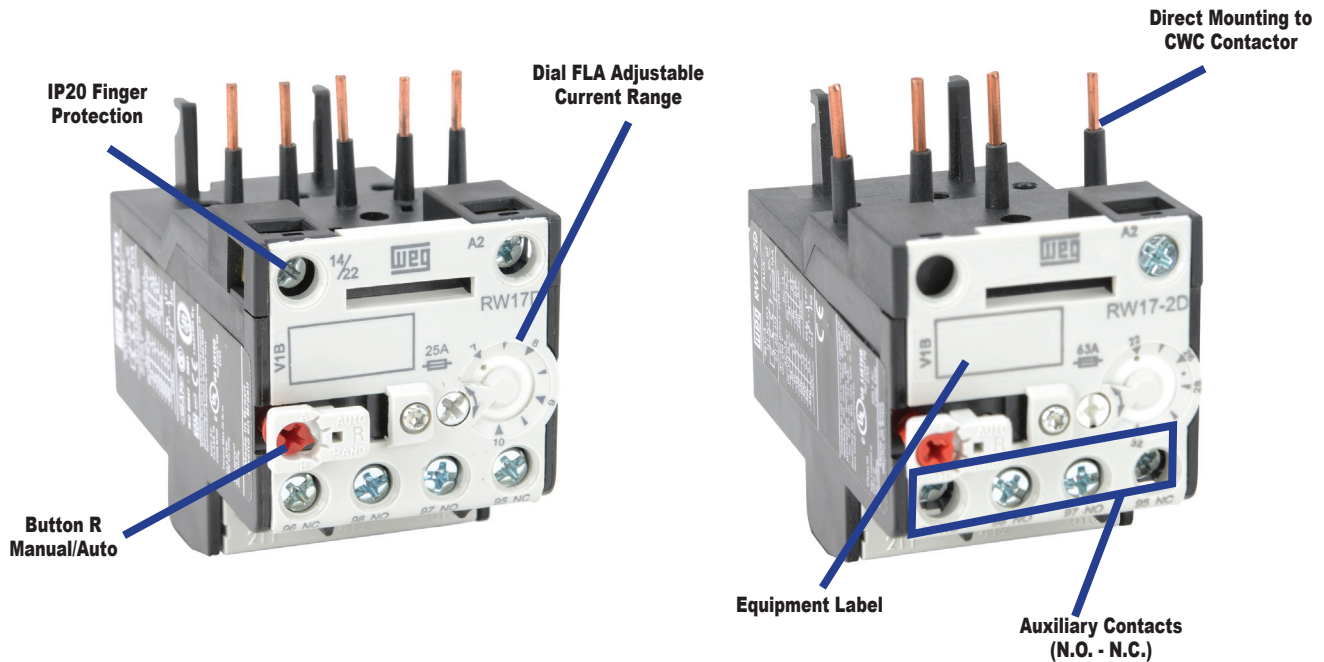




RW Series Overload Relays For CWC Miniature Contactors



Overload Relays Features

RW overload relays are an important part of WEG controls' range of products. As usual in WEG products, an extended operational service life is one of the main features you can find in RW overload relays.

WEG's RW class 10 thermal overload relays are designed for use with, and as perfect complement to, the CWC miniature contactors.

RW relays are available in compact frame sizes from 0.28 A to 32A. Mounting an RW series overload relay directly to a WEG CWC miniature contactor creates an across-the-line starter capable of controlling motors from fractional to 15hp @ 460V.

Standards and Approvals

- IEC 60947 and VDE 0660.
- cULus listed file no. E189202
- CE marked low voltage directive 2006/95/EC
- Marine

Modern Architecture

Previous models of open overloads with "heaters" encounter problems in the field, including:

- Inaccurate trip point, because of uneven screw tightness when installed on individual phases
- Ambient problems, such as dust and other contaminants, because of their open design
- Inability to protect in case of single phase failure
- Nuisance tripping, because no temperature compensation is possible.

