

# ELR W3/ 9-500 - Reversing load relay



2964186

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

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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                            | C472               |
| Product key                          | CK7222             |
| Catalog page                         | Page 190 (IF-2011) |
| 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                 |

# ELR W3/ 9-500 - Reversing load relay

2964186

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



## 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 $\cos \varphi = 0.5$ ) |

### 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                           | Yellow LED   |
| Switch-over frequency                    | < 10 Hz (at $\cos \varphi > 0.5$ )                     |
| 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                |

# ELR W3/ 9-500 - Reversing load relay

2964186

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



|                          |                                  |
|--------------------------|----------------------------------|
| Mains frequency          | 50 Hz                            |
|                          | 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           |
|                          | 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

# ELR W3/ 9-500 - Reversing load relay

2964186

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



|                       |              |
|-----------------------|--------------|
| 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 > 20 mm spacing |
| Mounting position | Vertical (horizontal DIN rail)      |

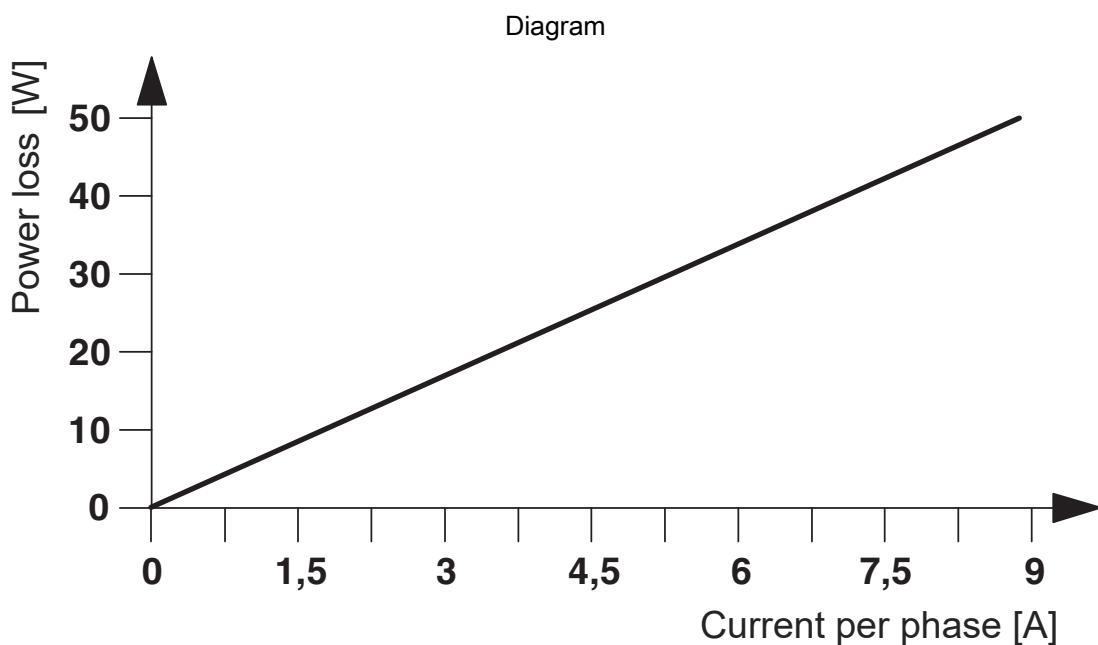
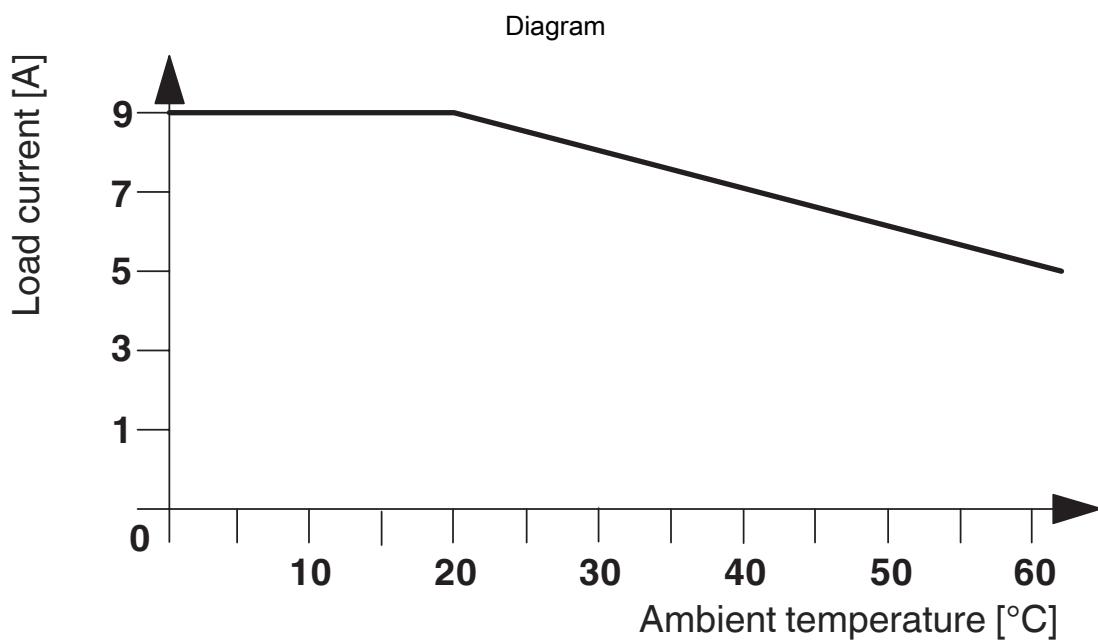
# ELR W3/ 9-500 - Reversing load relay



