1 digital signal output
- Automatic and manual activation
- Cross-circuit detection

Key Commercial Data

Packing unit	1
GTIN	4 055626 276953
GTIN	4055626276953
Custom tariff number	85371098

Technical data

Note

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

Dimensions

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Dimensions

Width	22.5 mm
Height	117.4 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g for Δt = 11 ms (continuous shock: 10g for Δt = 16 ms)
Vibration (operation)	10 Hz ...150 Hz, 2g
Maximum altitude	≤ 2000 m (Above sea level)

Input data

Rated control circuit supply voltage U_S	24 V DC -20 % / +25 %
Rated control supply current I_S	typ. 70 mA
Power consumption at U_S	typ. 1.68 W
Inrush current	2 A (Δt = 300 µs at U_s)
Current consumption	< 4 mA (with U_s/I_x to S12/S22)
	< 0.5 mA (with U_s/I_x to S35)
Voltage at input/start and feedback circuit	24 V DC -20 % / +25 %
Typical response time	< 100 ms (automatic start)
Typ. starting time with U_s	< 100 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via A1 or S12)
Recovery time	< 500 ms
Status display	3 x green LED
Maximum switching frequency	0.5 Hz
Filter time	max. 3 ms (at S12, S22; test pulse width; blanking pulses/dark test)
	1 s (at S12, S22; test pulse rate; blanking pulses/dark test)
	Where test pulse width < 1 ms: test pulse rate = 5 x test pulse width
	max. 1 ms (at S12, S22; test pulse width; switch-on pulses/light test)
	100 ms (at S12, S22; test pulse rate; switch-on pulses/light test)
	Unless switch-on pulses/light tests are safety-related, they should be disabled.

Output data

Contact type	3 enabling current paths
	1 signaling current path
Contact material	$AgSnO_2$

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Output data

Minimum switching voltage	5 V AC/DC
Maximum switching voltage	250 V AC/DC (Observe the load curve)
Limiting continuous current	6 A (N/O contact, pay attention to the derating)
	1 A (N/C contact)
Inrush current, minimum	10 mA
Maximum inrush current	6 A
Sq. Total current	72 A^2 (observe derating)
Interrupting rating (ohmic load) max.	1500 VA (N/O contact, 250 V AC, τ = 0 ms)
	For additional values, see load curve
Maximum interrupting rating (inductive load)	48 W (N/O contact, 24 V DC, τ = 40 ms)
	40 W (N/O contact, 48 V DC, τ = 40 ms)
	36 W (N/O contact, 60 V DC, τ = 40 ms)
	35 W (N/O contact, 110 V DC, τ = 40 ms)
	33 W (N/O contact, 220 V DC, τ = 40 ms)
	1500 VA (N/O contact, 250 V AC, τ = 40 ms)
Switching capacity	min. 50 mW
Switching capacity according to IEC 60947-5-1	5 A (24 V (DC13))
	5 A (250 V (AC15))
Output fuse	6 A gL/gG (N/O contact)
	1 A gL/gG (N/C contact)

Alarm outputs

Number of outputs	1 (digital)
Voltage	23 V DC (U_s - 1 V)
Current	max. 100 mA
Maximum inrush current	1 A (Δt = 5 ms at U_s)
Short-circuit protection	Yes

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Mechanical service life	10 x 10^6 cycles
Nominal operating mode	100% operating factor
Net weight	202.5 g
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal
Degree of protection	IP20

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General

Min. degree of protection of inst. location	IP54
Control	one and two channel
Housing color	yellow

Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	1.5 mm²
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 (5 A DC13; 5 A AC15; 8760 switching cycles/year)
Category	4
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3

Standards and Regulations

Shock	15g for Δt = 11 ms (continuous shock: 10g for Δt = 16 ms)
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 60664-1:2008
Rated insulation voltage	250 V AC
	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths
	Basic insulation 4 kV between all current paths and housing
Degree of pollution	2
Overvoltage category	II
Vibration (operation)	10 Hz ...150 Hz, 2g

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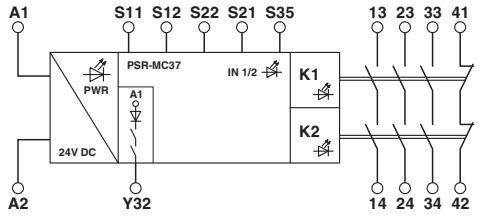
Technical data

Standards and Regulations

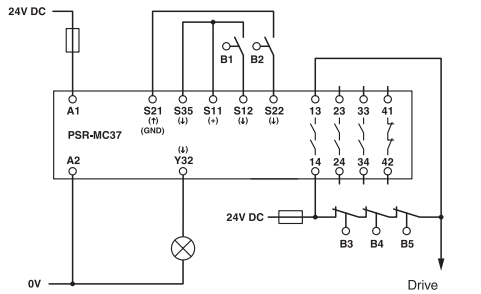
Conformance	CE-compliant

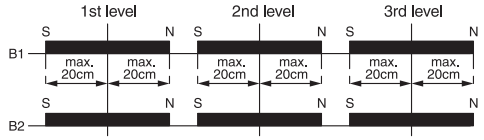
Drawings

Block diagram



Circuit diagram





Approvals

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

Ex Approvals

Approval details

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

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Functional Safety	44-208-15124305

Functional Safety	44-205-15124305

cULus Listed	