The modern design of WEG overload relays solves all of these problems. RW overload relays are fitted with fixed bimetallic elements, which eliminate any need for heater elements for field installation or future upgrading to a more efficient motor. All sizes provide complete motor protection by offering:

- Ambient temperature compensation (-4°F to +140°F)
- Phase loss sensitivity protection
- Current unbalance sensitivity

Dial FLA Setting

The trip-current is set via an adjustable dial designed with the motor's full load current (FLA) in mind.

Temperature Compensation

Because RW overload relays include a fourth bimetallic strip in addition to the three that are directly heated by the motor current, ambient temperature variations in the range of -4°F to +140°F are no obstacle for accurate protection of your motors even in the toughest conditions.

Phase Loss Sensitivity

WEG overload relays include standard phase failure sensitivity protection. This feature ensures fast tripping in case of phase loss, protecting your motor and avoiding expensive repairs.

Multi Function Button "R"

The programmable RESET button can be selected to operate in a Manual or Automatic mode, with or without TEST capabilities of the isolated "trip" N.C. and "alarm" N.O. auxiliary contacts. The "R" multifunction RESET / TEST button can be set in four different positions:

- H (manual RESET only)
- HAND (manual RESET/TEST)
- AUTO (automatic RESET/TEST)
- A (automatic RESET only)

In HAND and AUTO positions, when gray R button is pushed, both N.O. 97-98 and N.C. 95-96 contacts change state.





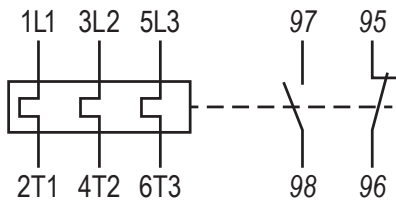
RW Series Thermal Overload Relays For CWC Miniature Contactors

Thermal Overload Relays Features

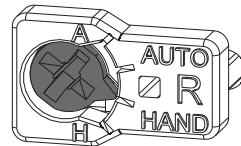
- Adjustable tripping current
- Phase-loss sensitivity (All phases must be connected. See motor wiring diagrams.)
- Tripping class 10
- Auxiliary contacts 1 N.O. + 1 N.C.
- Temperature compensation from -20° to +60°C [-4°F to +140°F]
- Hand/Auto/Reset button
- Equipment Label

| Thermal Overload Relay Selection Guide | | | | | | |
|--|---------|------------------------------------|---------------------------------------|----------------------------------|-------------|----------------|
| Part Number | Price | For Use With | Setting Range of Overload Release (A) | *Short-Circuit Protective Device | | |
| | | | | IEC Max Fuse | UL Max Fuse | UL Max Breaker |
| RW17-1D3-D004 | \$20.00 | CWC07 CWC09 CWC012 CWC016 | 0.28-0.4 | 2 | 15 | 15 |
| RW17-1D3-C063 | \$20.00 | | 0.4-0.63 | 2 | 15 | 15 |
| RW17-1D3-D008 | \$20.00 | | 0.56-0.8 | 2 | 15 | 15 |
| RW17-1D3-D012 | \$20.00 | | 0.8-1.2 | 4 | 15 | 15 |
| RW17-1D3-D018 | \$20.00 | | 1.2-1.8 | 6 | 15 | 15 |
| RW17-1D3-D028 | \$20.00 | | 1.8-2.8 | 6 | 15 | 15 |
| RW17-1D3-U004 | \$20.00 | | 2.8-4.0 | 10 | 15 | 15 |
| RW17-1D3-D063 | \$20.00 | | 4.0-6.3 | 16 | 25 | 25 |
| RW17-1D3-U008 | \$20.00 | | 5.6-8.0 | 20 | 30 | 30 |
| RW17-1D3-U010 | \$20.00 | | 7.0-10 | 25 | 40 | 40 |
| RW17-1D3-D125 | \$20.00 | | 8.0-12.5 | 25 | 50 | 50 |
| RW17-1D3-U015 | \$20.00 | | 10.0-15.0 | 35 | 60 | 60 |
| RW17-1D3-U017 | \$20.00 | | 11.0-17.0 | 35 | 60 | 60 |
| RW17-2D3-U010 | \$20.00 | | CWC025 | 7-10 | 25 | 40 |
| RW17-2D3-D125 | \$20.00 | 8-12.5 | | 25 | 50 | 50 |
| RW17-2D3-U015 | \$20.00 | 10-15 | | 35 | 60 | 60 |
| RW17-2D3-U017 | \$20.00 | 11-17 | | 35 | 60 | 60 |
| RW17-2D3-U023 | \$20.00 | 15-23 | | 50 | 90 | 90 |
| RW17-2D3-U032 | \$20.00 | 22-32 | | 63 | 90 | 125 |

