

# ELR W3/ 9-500 - Reversing load relay



2964186

<https://www.phoenixcontact.com/gb/products/2964186>

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Electronic reversing load relay, for direct driving of equipment in the 3-phase network, with light indicator and protection circuit, output: 110-550 V AC/3 x 9 A

## Your advantages

- High switching frequency
- Noise and wear-free switching up to 500 V AC/9 A
- Protective circuit in input and output
- LEDs for forward and reverse running, operating voltage, and impermissible control

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2964186       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DK6841        |
| Product key                          | DK6841        |
| GTIN                                 | 4017918099398 |
| Weight per piece (including packing) | 778.5 g       |
| Weight per piece (excluding packing) | 662.22 g      |
| Customs tariff number                | 85364900      |
| Country of origin                    | DE            |

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## Technical data

### Notes

#### Utilization restriction

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

### Product properties

|                |                       |
|----------------|-----------------------|
| Product type   | Solid-state contactor |
| Operating mode | 100% operating factor |

### Electrical properties

|   |                          |
|---|--------------------------|
| Number of phases                                | 3                        |
| Maximum power dissipation for nominal condition | 13.5 W                   |
| Mains type                                      | 3-phase                  |
| Test voltage (Input/output)                     | 2.5 kV (50 Hz, 60 s)     |
| Reversing frequency                             | ≤ 10 Hz (at cos φ = 0.5) |

### Input data

#### Control

|  |  |
|--|--|
| Input name                               | Control input right/left                               |
| Quiescent current                        | 40 mA  |
| Rated actuating voltage $U_C$            | 24 V DC  |
| Triggering voltage range                 | 19.2 V DC ... 30 V DC                                  |
| Voltage range with reference to $U_C$    | 0.8 ... 1.25   |
|  | 0.8 ... 1.25   |
| Rated actuating current $I_C$            | 7.5 mA   |
| Reaction time in normal load operation   | 50 ms  |
|  | 50 ms  |
| Protective circuit                       | Reverse polarity protection; Polarity protection diode |
|  | Surge protection                                       |
| Operating voltage display                | Green LED  |
| Error indication                         | Red LED  |
| Status display                           | LED (yellow)   |
| Switch-over frequency                    | < 10 Hz (at cos φ > 0.5)                               |
| Switchover time $R_L/L_L$ (turn-on time) | 20 ms  |

### Output data

#### AC output

|                               |                       |
|-------------------------------|-----------------------|
| Rated operating voltage $U_e$ | 500 V AC              |
| Operating voltage range       | 110 V AC ... 550 V AC |
| Peak offstate voltage         | 1200 V                |

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|                          |  |
|--------------------------|--|
| Mains frequency          | 50 Hz<br>60 Hz                             |
| Load current range       | 150 mA ... 9 A (see to derating)           |
| Leakage current          | typ. 7 mA                                  |
| Residual voltage         | typ. 1.5 V                                 |
| Surge current            | 230 A (tp = 10 ms, at 25 °C)               |
| Max. load value          | 265 A <sup>2</sup> s                       |
| Protective circuit       | RC element; RC element<br>Surge protection |
| Surge voltage protection | > 910 V                                    |

## Connection data

### Control circuits

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

## Dimensions

|        |        |
|--------|--------|
| Width  | 62 mm  |
| Height | 84 mm  |
| Depth  | 110 mm |

## 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

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|                       |          |
|-----------------------|----------|
| Standards/regulations | EN 50178 |
|-----------------------|----------|

## EMC regulations

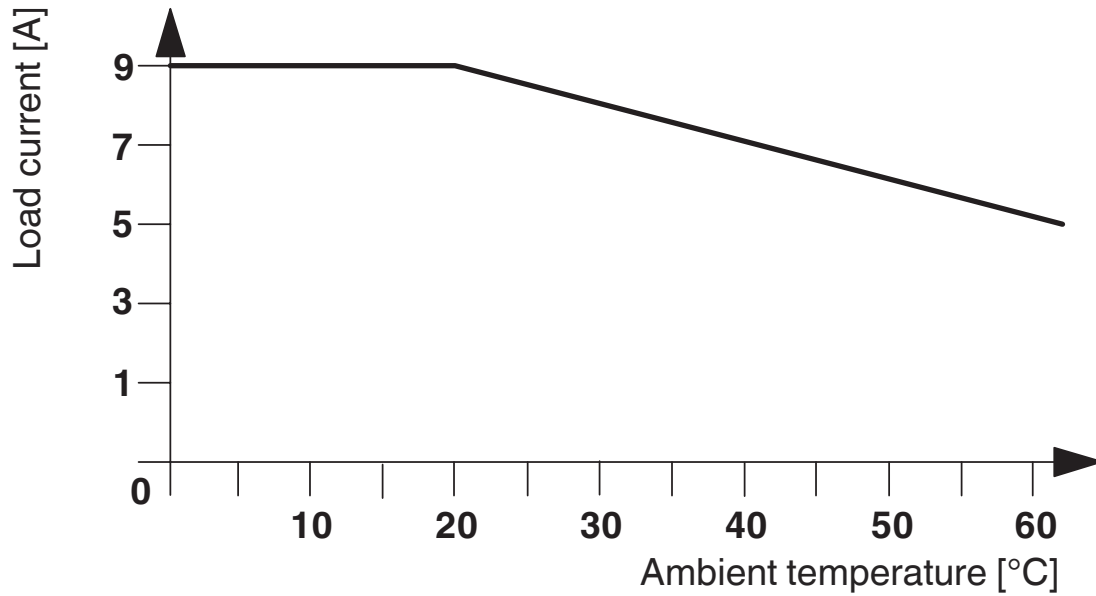
|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-2 |
|                       | EN 61000-6-4 |

