

## Description

Bimetal operated single pole motor protection control with automatic reset actuation, small physical size, reliable snap-action mechanism.

**Caution:** In specifying this product, care should be taken to ensure that automatic motor re-start does not represent a safety hazard.

## Typical applications

Motors, transformers, extra low voltage wiring.

## Ordering information

### Type No.

**2-6500** surface type with flange

#### Terminal design

**P10** blade terminals 6.3-0.8 (QC .250)

#### Shunt terminal (optional)

**A3** blade terminals or solder terminals; max. load 5 A

#### Current ratings

**0.1...10 A**

**2-6500 - P10 - ... - 6 A** ordering example

The exact part number required can be built up from the table of choices shown above. Ordering references for optional features should be omitted if not required.

## Standard current ratings and typical internal resistance values

| Current rating (A) | Internal resistance ( $\Omega$ ) | Current rating (A) | Internal resistance ( $\Omega$ ) |
|--------------------|----------------------------------|--------------------|----------------------------------|
| 0.1                | 140                              | 2                  | 0.47                             |
| 0.2                | 47.5                             | 2.5                | 0.33                             |
| 0.3                | 20.5                             | 3                  | 0.212                            |
| 0.4                | 11.4                             | 3.5                | 0.155                            |
| 0.5                | 7.25                             | 4                  | 0.107                            |
| 0.6                | 5.35                             | 4.5                | 0.095                            |
| 0.7                | 3.8                              | 5                  | 0.072                            |
| 0.8                | 2.95                             | 6                  | 0.054                            |
| 1                  | 1.92                             | 7                  | 0.032                            |
| 1.2                | 1.32                             | 8                  | 0.02                             |
| 1.5                | 0.85                             | 9                  | < 0.02                           |
| 1.8                | 0.59                             | 10                 | < 0.02                           |

## Approvals

| Authority | Standard     | Rated voltage       | Current ratings              |
|-----------|--------------|---------------------|------------------------------|
| UL        | UL 1077      | AC 250 V<br>DC 28 V | 0.1 A...15 A<br>0.1 A...15 A |
| CSA       | C22.2 No 235 | AC 250 V<br>DC 28 V | 0.1 A...15 A<br>0.1 A...15 A |

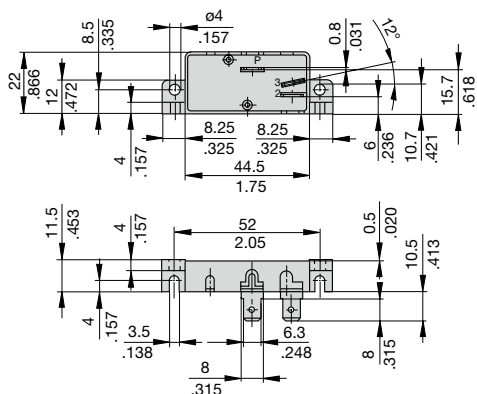


**2-6500-...**

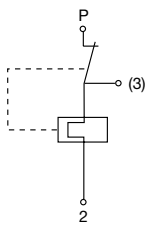
## Technical data

|                                                  |                                                                                                                                                                             |                       |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Voltage rating                                   | AC 250 V (50/60 Hz); DC 28 V                                                                                                                                                |                       |
| Current ratings                                  | 0.1...10 A (up to 15 A upon request)                                                                                                                                        |                       |
| Typical life                                     | 100,000 operations at $2 \times I_N$<br>Protection is ensured for 18 days of continuous locked rotor condition with $I_k \leq 6 \times I_N$ , max. 30 A (unsupervised duty) |                       |
| Ambient temperature                              | -10...+60 °C (-10...+140 °F)                                                                                                                                                |                       |
| Insulation co-ordination (IEC 60664 and 60664 A) | rated impulse withstand voltage<br>2.5 kV                                                                                                                                   | pollution degree<br>3 |
| Dielectric strength (IEC 60664 and 60664A)       | test voltage AC 2,000 V                                                                                                                                                     |                       |
| Insulation resistance                            | > 100 M $\Omega$ (DC 500 V)                                                                                                                                                 |                       |
| Interrupting capacity                            | $8 \times I_N$ (co-co-co)                                                                                                                                                   |                       |
| Reset time at 23 °C                              | $\geq 30$ sec<br>$\leq 70$ sec                                                                                                                                              |                       |
| Degree of protection (IEC 60529/DIN 40050)       | housing IP30<br>terminal area IP00                                                                                                                                          |                       |
| Vibration                                        | 5 g (57-500 Hz) $\pm$ 0.38 mm (10-57 Hz)<br>to IEC 60068-2-6, test Fc<br>10 frequency cycles/axis                                                                           |                       |
| Shock                                            | 15 g (11 ms)<br>test to IEC 60068-2-27, test Ea                                                                                                                             |                       |
| Corrosion                                        | 48 hours at 5 % salt mist<br>to IEC 60068-2-11, test Ka                                                                                                                     |                       |
| Humidity                                         | 240 hours at 95 % RH<br>to IEC 60068-2-78, test Cab                                                                                                                         |                       |
| Mass                                             | approx. 20 g                                                                                                                                                                |                       |

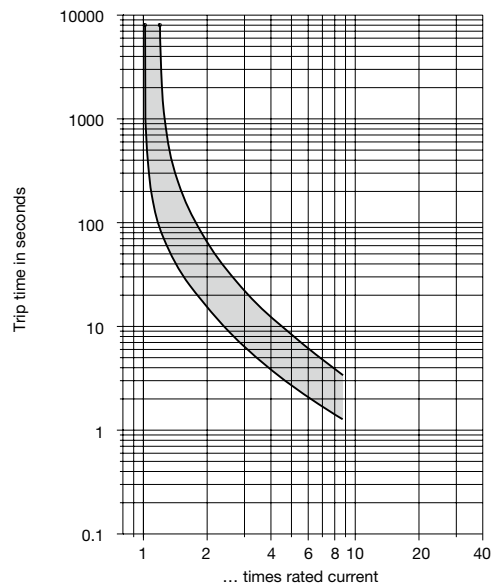
## Dimensions



## Internal connection diagram



## Typical time/current characteristics at +23 °C/+73.4 °F



The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

| Ambient temp. °F | +14  | +32  | +50 | +73.4 | +86 | +104 | +122 | +140 |
|------------------|------|------|-----|-------|-----|------|------|------|
| °C               | -10  | 0    | +10 | +23   | +30 | +40  | +50  | +60  |
| Derating factor  | 0.84 | 0.92 | 1   | 1     | 1   | 1.08 | 1.16 | 1.24 |

This is a metric design and millimeter dimensions take precedence ( $\frac{\text{mm}}{\text{inch}}$ )

All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.