* Note: Type 2 short-circuit coordination per IEC 60947-4-1. UL fuse type class CC.



Circuit Diagram



Hand/Auto/Reset Button



RW Series Thermal Overload Relays For CWC Miniature Contactors

Thermal Overload Relays Technical Characteristics

| RW Series Thermal Overload Relays General Ratings | |
|---|--|
| Standards | |
| <i>IEC 60947-1 / 60947-4-1, EN 60947-1 / 60947-4-1, UL 508; CSA C.22.2/14; VDE 0660/102</i> | |
| Number of Poles | |
| 3 | |
| Tripping Class | |
| 10 | |
| Phase Loss Sensitive | |
| Yes | |
| Temperature Compensation | |
| Yes | |
| Rated Insulation Voltage IEC 60947-4-1 | |
| 690V | |
| Rated Insulation Voltage UL/CSA | |
| 600V | |
| Rated Operation Voltage U_e IEC 60947-4-1 | |
| 690V | |
| Rated Operation Voltage U_e UL/CSA | |
| 600V | |
| Rated Impulse Voltage U_{imp} | |
| 6kV | |
| Current | Direct |
| | Alternating |
| Yes | |
| up to 400Hz | |
| Degree of Protection - protection against contact acc. VDE 0160 - Part 100 | |
| IP20 | |
| Ambient Temperature | Storage |
| | Operating |
| | Ambient temperature compensation |
| -50 to +80°C [-58 to 176°F] | |
| -20 to +70°C [-4 to 158°F] | |
| -20 to +60°C [-4 to 140°F] | |
| Pollution Degree per IEC 60947-4-1 | |
| 3 | |
| Mounting | |
| Direct on contactor | |
| Current Heat Loss | Lower value of setting range |
| | Higher value of setting range |
| 0.9 W | |
| 1.4 W | |
| Weight | |
| 0.15kg [0.33lb] | |
| Shock Resistance IEC 60068-2-27 | |
| 8g [10ms] | |
| Main Terminals Capacity (Cross / Slotted Combination) | Fine - stranded with sleeve (ferrule) |
| | Coarse - stranded / solid |
| | Stranded / solid (UL / CSA) |
| 1.5–10 mm ² | |
| 1.5–6.0 mm ² | |
| 14–6 AWG | |
| Tightening Torque | |
| 1.4–2.3 N·m [12.4–20.4 lb·in] | |
| Short-Circuit Rating 600V | |
| 5kA | |



