



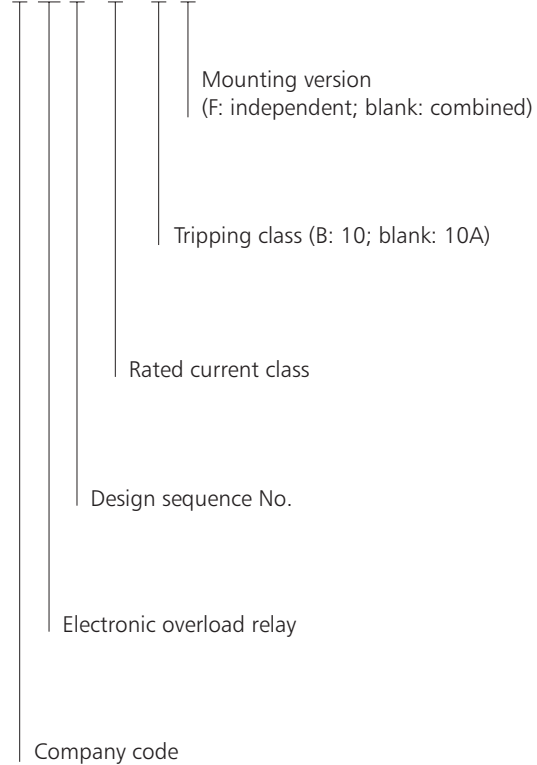
NRE8 Electronic Overload Relay

1. General

- 1.1 Certificates: CE, UKrSEPRO, UL;
- 1.2 Electrical ratings: AC50/60Hz, 690V;
- 1.3 Standards: IEC/EN 60947-4-1, UL508

2. Type designation

N RE 8 - □ / □ □



3. Features

- 3.1 Three-phase electronic type, tripping class 10A and 10;
- 3.2 Energy saving up to 80% compared with bimetallic type;
- 3.3 Phase-failure protection;
- 3.4 Current setting continuously adjustable;
- 3.5 Two indicator lights available for indicating normal, overload time-delay, phase-failure and phase-failure time-delay status respectively;
- 3.6 Manual test mechanism;
- 3.7 Manual reset button;
- 3.8 A pair of N/C and N/O contacts;
- 3.9 Two mounting versions: independent or combined with a contactor.

4. Technical data

- 4.1 Main Circuit: Rated insulation; Voltage: AC 690V; Rated frequency: 50/60Hz;
- 4.2 Auxiliary Circuit: Rated insulation; Voltage: AC 400V; Rated frequency: 50/60Hz; See table below for other ratings.

| Utilization category | AC-15 | | DC-13 |
|----------------------------------|-------|-----|-------|
| Rated operational voltage Ue (V) | 230 | 400 | 220 |
| Rated operational current Ie (A) | 2.5 | 1.5 | 0.2 |
| Conventional heating current (A) | 5 | | |



4.3 Wiring. Connection of main circuit is PVC insulation copper conductor or cable. See table below for details:

| Current range (A) | Cross section area (mm ²) | Length (m) | Number of piece |
|-------------------|---------------------------------------|------------|-----------------|
| I≤8 | 1.0 | 1 | 1 |
| 8<I≤12 | 1.5 | 1 | 1 |
| 12<I≤20 | 2.5 | 1 | 1 |
| 20<I≤25 | 4.0 | 1 | 1 |
| 25<I≤32 | 6.0 | 1 | 1 |
| 32<I≤50 | 10 | 1 | 1 |
| 50<I≤65 | 16 | 1 | 1 |
| 65<I≤85 | 25 | 1 | 1 |
| 85<I≤115 | 35 | 1 | 1 |
| 115<I≤150 | 50 | 2 | 1 |
| 150<I≤175 | 75 | 2 | 1 |
| 175<I≤225 | 95 | 2 | 1 |
| 225<I≤250 | 120 | 2 | 1 |
| 250<I≤275 | 150 | 2 | 1 |
| 275<I≤350 | 185 | 2 | 1 |
| 350<I≤400 | 240 | 2 | 1 |
| 400<I≤500 | 150 | 2 | 2 |
| 500<I≤630 | 185 | 2 | 2 |

