

ELR W3/ 9-500 MM EX - Reversing load relay



2963695

<https://www.phoenixcontact.com/us/products/2963695>

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Electronic reversing load relay with motor management, for direct driving of equipment in the 3-phase network, output: 110-550 V AC/3 x 8 A

Your advantages

- Optional connection to ELR-PB-GATEWAY
- Special ELR-MM EX devices suitable for use in the chemical and petrochemical industries. A corresponding Ex-type examination certificate has been issued.
- Continuous status monitoring
- Real power consumed calculated every 6.6 ms
- Freely parameterizable signaling and switching thresholds for underload/overload detection
- Display of apparent, real, and reactive power, currents, voltages, phase angle, cycle counter, and operating hours counter
- Switching of actuating/variable-speed drives, pumps, and tools with function, dirt or wear monitoring

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2963695 |
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | NULL |
| Product key | DK7222 |
| GTIN | 4017918953102 |
| Weight per piece (including packing) | 878.7 g |
| Weight per piece (excluding packing) | 752.92 g |
| Customs tariff number | 85364900 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|----------------|--------------------------|
| Product type | Electronic motor manager |
| Operating mode | 100% operating factor |

Electrical properties

| | |
|---------------------------|--|
| Number of phases | 3 |
| Mains type | 3-phase |
| Test voltage input/output | 2.5 kV |
| Reversing frequency | ≤ 2.5 Hz (at $\cos \varphi = 0.5$) |

Supply

| | |
|---|---|
| Input name | Device supply |
| Nominal supply voltage | 24 V DC |
| Supply voltage range with reference to U_{VN} | 0.8 ... 1.2 |
| Quiescent current | 80 mA |
| Protective circuit | Reverse polarity protection; Series polarity protection diode Surge protection |
| Operating voltage display | Green LED |
| Error indication | Red LED |
| Status display | LED (yellow) |

Input data

Control

| | |
|---|-------------------------------------|
| Input name | Control input right/left |
| Nominal input voltage U_N | 24 V DC |
| Input voltage range in reference to U_N | 0.8 ... 1.2 0.8 ... 1.2 |
| Typical input current at U_N | 7 mA |
| Reaction time in normal load operation | < 35 ms |
| Typical response time | < 25 ms |
| Typical turn-off time | < 25 ms |
| Reaction time in normal load operation | < 35 ms |
| Switch-over frequency | < 2.5 Hz (at $\cos \varphi = 0.5$) |

Current measurement

| | |
|----------------|---|
| Basic accuracy | ± 2 % (Of end value, typ. ± 1 %) |
| Current range | 0.25 A ... 8 A |
| Measuring via | Current transformer for any conductor current |

Output data

AC output

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| | |
|------------------------------|--|
| Nominal output voltage | 500 V AC |
| Nominal output voltage range | 110 V AC ... 550 V AC |
| Peak offstate voltage | 1500 V |
| Mains frequency | 50 Hz 60 Hz |
| Load current | 8 A (see derating curve) |
| Load current range | 150 mA |
| Leakage current | typ. 7 mA |
| Residual voltage | typ. 1.4 V |
| Surge current | 360 A (tp = 10 ms, at 25 °C) |
| Max. load value | 645 A ² s |
| Protective circuit | RC element; RC element Surge protection |
| Surge voltage protection | > 880 V |
| Nominal output voltage | $U_{VN} - 1 V$ |
| Continuous load current | max. 50 mA |

Connection data

Control circuits

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm ² ... 6 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 4 mm ² |
| Conductor cross-section AWG | 24 ... 10 |

Load circuit

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm ² ... 6 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 4 mm ² |
| Conductor cross-section AWG | 24 ... 10 |

Interfaces

Data

| | |
|--------------------|----------|
| Interface | RS-232 |
| Transmission speed | 4800 bit |

Dimensions

| | |
|--------|--------|
| Width | 62 mm |
| Height | 94 mm |
| Depth | 122 mm |

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Material specifications

| | |
|-------|------------------|
| Color | green (RAL 6021) |
|-------|------------------|

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

Air clearances and creepage distances between the power circuits

| | |
|-----------------------|----------------|
| Standards/regulations | DIN EN 50178 |
| | safe isolation |

Power station requirements

| | |
|-----------------------|---------------------------|
| Standards/regulations | DWR 1300/ZXX01/DD/7080.8d |
|-----------------------|---------------------------|

