

## Safety relays - PSR-MC40-3NO-1DO-24DC-SP - 2700570

### Technical data

#### Digital inputs

|   |                         |
|---|-------------------------|
| Description of the input                      | non-safety-related      |
|   | NPN/PNP                 |
| Number of inputs                              | 1                       |
| Input voltage range "1" signal                | 20.4 V DC ... 26.4 V DC |
| Inrush current                                | typ. 200 mA             |
| Current consumption                           | < 10 mA ()              |
|   | > -5 mA ()              |
| Max. permissible overall conductor resistance | 150 Ω                   |
| Protective circuit/component                  | Suppressor diode        |

#### Relay outputs: enabling current path

|                             |   |
|-----------------------------|---|
| Output name                 | Enabling current paths                    |
|                             | 13/14, 23/24, 33/34                       |
| Output description          | safety-related N/O contacts               |
| Number of outputs           | 3 (undelayed)                             |
| Contact type                | 3 enabling current paths                  |
| Contact material            | AgSnO <sub>2</sub>                        |
| Switching voltage           | min. 12 V AC/DC                           |
|                             | max. 250 V AC/DC (Observe the load curve) |
| Limiting continuous current | 6 A (observe derating)                    |
| Inrush current              | min. 3 mA                                 |
|                             | max. 6 A                                  |
| Sq. Total current           | 48 A <sup>2</sup> (observe derating)      |
| Switching capacity          | min. 60 mW                                |
| Switching frequency         | 0.5 Hz                                    |
| Mechanical service life     | 10x 10 <sup>6</sup> cycles                |
| Output fuse                 | 6 A gL/gG (N/O contact)                   |
|                             | 4 A gL/gG (for low-demand applications)   |

#### Alarm outputs

|                          |                                       |
|--------------------------|---------------------------------------|
| Designation              | M1                                    |
| Output description       | non-safety-related                    |
| Number of outputs        | 1 (digital, PNP)                      |
| Voltage                  | 22 V DC (U <sub>s</sub> - 2 V)        |
| Current                  | max. 100 mA                           |
| Maximum inrush current   | 500 mA (Δt = 1 ms at U <sub>s</sub> ) |
| Short-circuit protection | no                                    |

#### Times

|                             |                                    |
|-----------------------------|------------------------------------|
| Typical pickup time at US   | < 250 ms (when controlled via A1)  |
| Typical response time at US | < 175 ms (automatic start)         |
|                             | < 175 ms (manual, monitored start) |

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## Technical data

### Times

|                            |  |
|----------------------------|--|
| Typical release time at US | < 20 ms (when controlled via A1 or S12 and S22.) |
| Recovery time              | < 500 ms   |

### General

|   |  |
|---|--|
| Relay type                                  | Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205) |
| Nominal operating mode                      | 100% operating factor  |
| Net weight                                  | 134.5 g  |
| Mounting position                           | vertical or horizontal   |
| Mounting type                               | DIN rail mounting  |
| Assembly instructions                       | See derating curve   |
| Degree of protection                        | IP20   |
| Min. degree of protection of inst. location | IP54   |
| Housing material                            | PBT  |
| Housing color                               | yellow   |
| Operating voltage display                   | 1 x green LED  |
| Status display                              | 3 x green LED  |

### Connection capacity

|   |  |
|---|--|
| Connection method   | Push-in spring connection  |
| pluggable   | Yes  |
| Conductor cross section solid   | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross section flexible                                      | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross section AWG / kcmil                                   | 24 ... 16  |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Stripping length  | 8 mm   |

### 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

|                       |  |
|-----------------------|--|
| Designation           | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178   |