Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

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Safety relay for emergency stop and safety doors up to SILCL 3, Cat. 4, PL e, 1 or 2-channel operation, manual, monitored start, cross-circuit detection, 1 enabling current path, U_S = 24 V DC, fixed screw terminal block

Why buy this product

- Up to Cat.4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061
- Low housing width of just 6.8 mm
- Two-channel control
- 1 enabling current path
- Manual and monitored activation
- Cross-circuit detection

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 905015
GTIN	4046356905015
Weight per Piece (excluding packing)	83.900 g
Custom tariff number	85371099
Country of origin	Germany
Note	Made to Order (non-returnable)

Technical data

Note

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

Dimensions

Width	6.8 mm
Height	93.1 mm

Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

Technical data

Dimensions

Depth	102.5 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
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 -15 % / +10 %
Power consumption at U_S	typ. 1 W
Rated control supply current I_S	typ. 42 mA
Inrush current	4.5 A (Δt = 120 µs at U_s)
Current consumption	< 5 mA (with U_s/I_x to S12)
	< 5 mA (with U_s/I_x to S22)
	< 10 mA (with U_s/I_x at the start circuit)
	> -5 mA (with U_s/I_x to S22/0V)
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Typical response time	< 175 ms
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Status display	2 x green LEDs
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	150 Ω
Filter time	1 ms (at A1 in the event of voltage dips at U_s)
	max. 1.5 ms (at S12, S22; test pulse width)
	min. 7.5 ms (at S12, S22; test pulse rate)
	Test pulse rate = 5 x Test pulse width

Output data

Contact type	1 enabling current path
Contact material	$AgSnO_2$
Minimum switching voltage	12 V AC/DC
Maximum switching voltage	250 V AC/DC (Observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current, minimum	3 mA
Maximum inrush current	6 A
Sq. Total current	36 A^2 (observe derating)
Switching capacity	min. 60 mW

Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

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Output data

Output fuse	6 A gL/gG (N/O contact)
	4 A gL/gG (for low-demand applications)

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205)
Mechanical service life	10 x 10^6 cycles
Nominal operating mode	100% operating factor
Net weight	83.9 g
Mounting type	DIN rail mounting
Mounting position	vertical or horizontal
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Control	one and two channel
Housing material	PBT
Housing color	yellow

Connection data

Connection method	Screw connection
pluggable	no
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	26
Conductor cross section AWG max.	12
Stripping length	12 mm
Screw thread	M3

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 (4 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

Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

Technical data

Standards and Regulations

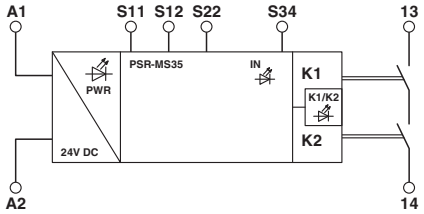
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
	250 V AC
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	10 Hz ...150 Hz, 2g
Conformance	CE-compliant

Environmental Product Compliance

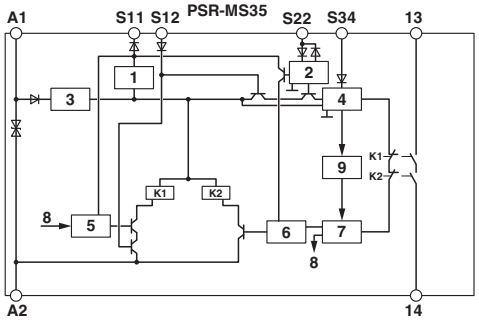
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Block diagram



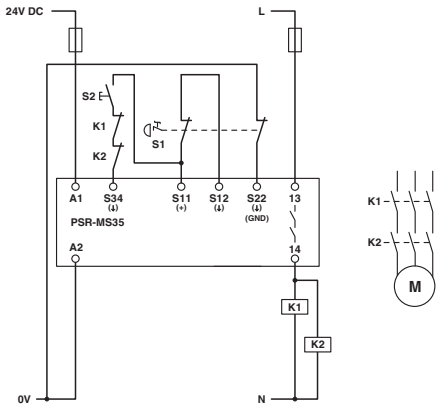
Block diagram



Key:
1 = Current limitation
2 = Input circuit
3 = Voltage limitation
4 = Start circuit
5 = Control circuit channel 1
6 = Control circuit channel 2
7 = Start channel 1 and 2
8 = Channel 1
9 = Diagnostics
K1, K2 = Force-guided elementary relays

Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

Application drawing



Classifications

eCl@ss

eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 5.0	EC001449
ETIM 6.0	EC001449

UNSPSC

UNSPSC 13.2	39121501

Approvals

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

Ex Approvals

Approval details

UL Listed	UL LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324

Safety relays - PSR-MS35-1NO-24DC-SC - 2904953

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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
Functional Safety			44-205-13755202
EAC			7500651.22.01.00244
cULus Listed			