

EMG 12-OV- 12DC/240AC/1 - Solid-state relay module



2948814

<https://www.phoenixcontact.com/us/products/2948814>

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Power solid-state relay, with LED and protective circuit in input and output circuits, input: 12 V DC, output: 24 - 280 V AC/max. 1 A

The figure shows version EMG 12-OV, with AC voltage output, max. 1 A

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2948814 |
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | NULL |
| Product key | DK61C3 |
| GTIN | 4017918083489 |
| Weight per piece (including packing) | 40 g |
| Weight per piece (excluding packing) | 40 g |
| Customs tariff number | 85364190 |
| Country of origin | DE |

Technical data

Product properties

| | |
|----------------|--------------------------|
| Product type | Solid-state relay module |
| Application | Output function |
| Operating mode | 100% operating factor |

Insulation characteristics

| | |
|------------|------------------|
| Insulation | Basic insulation |
|------------|------------------|

Data management status

| | |
|------------------------------|------------|
| Date of last data management | 15.09.2025 |
|------------------------------|------------|

Electrical properties

| | |
|-----------------------------|--------------------------|
| Test voltage (Input/output) | 3.5 kV AC (Input/output) |
|-----------------------------|--------------------------|

Input data

| | |
|--|--|
| Nominal input voltage U_N | 12 V DC |
| Input voltage range in reference to U_N | 0.8 ... 1.1 |
| Input voltage range | 9.6 V DC ... 13.2 V DC |
| Switching threshold "0" signal in reference to U_N | ≤ 0.4 |
| Switching threshold "1" signal in reference to U_N | ≥ 0.8 |
| Typical input current at U_N | 7 mA |
| Typical response time | max. one half cycle - zero-voltage crossing |
| Typical turn-off time | max. one half cycle - zero-current crossing |
| Status display | LED (yellow) |
| Protective circuit | Reverse polarity protection; Polarity protection diode Surge protection; Varistor |
| Transmission frequency | 25 Hz |

Output data

| | |
|--|--|
| Design of digital output | electronic |
| Output nominal voltage | 240 V AC |
| Output voltage range | 24 V AC ... 280 V AC (50 Hz ... 60 Hz) |
| Limiting continuous current | 1 A (see derating curve) |
| Min. load current | 50 mA |
| Leakage current | 3.5 mA |
| Surge current | 125 A (t = 10 ms) |
| Phase angle $\cos \phi$ min | 0.5 |
| Max. load value | $78 \text{ A}^2\text{s}$ ($I^2 \times t$ where t = 10 ms) |
| Peak offstate voltage | 600 V (Periodic peak reverse voltage) |
| Voltage drop at max. limiting continuous current | $\leq 1.5 \text{ V}$ |
| Output circuit | 2-conductor, floating |
| Protective circuit | RC element; RC element |

Connection data

Input side

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm ² ... 4 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |

Output side

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm ² ... 4 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |

Dimensions

| | |
|--------|---------|
| Width | 12.5 mm |
| Height | 75 mm |
| Depth | 102 mm |

Material specifications

| | |
|--|------------------|
| Color | green (RAL 6021) |
| Flammability rating according to UL 94 | V0 |

Environmental and real-life conditions

Ambient conditions

| | |
|---|------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |

Standards and regulations

| | |
|-----------------------|-----------|
| Standards/regulations | IEC 60664 |
| | EN 50178 |

Mounting

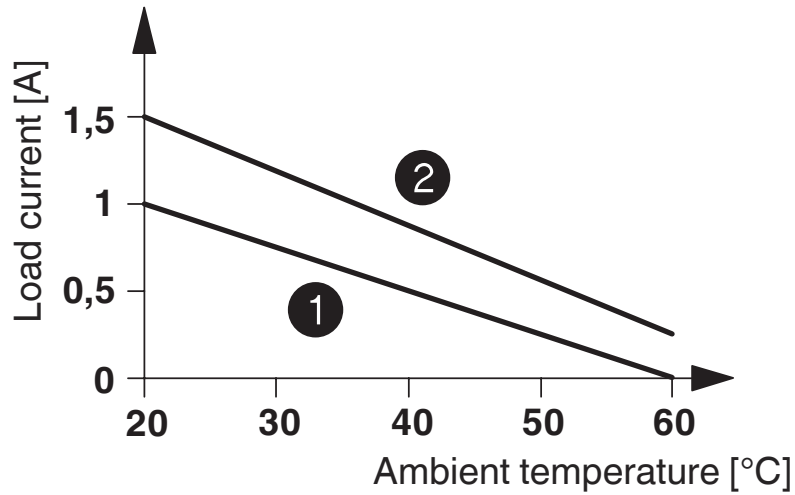
| | |
|-------------------|--|
| Assembly note | Mounted in rows with zero spacing: Horizontal/not in rows: Any |
| Mounting position | any |

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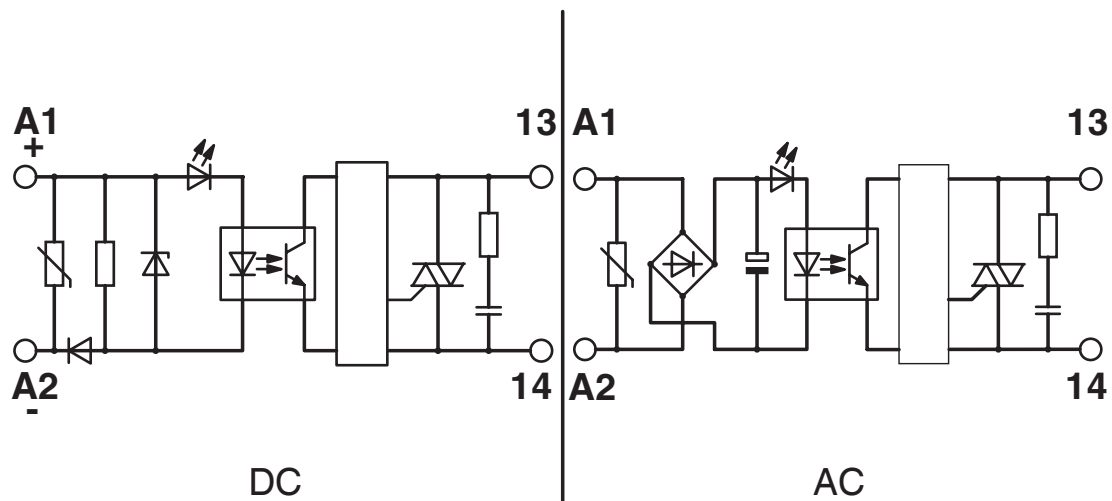
Drawings

Diagram



- ① In rows with zero spacing
- ② stand-alone device

Circuit diagram



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Environmental product compliance

China RoHS

| | |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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