4.4 Protection Characteristics

4.4.1 Operation characteristic under three-phase balanced-load status as per the table below.

| Series No. | I/In | Operating time | | Test condition | Ambient temperature (°C) |
|------------|------|------------------|-----------|---|--------------------------|
| 1 | 1.05 | <2h non-tripping | | Cold status | (20±5)°C |
| 2 | 1.20 | <2h tripping | | Starts from hot status, right after item no.1 | |
| 3 | 1.50 | Class 10A | ≤ 2 min | | |
| | | Class 10 | ≤ 4 min | | |
| 4 | 7.20 | Class 10A | 2s<Tp≤10s | Cold status | |
| | | Class 10 | 4s<Tp≤10s | | |

Under three-phase operation, if relay current reaches and maintains 1.05 times of the current setting, the green lamp flashes and red lamp does not light up, which indicates that the relay is not at over-load time-delay status, which equals to non-operation in 2 hours in serial No. 1 of the table above. A current tolerance for serial No.1 is -3%, and a current tolerance for No.2 is +3%. Cold status implies the status of the power re-energized of main circuit of relay 5 seconds after its power off.

4.4.2 Operation characteristic under phase-failure status as per the table below.

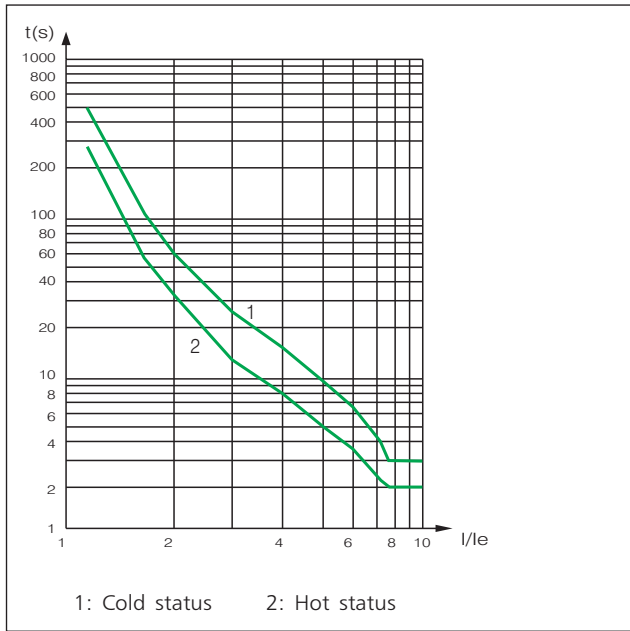
| Series No. | I/In | | Operating time Tp | Test condition | Ambient temperature °C |
|------------|----------------|-----------------|-------------------|---|------------------------|
| | Any two phases | The third phase | | | |
| 1 | 1.0 | 0.9 | <2h non-tripping | Starts from cold status | (20±5)°C |
| 2 | 1.15 | 0 | <2h tripping | Starts from hot status, right after item No.1 | |

Under phase failure operation, if one phase has the current = 0, the other two phases have the current ≥1.15 times of the current setting, then, the red lamp flashes, and green lamp lights up, which indicates that the relay is at time-delay release status.

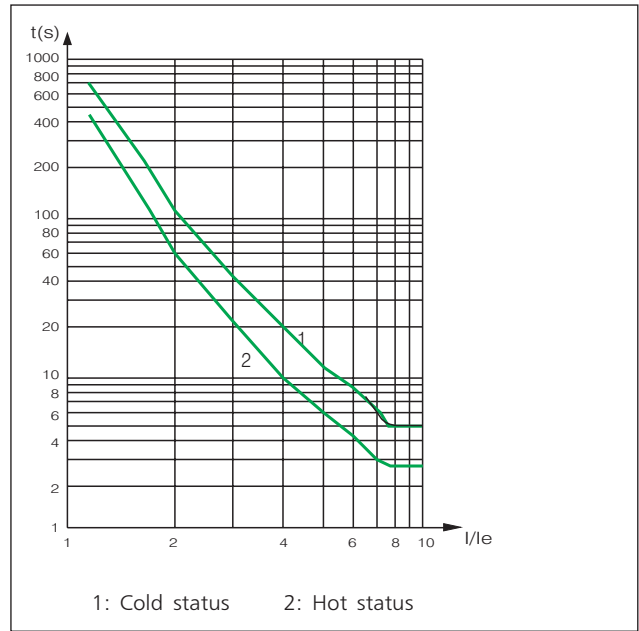
As to this table, the permissible error of the No.1 circuit is -3%, No.2 circuit +3%

