

# ELR W1/ 6-24DC - Reversing load relay



2982090

<https://www.phoenixcontact.com/us/products/2982090>

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Electronic reversing load relay, for controlling DC motors, with LED display and protective circuit, output: 10 ... 30 V DC/6 A with a switch-over time of 80 ms

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2982090       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C476          |
| Product key                          | DK7622        |
| GTIN                                 | 4017918943936 |
| Weight per piece (including packing) | 118.9 g       |
| Weight per piece (excluding packing) | 112.3 g       |
| Customs tariff number                | 85371098      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

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

Insulation characteristics: Air clearances and creepage distances between the power circuits

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | III              |
| Pollution degree     | 2                |

### Electrical properties

|                             |                                     |
|-----------------------------|-------------------------------------|
| Number of phases            | 1                                   |
| Test voltage (Input/output) | 2.5 kV <sub>rms</sub> (50 Hz, 60 s) |

### Supply

|  |                     |
|--|---------------------|
| Input name                                 | Device supply       |
| Rated control circuit supply voltage $U_S$ | 24 V DC             |
| Control supply voltage range               | 10 V DC ... 30 V DC |
| Rated control supply current $I_S$         | 7 mA                |
| Protective circuit                         | Surge protection    |

### Input data

#### Control

|  |   |
|--|---|
| Input name                               | Control input right/left                        |
| Current consumption                      | 3 mA  |
| Rated actuating voltage $U_C$            | 24 V DC   |
| Triggering voltage range                 | 19.2 V DC ... 28.8 V DC                         |
| Rated actuating current $I_C$            | 3 mA  |
| Typical response time                    | 200 $\mu$ s                                     |
| Protective circuit                       | Reverse polarity protection<br>Surge protection |
| Surge voltage protection                 | > 33 V DC                                       |
| Switchover time $R_L/L_L$ (turn-on time) | 80 ms   |

### Output data

#### DC output

|                                       |                                  |
|---------------------------------------|----------------------------------|
| Rated operating voltage $U_e$         | 24 V DC                          |
| Operating voltage range               | 10 V DC ... 30 V DC              |
| Rated operating current (Load output) | 6 A                              |
| Load current                          | 6 A (see to derating)            |
| Quiescent current                     | approx. 7 mA (When switched off) |

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|                                      |                             |
|--------------------------------------|-----------------------------|
| Protective circuit                   | Reverse polarity protection |
|                                      | Surge protection            |
| Surge voltage protection             | > 33 V DC                   |
| Current limitation at short-circuits | 20 A                        |

## Connection data

### Control circuits

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                                  |
| Stripping length                 | 8 mm  |
| Screw thread                     | M3  |
| Conductor cross-section rigid    | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>      |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>      |
| Conductor cross-section AWG      | 26 ... 14   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm                                 |
|                                  | 5 lb <sub>F</sub> -in. ... 7 lb <sub>F</sub> -in. |

### Load circuit

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                                  |
| Stripping length                 | 8 mm  |
| Screw thread                     | M3  |
| Conductor cross-section rigid    | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>      |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>      |
| Conductor cross-section AWG      | 26 ... 14   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm                                 |
|                                  | 5 lb <sub>F</sub> -in. ... 7 lb <sub>F</sub> -in. |

## Signaling

|                           |              |
|---------------------------|--------------|
| Status display            | LED (yellow) |
| Operating voltage display | Green LED    |

## Dimensions

|        |          |
|--------|----------|
| Width  | 12.5 mm  |
| Height | 99 mm    |
| Depth  | 114.5 mm |

## Material specifications

|       |                 |
|-------|-----------------|
| Color | gray (RAL 7042) |
|-------|-----------------|

## Environmental and real-life conditions

### Ambient conditions

|   |                  |
|---|------------------|
| Degree of protection                    | IP20             |
| Ambient temperature (operation)         | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -20 °C ... 80 °C |

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## Approvals

### UKCA

|             |                |
|-------------|----------------|
| Certificate | UKCA-compliant |
|-------------|----------------|

### UL approval

|             |              |
|-------------|--------------|
| Certificate | NLDX.E228652 |
|-------------|--------------|

## Standards and regulations

### Air clearances and creepage distances between the power circuits

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

## Mounting

|                   |  |
|-------------------|--|
| Mounting type     | DIN rail mounting                                  |
| Assembly note     | alignable, for spacing see derating                |
| Mounting position | vertical (horizontal DIN rail, motor output below) |

