Safety relays - PSR-MS55-1NO-1DO-24DC-SC - 2904957

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Safety relay for monitoring non-equivalent signal generators up to SILCL 3, Cat. 4, PL e, 2-channel, non-equivalent operation, manual, monitored start, 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 non-equivalent control
- 1 enabling current path, 1 digital signal output
- Manual and monitored activation

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 904872
Weight per Piece (excluding packing)	69.0 g
Custom tariff number	85371099
Country of origin	Germany

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
Depth	102.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 60 °C (observe derating)

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Ambient conditions

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	max. 2000 m (Above sea level)

Input data

Rated control 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
Typical 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 S13)
	< 10 mA (with U_s/I_x at the start circuit)
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 S13.)
Recovery time	< 500 ms
Status display	2 x green LEDs
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	150 Ω

Output data

Contact type	1 enabling current path
Contact material	$AgSnO_2$
Minimum switching voltage	20 V AC/DC
Maximum switching voltage	250 V AC/DC
Limiting continuous current	6 A (N/O contact)
Inrush current, minimum	3 mA
Maximum inrush current	6 A
Sq. Total current	36 A^2 (see to derating)
Switching capacity	min. 60 mW
Output fuse	6 A gL/gG (N/O contact)
	4 A gL/gG (for low-demand applications)

Alarm outputs

Number of outputs	1 (digital, PNP)
Voltage	22 V DC (U_s - 2 V)
Current	max. 100 mA
Maximum inrush current	500 mA (Δt = 1 ms at U_s)
Short-circuit protection	no

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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
Net weight	69 g
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Mounting position	vertical or horizontal
Control	Two-channel
Parameters as per EN ISO 13849	4
Stop category	0
Parameters for IEC 61508	3
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
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
Rated insulation voltage	250 V AC
Pollution degree	2
Overvoltage category	III
Housing material	PBT

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

Classifications

eCl@ss

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

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Classifications

ETIM

ETIM 5.0	EC001449

Approvals

Approvals

Approvals

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

Ex Approvals

Approvals submitted

Approval details

UL Listed

cUL Listed

Functional Safety

EAC

cULus Listed

Drawings

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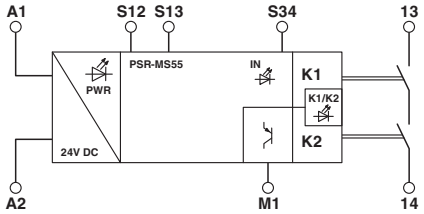
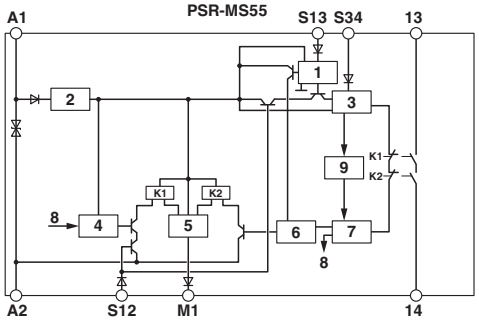
Block diagram



Block diagram



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

Circuit diagram