

Extension module - PSR-SPP-42-230UC/URM4/4X1/2X2B - 2902936

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1 or 2-channel contact extension with wide range input, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, together with basic device up to Cat. 4, PL e according to EN ISO 13849, plug-in spring-cage terminal block, width: 22.5 mm

Product Description

The URM4 contact extension device enables safety-related signals to be further processed as floating contacts for an input voltage range of 42 to 230 V AC/DC. The contact extension device specifically covers the operating range above a nominal voltage of 24 V. The new device is approved in accordance with EN 50156 and can therefore be used in furnaces without any additional effort. In particular when used in conjunction with the corresponding PSR safety relay as a basic device, safety circuits up to PL e or SIL 3 can be implemented.



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 STK |
| GTIN |  4 046356 698337 |
| GTIN | 4046356698337 |

Technical data

Note

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

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 112 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 |

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Technical data

Ambient conditions

| | |
|-----------------------|----------------------------|
| Vibration (operation) | 10 Hz ... 150 Hz, 2g |
| Maximum altitude | ≤ 2000 m (Above sea level) |

Input data

| | |
|--|--|
| Rated control circuit supply voltage U_s | 42 V AC/DC ... 230 V AC/DC -15 % ... +10 % (Rated control circuit supply voltage U_s) |
| Rated control supply current I_s | 40 mA (42 V DC) |
| | 20 mA (230 V AC) |
| Power consumption at U_s | typ. 1.68 W (42 V DC) |
| | typ. 4.6 W (230 V AC) |
| Inrush current | 15 A ($\Delta t = 100 \mu s$ at U_s) |
| Typ. starting time with U_s | < 55 ms (when controlled via A1) |
| Typical release time | < 20 ms (Control via A1 at 42 V DC) |
| | < 30 ms (Control via A1 at 48 V DC) |
| | < 40 ms (Control via A1 at 60 V DC) |
| | < 60 ms (Control via A1 at 110 V AC) |
| | < 150 ms (Control via A1 at 230 V AC) |
| Recovery time | < 1 s |
| Maximum switching frequency | 0.5 Hz |

Output data

| | |
|--|--|
| Contact type | 4 enabling current paths |
| | 1 confirmation current path |
| | 1 signaling current path |
| Contact material | AgSnO ₂ |
| Minimum switching voltage | 5 V AC/DC |
| Maximum switching voltage | 250 V AC/DC (Observe the load curve) |
| Limiting continuous current | 6 A (N/O contact, pay attention to the derating) |
| | 6 A (N/C contact) |
| Inrush current, minimum | 10 mA |
| Maximum inrush current | 8 A |
| Sq. Total current | 36 A ² (observe derating) |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, $\tau = 0$ ms) |
| | 288 W (48 V DC, $\tau = 0$ ms) |
| | 180 W (60 V DC, $\tau = 0$ ms) |
| | 77 W (110 V DC, $\tau = 0$ ms) |
| | 88 W (220 V DC, $\tau = 0$ ms) |
| | 1500 VA (250 V AC, $\tau = 0$ ms) |
| Maximum interrupting rating (inductive load) | 42 W (24 V DC, $\tau = 40$ ms) |
| | 40 W (48 V DC, $\tau = 40$ ms) |
| | 36 W (60 V DC, $\tau = 40$ ms) |
| | 35 W (110 V DC, $\tau = 40$ ms) |

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Output data

| | |
|-------------------------|---------------------------------|
| | 33 W (220 V DC, $\tau = 40$ ms) |
| Switching capacity min. | 50 mW |
| Output fuse | 10 A gL/gG (N/O contact) |
| | 6 A gL/gG (N/C contact) |

General

| | |
|---|---|
| Relay type | Electromechanical relay with forcibly guided contacts in accordance with EN 50205 |
| Mechanical service life | 10×10^6 cycles |
| Nominal operating mode | 100% operating factor |
| Net weight | 236.2 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 |
| Control | one and two channel |
| Housing material | PBT |
| Housing color | yellow |

Connection data

| | |
|---------------------------------------|------------------------|
| Connection method | Spring-cage connection |
| pluggable | Yes |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 1.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 16 |
| Stripping length | 8 mm |

Safety-related characteristic data

| | |
|---|--|
| Stop category | 0 |
| Designation | IEC 61508 - High demand |
| Safety Integrity Level (SIL) | 3 (In conjunction with suitable evaluating device) |
| Designation | IEC 61508 - Low demand |
| Safety Integrity Level (SIL) | 3 (In conjunction with suitable evaluating device) |
| Designation | EN ISO 13849 |
| Performance level (PL) | e (In conjunction with suitable evaluating device) |
| Category | 4 (In conjunction with suitable evaluating device) |
| Designation | EN 62061 |
| Safety Integrity Level Claim Limit (SIL CL) | 3 (In conjunction with suitable evaluating device) |

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Technical data

Safety-related characteristic data

| | |
|------------------------------|----------|
| Designation | EN 50156 |
| Safety Integrity Level (SIL) | 3 |

