

# ELR 1-230AC/600AC-50 - Solid-state contactor



2297183

<https://www.phoenixcontact.com/us/products/2297183>

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Single-phase solid-state contactor, input voltage: 230 V AC, output current: 50 A, zero voltage switch

## Your advantages

- High switching frequency
- Wear and bounce-free
- 24 V DC and 230 V AC input voltage versions

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2297183                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C471                           |
| Product key                          | DK7124                         |
| GTIN                                 | 4046356132008                  |
| Weight per piece (including packing) | 420.6 g                        |
| Weight per piece (excluding packing) | 420.6 g                        |
| Customs tariff number                | 85362010                       |
| Country of origin                    | MT                             |

## Technical data

### Product properties

|              |                       |
|--------------|-----------------------|
| Product type | Solid-state contactor |
|--------------|-----------------------|

### Electrical properties

|                             |                                   |
|-----------------------------|-----------------------------------|
| Number of phases            | 1                                 |
| Mains type                  | 1-phase                           |
| Test voltage (Input/output) | 4 kV <sub>rms</sub> (50 Hz, 60 s) |

### Input data

#### Control

|                               |   |
|-------------------------------|---|
| Input name                    | Control input                                   |
| Rated actuating voltage $U_C$ | 230 V AC  |
| Triggering voltage range      | 24 V AC ... 275 V AC                            |
| Rated actuating current $I_C$ | approx. 17 mA                                   |
| Switching threshold           | ≤ 6 V AC ("0" signal)<br>≥ 22 V AC ("1" signal) |
| Operating voltage display     | Green LED                                       |
| Transmission frequency        | 6 Hz  |

### Output data

#### Load output

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Operating voltage range           | 42 V AC ... 660 V AC              |
| Rated operating current at AC-51  | 50 A                              |
| Rated operating current at AC-53a | 30 A                              |
| Peak offstate voltage             | 1200 V                            |
| Mains frequency                   | 45 Hz<br>65 Hz                    |
| Load current range                | 150 mA ... 50 A (see to derating) |
| Leakage current                   | < 3 mA (In off state)             |
| Residual voltage                  | < 1.6 V                           |
| Surge current                     | 1900 A (t = 10 ms)                |
| Max. load value                   | 18000 A <sup>2</sup> s            |
| Protective circuit                | RCV circuit                       |
| Phase angle cos phi min           | 0.5                               |

### Connection data

#### Control circuits

|                   |                  |
|-------------------|------------------|
| Connection method | Screw connection |
| Stripping length  | 8 mm             |
| Screw thread      | M3               |

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|                                  |   |
|----------------------------------|---|
| Conductor cross-section rigid    | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> |
| Conductor cross-section AWG      | 20 ... 14                                 |

## Load circuit

|                                  |  |
|----------------------------------|--|
| Connection method                | Screw connection                         |
| Stripping length                 | 8 mm                                     |
| Screw thread                     | M5                                       |
| Conductor cross-section rigid    | 4 mm <sup>2</sup> ... 25 mm <sup>2</sup> |
| Conductor cross-section flexible | 4 mm <sup>2</sup> ... 25 mm <sup>2</sup> |
| Conductor cross-section AWG      | 12 ... 3                                 |

## Signaling

|                           |           |
|---------------------------|-----------|
| Operating voltage display | Green LED |
|---------------------------|-----------|

## Dimensions

|        |        |
|--------|--------|
| Width  | 45 mm  |
| Height | 103 mm |
| Depth  | 103 mm |

## Material specifications

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

## Environmental and real-life conditions

### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -30 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |

## Standards and regulations

### Standards/regulations

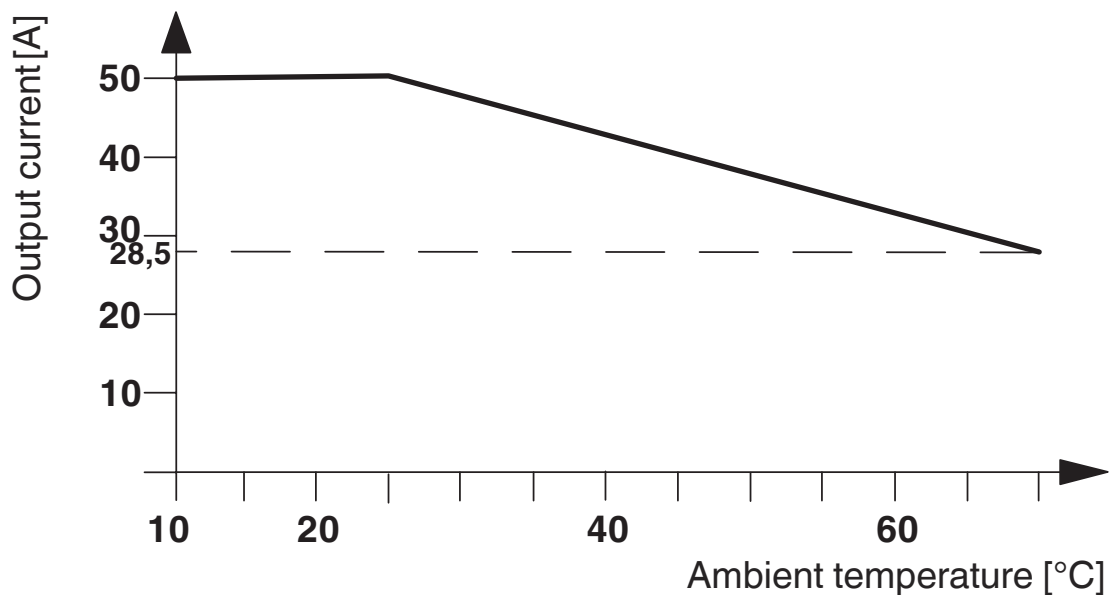
|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|                       | EN 61000-4-3 |
|                       | EN 61000-4-4 |
|                       | EN 61000-4-5 |
|                       | EN 61000-4-6 |
|                       | EN 55011     |

## Mounting

|                   |  |
|-------------------|--|
| Mounting type     | DIN rail mounting                          |
| Assembly note     | can be aligned with $\geq 22.5$ mm spacing |
| Mounting position | Vertical (horizontal DIN rail)             |

## Drawings

Diagram



Block diagram