RW Series Thermal Overload Relays For CWC Miniature Contactors

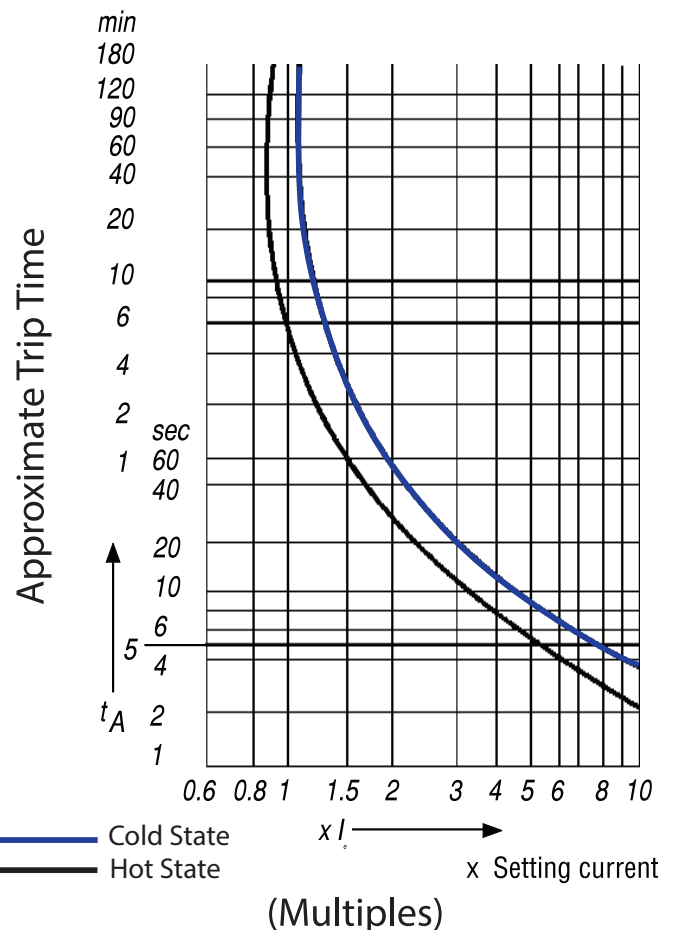
Thermal Overload Relays Technical Characteristics

| Auxiliary Contacts General Ratings RW17D | | | |
|--|--------------------|------------|------|
| Front auxiliary contact | 1 NO + 1 NC | | |
| Rated Auxiliary Contacts IEC/EN 60947 | | | |
| AC-14/15 | 24V | (A) | 4.0 |
| | 60V | (A) | 3.5 |
| | 125V | (A) | 3.0 |
| | 230V | (A) | 2.0 |
| | 400V | (A) | 1.5 |
| | 500V | (A) | 0.5 |
| | 690V | (A) | 0.3 |
| DC-13/14 | 24V | (A) | 1.0 |
| | 60V | (A) | 0.5 |
| | 110V | (A) | 0.25 |
| | 220V | (A) | 0.1 |
| Rated Thermal Current | (A) | 6 | |
| Short Circuit Protection | | | |
| Fuses Type gL/gG | (A) | 6 | |
| Auxiliary Terminals Capacity | | | |
| Fine - Stranded With Ferrule | (mm ²) | 1.0 – 2.5 | |
| Coarse - Stranded/Solid | (mm ²) | 1.0 – 2.5 | |
| Stranded/solid (UL/CSA) | (AWG) | 16 – 12 | |
| Tightening Torque | (N·m) | 1.0 – 1.5 | |
| | (lb·in) | 8.9 – 13.3 | |



RW Overload Relays Tripping Characteristics

These tripping characteristics show the tripping of RW overload relays in relation to the current. They show the mean values of the tolerance ranges at an ambient temperature of 20°C (68°F), starting from cold state. The tripping time of the overload releases at operational temperature is reduced to approximately 25% of the values shown. Under normal operational conditions, all three phases of the RW relays should be loaded.