# ELR W1/ 6-24DC - Reversing load relay

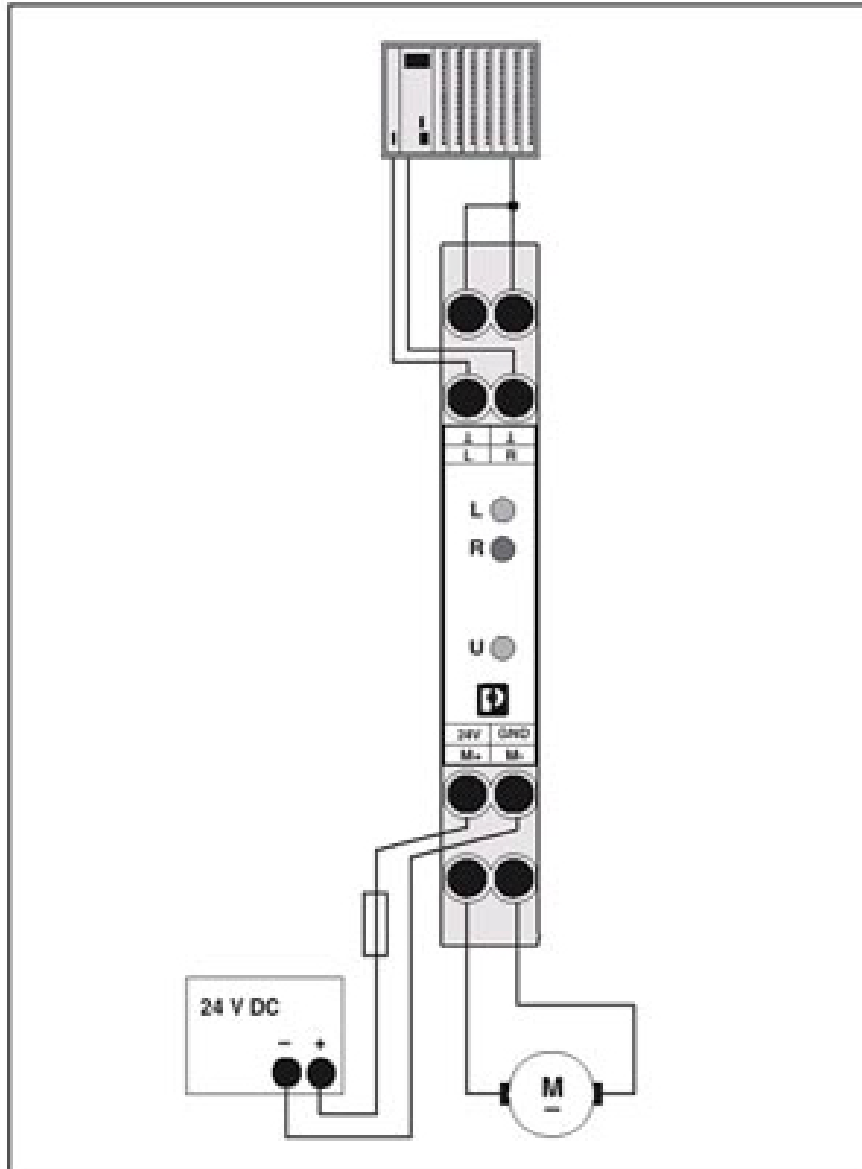


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## Drawings

Application drawing



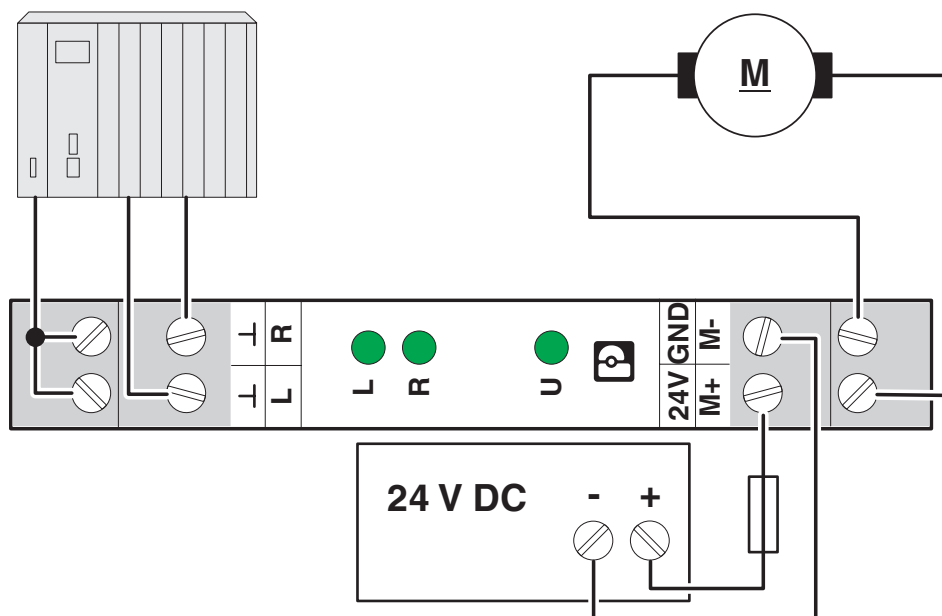
Example application

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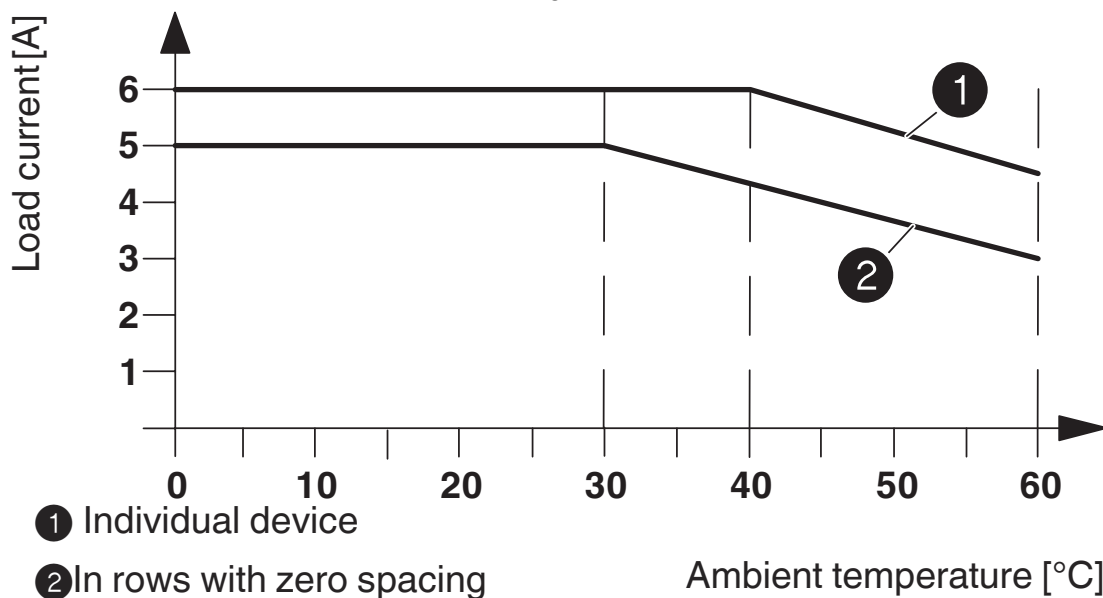
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Connection diagram



Diagram

