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Safety relay for emergency stop, safety doors, and light grids up to SILCL 3, Cat. 4, PL e, 2-channel operation, automatic or manual, monitored start, 3 enabling current paths, $U_S = 24 \text{ V DC}$, plug-in spring-cage terminal block

The figure shows a version with a screw connection

Why buy this product

- Manually monitored and automatic activation in a single device









Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 912532
Weight per Piece (excluding packing)	173.0 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	12.5 mm



Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C 55 °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 Hz150 Hz, 2g
Maximum altitude	≤ 2000 m (Above sea level)

Input data

Rated control supply voltage U _S	24 V DC -15 % / +10 %
Power consumption at U _S	typ. 1.92 W
Rated control supply current I _S	typ. 80 mA
Typical inrush current	5 A (Δt = 200 μs at U _s)
Current consumption	< 5 mA (with U _s /I _x to S12)
	< 5 mA (with U _s /I _x to S22)
	> -5 mA (with U _s /I _x to S34)
	< 10 mA (with U _s /I _x to S34)
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Typical response time	< 175 ms (automatic start)
	< 175 ms (manual, monitored start)
Typical pick-up time	< 250 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Status display	3 x green LED
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	150 Ω

Output data

Contact type	3 enabling current paths
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	48 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)
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Technical data

Alarm outputs

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

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	173 g
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
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 (13/14) and enabling current path (23/24) and enabling current path (33/34) Basic insulation 4 kV between all current paths and housing
Rated insulation voltage	250 V AC
Pollution degree	2
Overvoltage category	III
Housing material	РВТ

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



Classifications

eCl@ss

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

ETIM

ETIM 5.0	EC001449

Approvals

Approvals

Approvals

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

Ex Approvals

Approvals submitted

Approval details

UL Listed 🕦

cUL Listed •

EAC

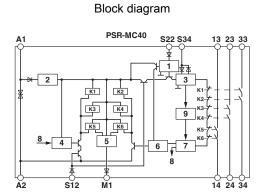
Functional Safety

cULus Listed • 🕦 😘

Drawings

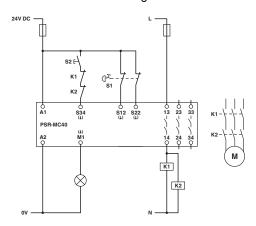


Block diagram PSR-MC40 IN 1/2 🗗 K1 . ∯ K2 -∯



- 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 ... K6 = Force-guided elementary relays

Circuit diagram



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