

Safety device - PSR-MM25-1NO-2DO-24DC-SC - 2702355

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Safety relay module for sensorless standstill monitoring for 3- and 1-phase motors to SILCL 3, cat. 3, PL e, two-channel evaluation of the residual voltage of AC, three-phase, and DC motors, plug-in screw terminal block, width: 12.5 mm

Your advantages

- Monitoring of 1 and 3-phase AC or DC motors
- No additional sensors required
- Adjustable delay time from 0.5 s ... 20 s
- Adjustable switching threshold from 50 mV... 500 mV
- 1 enabling current path, 2 digital signal outputs
- Low housing width of just 12.5 mm
- Up to Cat.3/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061



Key commercial data

package_quantity	1
GTIN	4055626133201

Technical data

Note

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

Width	12.5 mm
Height	112.2 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °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 Hz ... 150 Hz, 2g

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Ambient conditions

Maximum altitude	max. 2000 m (Above sea level)
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Input data

Rated control circuit supply voltage U_s	24 V DC -15 % / +10 %
Rated control supply current I_s	typ. 50 mA
Power consumption at U_s	typ. 1.2 W
Inrush current	5.6 A ($\Delta t = 400 \mu s$ at U_s)
Current consumption	max. 0.35 mA (at L1/L2/L3)
Typ. starting time with U_s	< 1 s
Status display	4 x LED Bi-Colour
Maximum switching frequency	0.5 Hz
Filter time	1 ms (at A1 in the event of voltage dips at U_s)
Limit frequency	max. 3 kHz (At voltages > 2 V_{RMS})

Output data

Contact type	1 enabling current path
Contact material	AgSnO ₂
Minimum switching voltage	24 V AC/DC
Maximum switching voltage	250 V AC/DC (Observe the load curve)
Limiting continuous current	5 A (observe derating)
Inrush current, minimum	3 mA
Maximum inrush current	5 A
Sq. Total current	25 A ² (observe derating)
Switching capacity	min. 72 mW
Output fuse	5 A gL/gG (N/O contact)
Response time	typ. 20 ms (at 50 Hz input frequency)

Alarm outputs

Number of outputs	2 (digital, PNP)
Voltage	23 V DC ($U_s - 1 V$)
Current	max. 100 mA
Maximum inrush current	500 mA
Short-circuit protection	Yes

General

Mechanical service life	10 x 10 ⁶ cycles
Nominal operating mode	100% operating factor
Net weight	150.1 g
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal
Degree of protection	IP20
Min. degree of protection of inst. location	IP54

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Technical data

General

Control	Two-channel
Housing material	PBT
Housing color	yellow
Interfaces	Without sensor

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3 (4 A DC13; 5 A AC15; 17520 switching cycles/year)
Designation	EN ISO 13849
Performance level (PL)	e (4 A DC13; 5 A AC15; 17520 switching cycles/year)
Category	3
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3 (4 A DC13; 5 A AC15; 17520 switching cycles/year)

Standards and Regulations

Shock	15g
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV:between all current paths and housing Safe isolation, reinforced insulation 6 kV:between A1/A2 and 13/14 between MO/FO and 13/14 Safe isolation, reinforced insulation 8 kV:between L1/L2/L3 and A1/A2 between L1/L2/L3 and MO/FO between L1/L2/L3 and 13/14
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	10 Hz ... 150 Hz, 2g
Conformance	CE-compliant

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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	27371811
eCl@ss 9.0	27371811

ETIM

ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001448
ETIM 6.0	EC001448

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39122331

Approvals

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

Approval details

UL Listed

cUL Listed

Functional Safety

cULus Listed

Accessories

Connector

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Accessories

C-RCI 2,5/M4 - 3240023



C-RCI 2,5/M6 - 3240025



C-RCI 2,5/M8 - 3240026



C-RC 2,5/M3,5 DIN - 3240077



C-RC 2,5/M5 DIN - 3240079



C-RC 2,5/M6 DIN - 3240080



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Accessories

C-RC 2,5/M8 DIN - 3240081

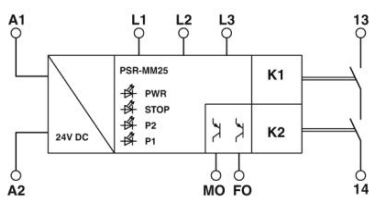


C-RC 2,5/M10 DIN - 3240082

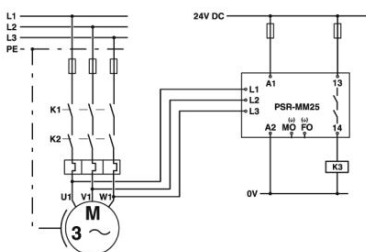


Drawings

Block diagram



Circuit diagram



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