2964186

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

## Drawings



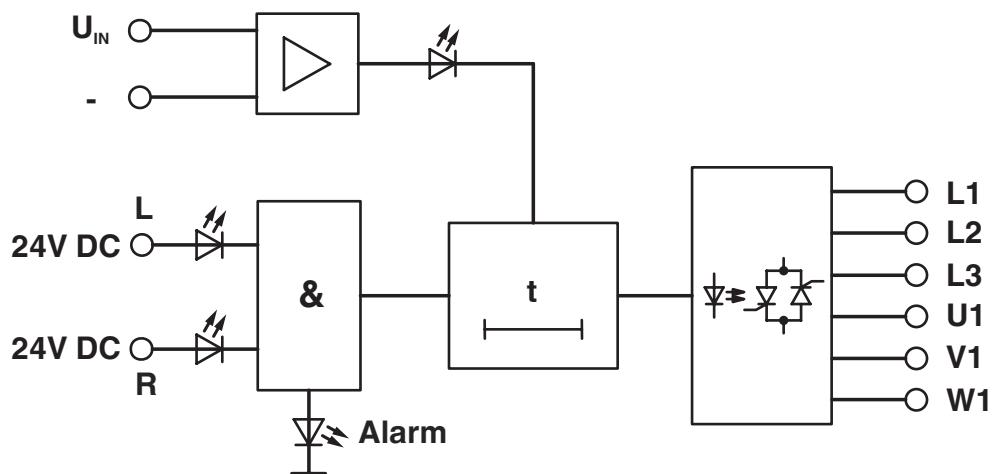
# ELR W3/ 9-500 - Reversing load relay



2964186

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

Block diagram



# ELR W3/ 9-500 - Reversing load relay

2964186

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



## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2964186>



**EAC**

Approval ID: TR\_TS\_D\_00573\_c

# ELR W3/ 9-500 - Reversing load relay

2964186

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



## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27371003 |
| ECLASS-12.0 | 27371003 |
| ECLASS-13.0 | 27371003 |

### ETIM

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

### UNSPSC

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

# ELR W3/ 9-500 - Reversing load relay

2964186

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



## 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 |

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

### Phoenix Contact USA

586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)