Standards and Regulations

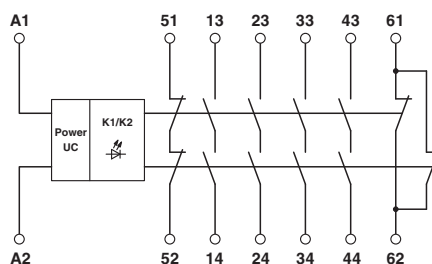
| | |
|--------------------------------|---|
| Shock | 15g |
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178/VDE 0160 |
| Rated insulation voltage | 250 V AC |
| Rated surge voltage/insulation | Basic insulation 4 kV: between all current paths and housing Safe isolation, reinforced insulation 6 kV: between A1/A2 and 13/14, 23/24, 33/34, 43/44 between 51/52, 61/62 and 13/14, 23/24, 33/34, 43/44 between A1/A2 and 51/52, 61/62 |
| Degree of pollution | 2 |
| Overtoltage category | III |
| Vibration (operation) | 10 Hz ...150 Hz, 2g |
| Conformance | CE-compliant |

Environmental Product Compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

Drawings

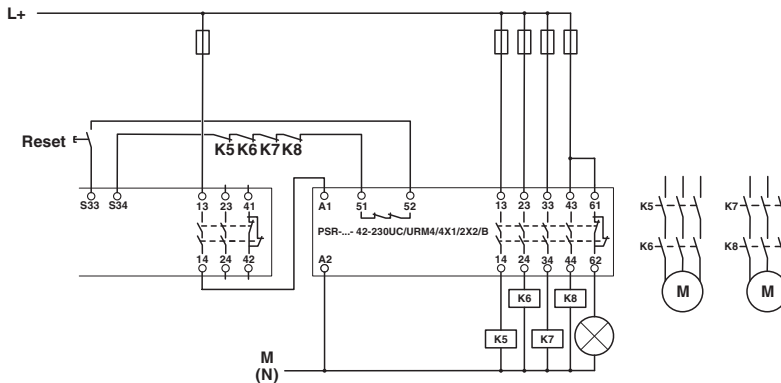
Block diagram



Block diagram

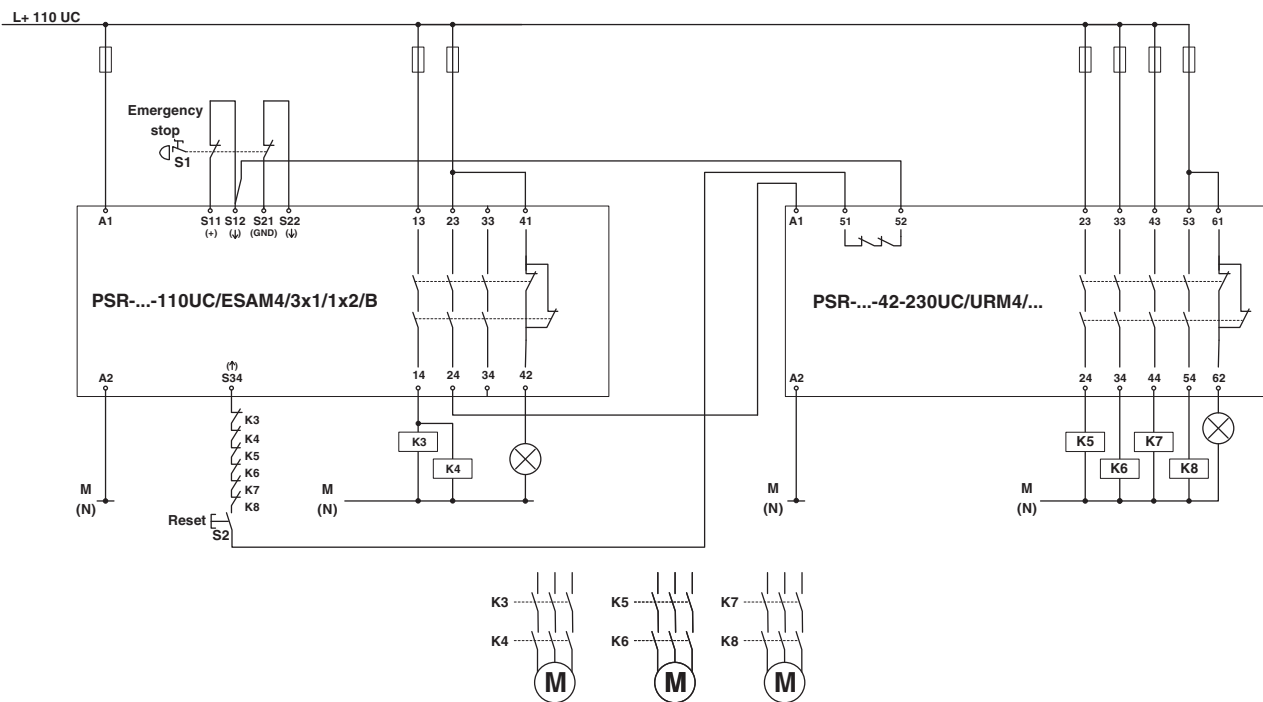
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Application drawing



Contact extension

Application drawing



Two-channel emergency stop monitoring with contact extension

Approvals

Approvals

Extension module - PSR-SPP-42-230UC/URM4/4X1/2X2B - 2902936

Approvals

Approvals

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

Ex Approvals

Approval details

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|------------|--|---|---------------|

| | | | |
|-------------------|--|--|------------------|
| Functional Safety | | | 968/EZ 575.00/12 |
|-------------------|--|--|------------------|

| | | | |
|-----|--|--|--------------------------|
| EAC | | | RU C- DE.A*30.B.01082 |
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| | | | |
|--------------|--|--|--|
| cULus Listed | | | |
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