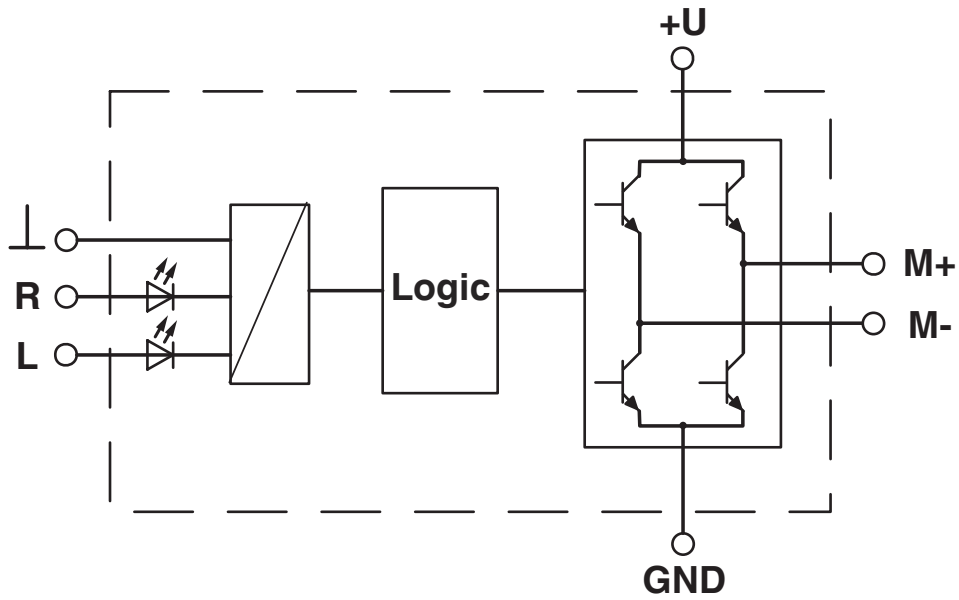


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Block diagram



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## Classifications

### ECLASS

ECLASS-13.0

27371018

### ETIM

ETIM 9.0

EC002552

### 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                                | 845586cb-3ca9-4ee4-b734-70e61ddf1188 |

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