EMC regulations

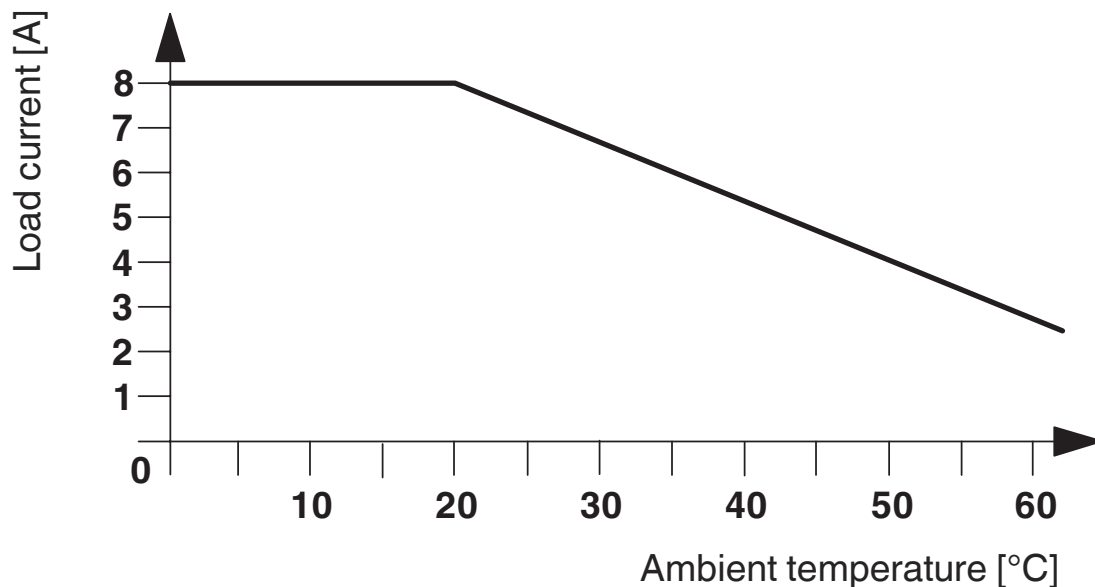
| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-2 |
| | EN 61000-6-4 |

Mounting

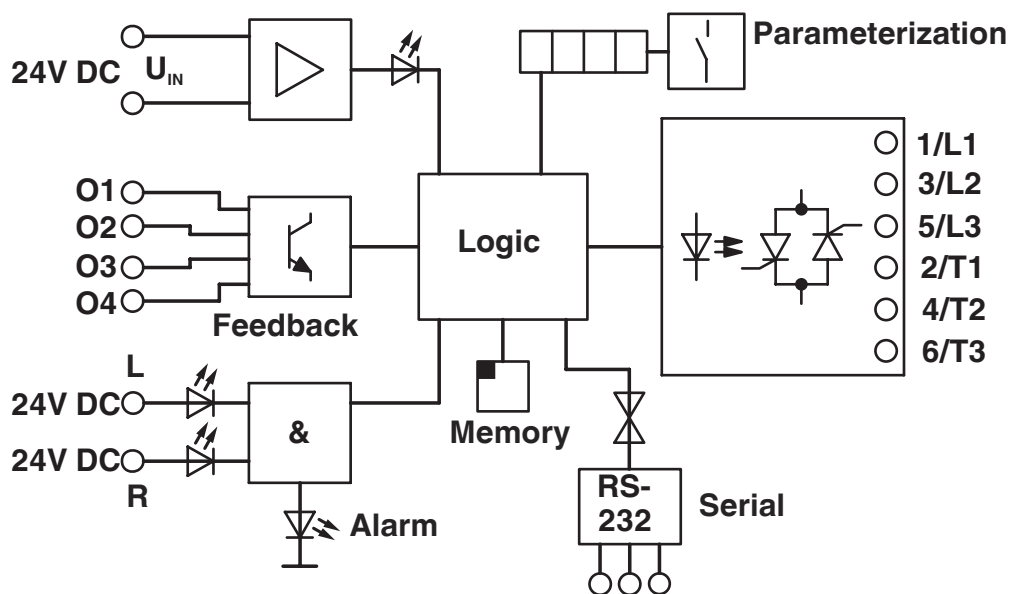
| | |
|-------------------|-------------------------------------|
| Assembly note | can be aligned with spacing > 20 mm |
| Mounting position | Vertical (horizontal DIN rail) |

Drawings

Diagram



Block 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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