

Extension module - PSR-MC82-5NO-1NC-1DO-24DC-SP



2702383

<https://www.phoenixcontact.com/us/products/2702383>

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Contact extension up to SIL 3, Cat. 4, PL e in conjunction with suitable evaluation device, 5 enabling current paths, $U_S = 24 \text{ V DC}$, pluggable Push-in terminal block

Your advantages

- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with IEC 62061 in conjunction with suitable evaluation device
- Low housing width of just 17.5 mm
- 1- and 2-channel control
- 5 enabling current paths, 1 confirmation current path, 1 digital signal output
- Automatic activation

Commercial Data

Item number	2702383
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C18
Product Key	DNA181
Catalog Page	Page 228 (C-6-2019)
GTIN	4055626145488
Weight per Piece (including packing)	215.2 g
Weight per Piece (excluding packing)	210.1 g
Customs tariff number	85371098
Country of origin	DE

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Technical Data

Product properties

Product type	Safety relays
Application	Extension module
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Insulation characteristics

Overvoltage category	III
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Times

Typical response time	< 50 ms (Monitored/manual and auto-start)
Typ. starting time with U_S	< 50 ms (when controlled via A1/A2)
Typical release time	< 25 ms (when controlled via A1/A2)
Recovery time	< 100 ms

Electrical properties

Maximum power dissipation for nominal condition	15.2 W (at $U_S = 30$ V, $I_L^2 = 64$ A ²)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V AC
Rated insulation voltage	250 V AC

Supply

Designation	A1/A2
Rated control circuit supply voltage U_S	19.2 V DC ... 30 V DC
Rated control circuit supply voltage U_S	24 V DC -20 % / +25 %
Rated control supply current I_S	typ. 80 mA
Power consumption at U_S	typ. 1.92 W
Inrush current	typ. 125 mA ($\Delta t = 7$ ms at U_S)
Filter time	4 ms (at A1 in the event of voltage dips at U_S) max. 1 ms (at A1/A2, test pulse width, blanking pulses/dark test) 5 ms (at A1/A2, 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 A1/A2, test pulse width, switch-on pulses/light test) 10 ms (at A1/A2; test pulse rate; switch-on pulses/light test) Deactivate the switch-on pulses for safety applications.
Protective circuit	Surge protection; Suppressor diode Reverse polarity protection; Universal diode

Output data

Relay: Enabling current paths (23/24 ... 63/64)

Output description	safety-related N/O contacts
Number of outputs	5 (undelayed)

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Contact type	5 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 5 V AC/DC
	max. 24 V DC (Enabling current path 23/24)
	max. 250 V AC/DC (all other enabling current paths, observe load curve)
Switching capacity	min. 50 mW (5 V / 10 mA)
Inrush current	min. 10 mA
	max. 20 A (≤ 100 ms)
Switching capacity according to IEC 60947-5-1	3 A (24 V (DC13))
	3 A (250 V (AC15))
Limiting continuous current	6 A (observe derating)
Sq. Total current	64 A ² (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 ⁶ cycles
Output fuse	10 A gL/gG
	6 A gL/gG (for low-demand applications)

Relay: Confirmation current path (11/12)

Output description	Safety-related N/C contacts
Number of outputs	1 (undelayed)
Contact type	1 confirmation current path
Contact material	AgSnO
Switching voltage	min. 5 V AC/DC
	max. 24 V DC
Switching capacity	min. 50 mW
Inrush current	min. 10 mA
	max. 100 mA
Limiting continuous current	100 mA
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 ⁶ cycles
Output fuse	1 A gL/gG

Signal: M1

Output description	non-safety-related
Number of outputs	1 (digital, PNP)
Voltage	typ. 23 V DC (U _S - 1 V)
Current	max. 100 mA
Maximum inrush current	500 mA (Δt = 1 ms at U _S)
Short-circuit protection	Yes

Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in connection
Conductor cross section solid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

LED signaling

Status display	2 x green LEDs
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Dimensions

Width	17.5 mm
Height	116.6 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide
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Characteristics

Safety data

Stop category	0
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Safety data: EN ISO 13849

Category	4 (In conjunction with suitable evaluating device)
Performance level (PL)	e (In conjunction with suitable evaluating device)

Safety data: IEC 61508 - High demand

Equipment type	Type A
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
SFF _{Two-channel}	100 %
MTBF	93.52 Years
λ_{SU}	651.49 FIT
λ_{SD}	49.29 FIT
λ_{DU}	0.03 FIT
λ_{DD}	6.49 FIT
Probability of a hazardous failure per hour (PFH _D)	1.00 x 10 ⁻⁹
Proof test interval	240 Months
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Equipment type	Type A
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)

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Safe Failure Fraction (SFF)	99.72 %
MTBF	51.3 Years
λ_{SU}	2005.99 FIT
λ_{SD}	45.18 FIT
λ_{DU}	5.76 FIT
λ_{DD}	0 FIT
Probability of a hazardous failure on demand (PFD _{AVG})	1.2×10^{-4}
	1.2×10^{-4}
Proof test interval	38 Months
Duration of use	240 Months

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-20 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	max. 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g (In the event of stress caused by shock, contact reactions are possible for up to 6 ms.)
Vibration (operation)	10 Hz ... 150 Hz, 2g (In the event of stress caused by vibration, contact reactions are possible for up to 1 ms.)

