

# CBL-SC-24UC/31/40A - Installation contactor

1791370

<https://www.phoenixcontact.com/us/products/1791370>



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Installation contactor (Hum-free); input voltage: 24 V AC/DC; contact switching type: 3 N/O contacts, 1 N/C contact; rated current: 40 A

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1791370       |
| Packing unit                         | 5 pc          |
| Minimum order quantity               | 5 pc          |
| Sales key                            | C471          |
| Product key                          | DK6441        |
| GTIN                                 | 4067923412330 |
| Weight per piece (including packing) | 391 g         |
| Weight per piece (excluding packing) | 300 g         |
| Customs tariff number                | 85371098      |
| Country of origin                    | SI            |

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## Technical data

### Product properties

|                         |                        |
|-------------------------|------------------------|
| Product type            | Installation contactor |
| Mechanical service life | 10 <sup>7</sup> cycles |

### Electrical properties

|   |                         |
|---|-------------------------|
| Electrical service life (AC-1, AC-7a, AC-21)        | 100000 switching cycles |
| Electrical service life (AC-3, AC-3e, AC-7b, AC-23) | 150000 switching cycles |
| Electrical service life (AC-5a)                     | 100000 switching cycles |
| Electrical service life (AC-5b)                     | 100000 switching cycles |
| Electrical service life (DC-1)                      | 100000 switching cycles |

Insulation characteristics: Control circuit/load circuit

|                          |       |
|--------------------------|-------|
| Rated insulation voltage | 440 V |
| Rated surge voltage      | 4 kV  |

### Input data

|                     |                         |
|---------------------|-------------------------|
| Voltage             | 24 V AC/DC              |
| Voltage range (AC)  | 20.4 V AC ... 26.4 V AC |
| Voltage range (DC)  | 20.4 V DC ... 26.4 V DC |
| Mains frequency     | 50/60 Hz                |
| Response time range | 15 ms ... 20 ms         |
| Release time range  | 35 ms ... 45 ms         |
| Drive and function  | monostable              |
| Power consumption   | 5 W                     |

### Output data

|   |  |
|---|--|
| Contact switching type                              | 3 N/O contacts   |
|   | 1 N/C contact  |
| Type of switch contact                              | Single contact   |
| Minimum distance                                    | 3.6 mm (open contacts)   |
| Fuse  | ≤ 60 A (Backup fuse for short-circuit protection KS according to UL and CSA) |
| Rated operating voltage (AC/DC)                     | 400 V (IEC)  |
| Rated operating voltage                             | 480 V (UL/CSA)   |
| Current (thermal)                                   | 40 A   |
| Rated operating current (AC-1, AC-7a, AC-21)        | 40 A   |
| Rated operating current (AC-3, AC-3e, AC-7b, AC-23) | 22 A   |
| Rated operating current (AC-5a)                     | 20 A (230 V)   |
| Rated operating current (AC-5b)                     | 17.6 A (230 V)   |
| Rated operating current (DC-1 (L/R < 1 ms), 1 pole) | 40 A (24 V DC)   |
|   | 25 A (48 V DC)   |
|   | 18 A (60 V DC)   |

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|  |                    |
|--|--------------------|
|  | 4 A (110 V DC)     |
|  | 1.2 A (220 V DC)   |
| Rated operating current (DC-1 (L/R < 1 ms), 2 poles in series) | 40 A (24 V DC)     |
|  | 38 A (48 V DC)     |
|  | 32 A (60 V DC)     |
|  | 10 A (110 V DC)    |
|  | 8 A (220 V DC)     |
| Rated operating current (DC-1 (L/R < 1 ms), 3 poles in series) | 40 A (24 V DC)     |
|  | 40 A (48 V DC)     |
|  | 40 A (60 V DC)     |
|  | 30 A (110 V DC)    |
|  | 20 A (220 V DC)    |
| Rated operating current (DC-1 (L/R < 1 ms), 4 poles in series) | 40 A (24 V DC)     |
|  | 40 A (48 V DC)     |
|  | 40 A (60 V DC)     |
|  | 40 A (110 V DC)    |
|  | 40 A (220 V DC)    |
| Rated operating power (AC-1, AC-7a, AC-21)                     | 8.7 kW (1~, 230 V) |
|  | 16 kW (3~, 230 V)  |
|  | 26 kW (3~, 400 V)  |
| Rated operating power (AC-3, AC-3e, AC-7b, AC-23)              | 3.7 kW (1~, 230 V) |
|  | 5.5 kW (3~, 230 V) |
|  | 11 kW (3~, 400 V)  |
| Mains frequency  | 50/60 Hz           |

## Connection data

### Coil

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                            |
| Stripping length                 | 8 mm  |
| Screw thread                     | M3  |
| Conductor cross-section rigid    | 1.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 1.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 16 ... 14                                   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm                           |

### Contact

|  |  |
|--|--|
| Connection method                      | Screw connection                           |
| Stripping length                       | 10 mm                                      |
| Screw thread                           | M5   |
| Conductor cross-section rigid          | 1.5 mm <sup>2</sup> ... 25 mm <sup>2</sup> |
| Conductor cross-section flexible       | 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup> |
| Conductor cross-section AWG (rigid)    | 14 ... 10                                  |
| Conductor cross-section AWG (flexible) | 14 ... 4                                   |
| Tightening torque                      | 3.4 Nm ... 3.5 Nm                          |

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## Dimensions

### Item dimensions

|        |         |
|--------|---------|
| Width  | 53.5 mm |
| Height | 84.4 mm |
| Depth  | 66 mm   |

## Environmental and real-life conditions

### Ambient conditions

|   |  |
|---|--|
| Degree of protection                    | IP20<br>IP40 (for installation in a junction box - distribution board) |
| Ambient temperature (operation)         | -25 °C ... 40 °C   |
| Ambient temperature (storage/transport) | -30 °C ... 80 °C   |
| Altitude                                | ≤ 2000 m   |
| Shock (operation)                       | switched contacts: 15g (Z-axis) and 2g (X-axis)                        |
| Shock (storage/transport)               | unswitched contacts: 10g (Z-axis and X-axis)                           |
| Vibration (operation)                   | switched contacts: 3g (Z-axis) and 1g (X-axis)                         |
| Vibration (storage/transport)           | unswitched contacts: 2g (Z-axis and X-axis)                            |
| Noise level                             | 20 dB  |

## Mounting

|                   |  |
|-------------------|--|
| Mounting type     | DIN rail mounting  |
| Assembly note     | Number of contactors or switches next to each other < 40°C: no restriction |
| Mounting position | vertical (DIN rail horizontal, see mounting drawing)                       |

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1791370>



**cULus Listed**  
Approval ID: E228652

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27142308 |
| ECLASS-15.0 | 27142308 |

## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |              |
|---------|--------------|
| CO2e kg | 2.74 kg CO2e |
|---------|--------------|

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