4.5 Tripping Curve

Tripping class 10A



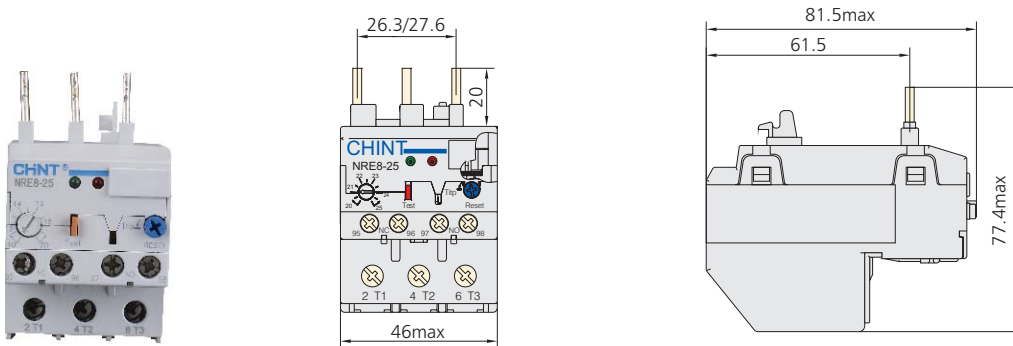
Tripping class 10A



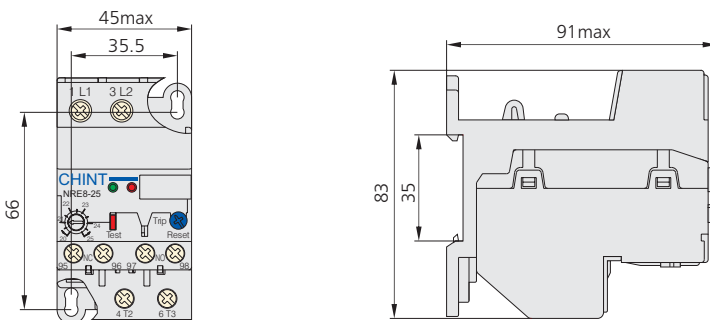
5. Overall and mounting dimensions (mm)