Approval data

CE

Certificate	CE-compliant
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Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	EN 60947-1
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Mounting

Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal

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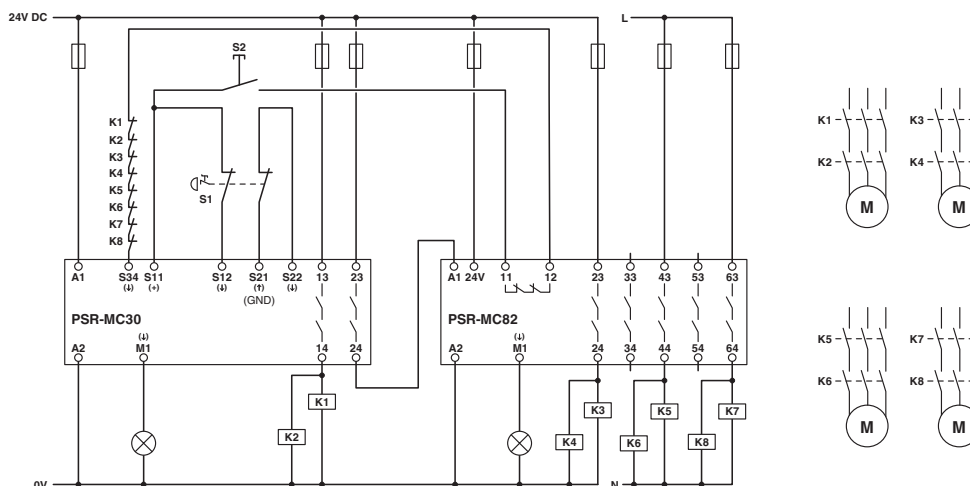


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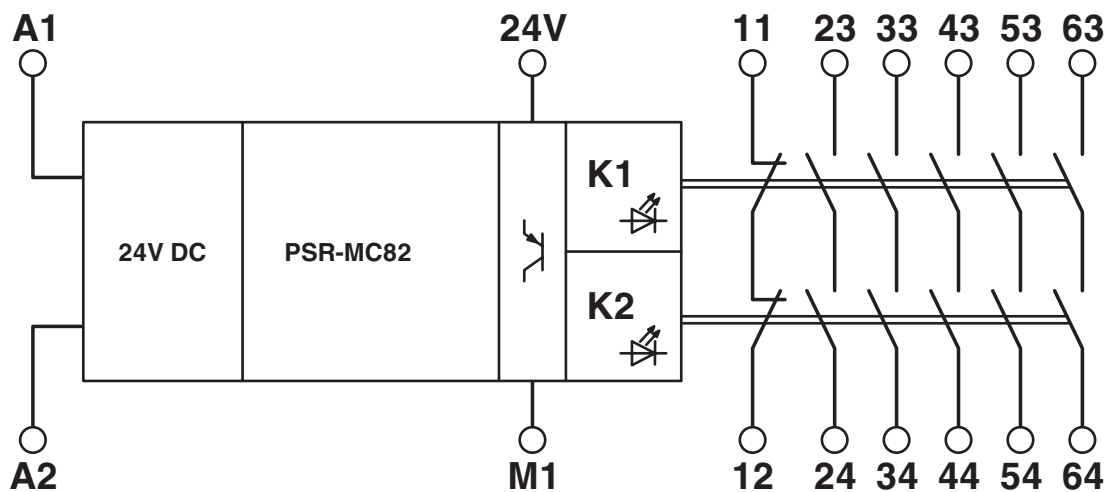
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Drawings

Circuit diagram



Block diagram



Block diagram

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Approvals



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 44-205-15124303



EAC

Approval ID: RU*-DE*B.00606/20



Functional Safety

Approval ID: 44-780-15124303

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27371819
ECLASS-10.0.1	27371819
ECLASS-11.0	27371819

ETIM

ETIM 8.0	EC001449
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UNSPSC

UNSPSC 21.0	39122200
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Coding profile

Coding profile - CP-MSTB - 1734634

<https://www.phoenixcontact.com/us/products/1734634>

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



Coding section

Coding section - CR-MSTB - 1734401

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Coding section, inserted into the recess in the header or the inverted plug, red insulating material



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Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

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