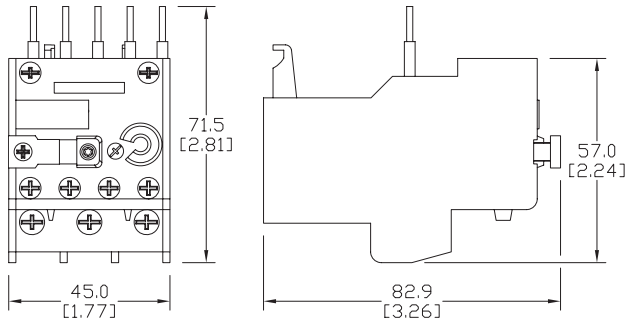




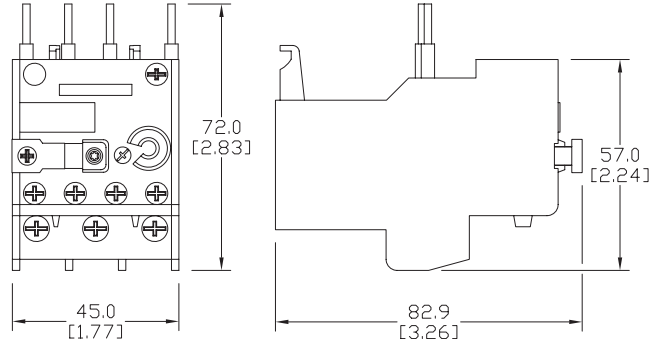
RW Series Overload Relays For CWC Miniature Contactors

Overload Relays Dimensions

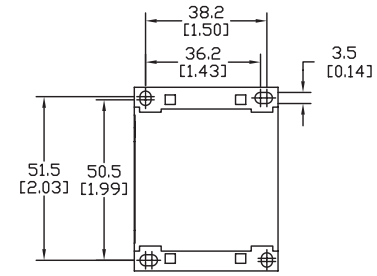
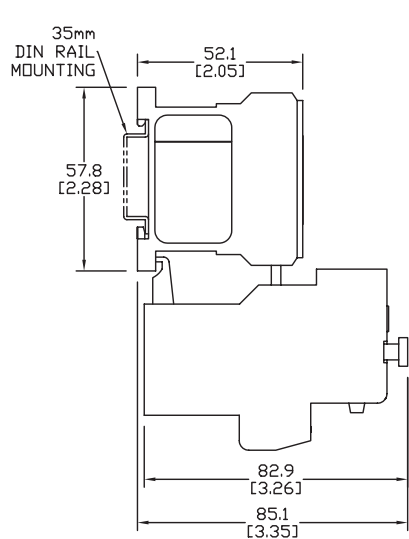
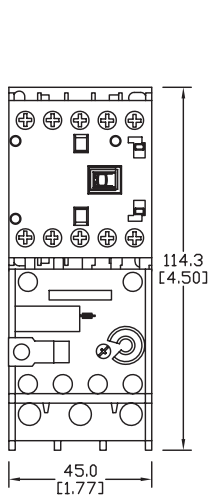
Dimensions mm [inches]



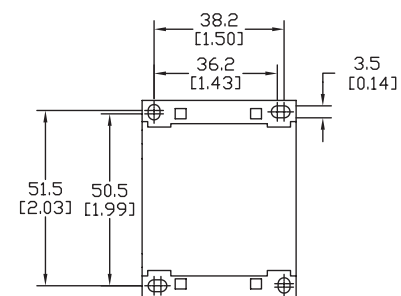
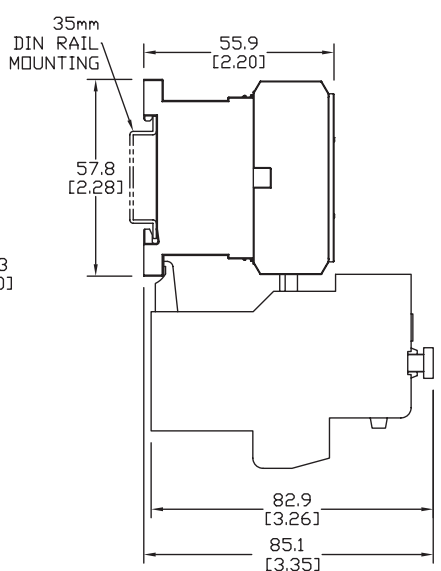
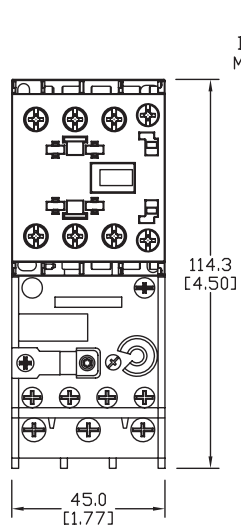
RW17-1D



RW17-2D



CWC07...16 + RW17-1D



CWC025 + RW17-2D