## Mounting

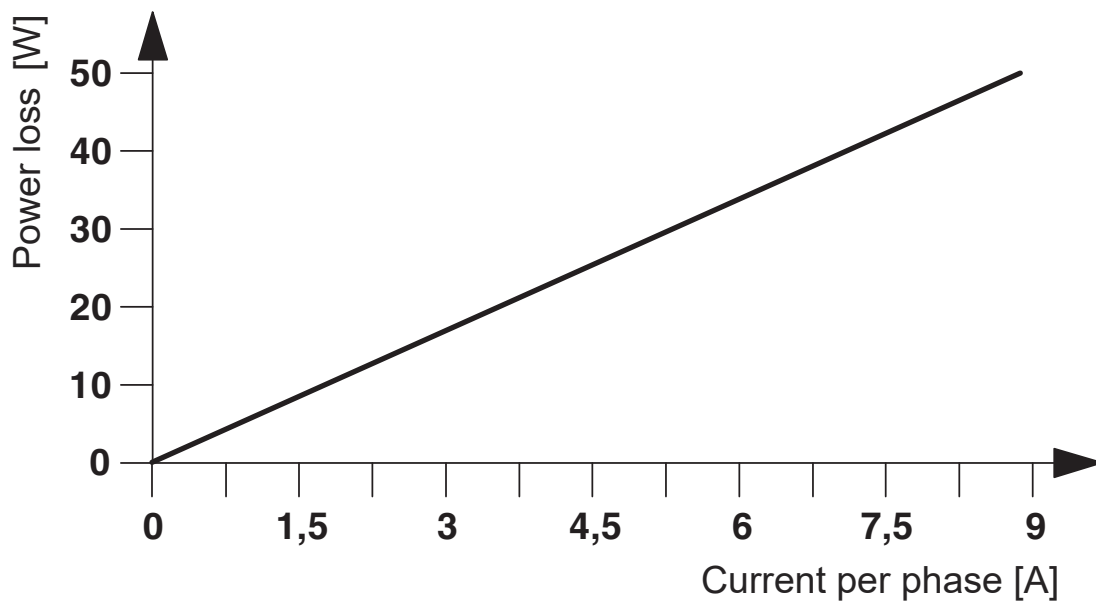
|                   |                                     |
|-------------------|-------------------------------------|
| Mounting type     | DIN rail mounting                   |
| Assembly note     | can be aligned with spacing > 20 mm |
| Mounting position | Vertical (horizontal DIN rail)      |

## Drawings

Diagram



Diagram

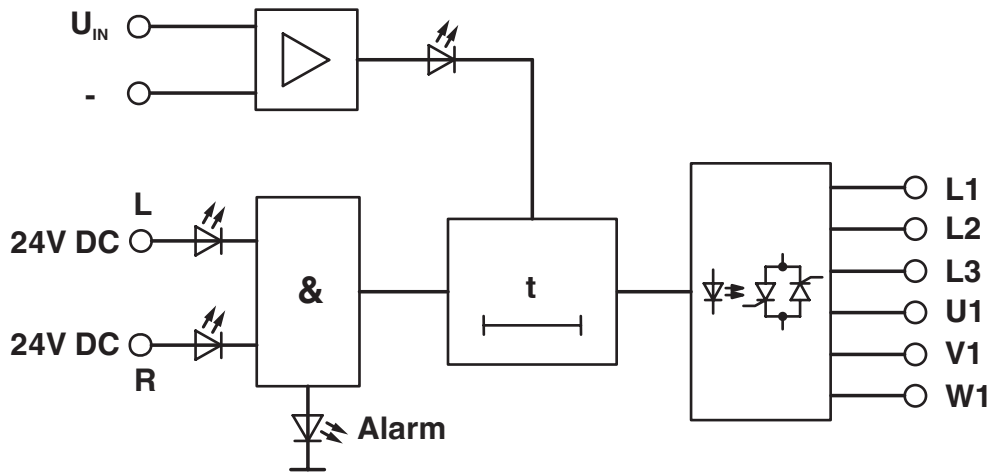


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Block diagram



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371003 |
| ECLASS-15.0 | 27371003 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000066 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39122300 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |              |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 7(a), 7(c)-I |

### 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.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 8e03b027-f4a9-4108-8486-0785cf68b14e |

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