5.1 For Combined Mounting

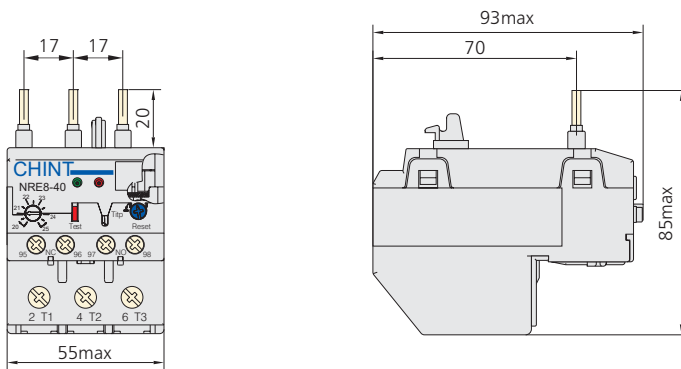
NRE8-25



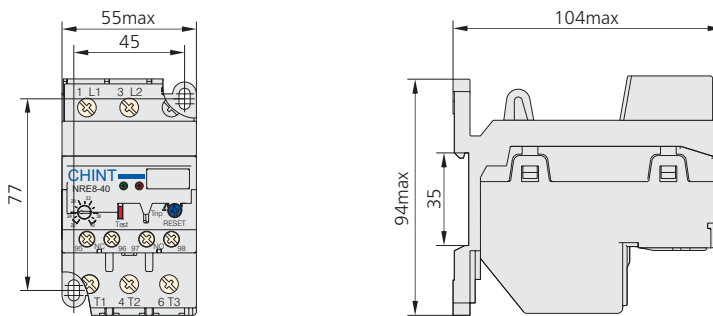
NRE8-25/F



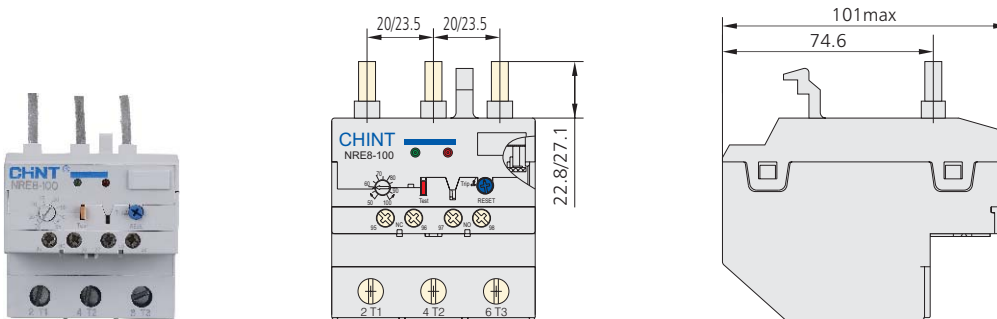
NRE8-40



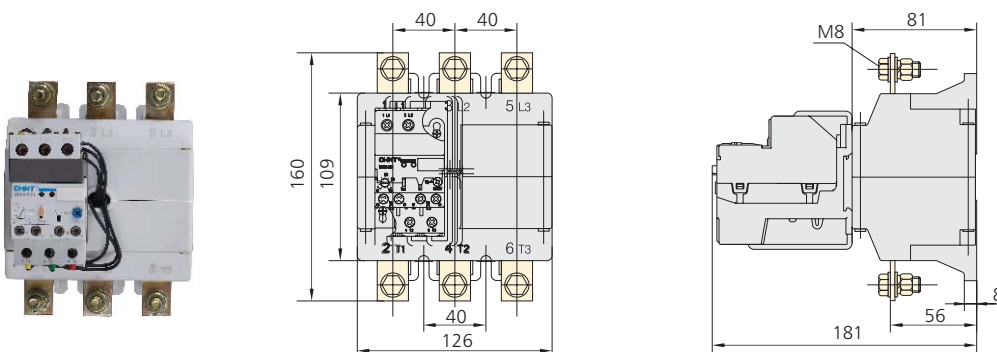
NRE8-40/F

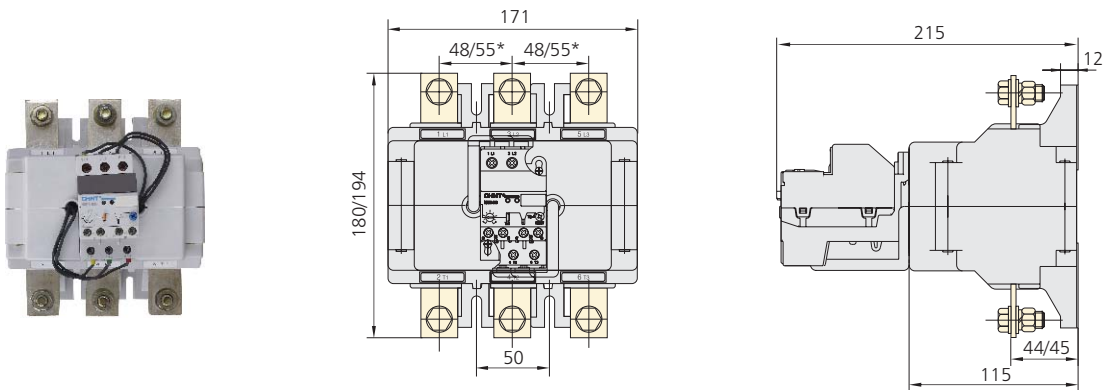


NRE8-100



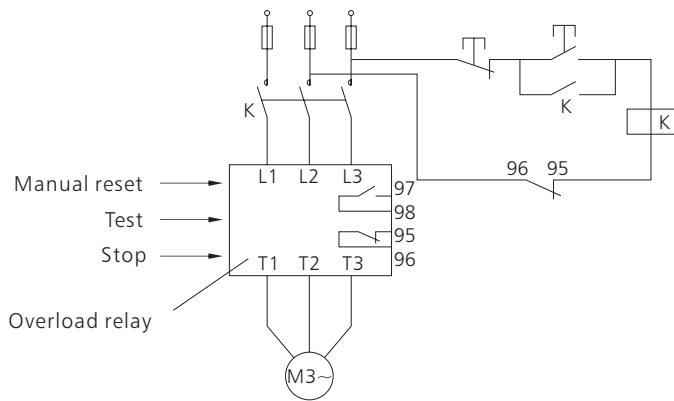
NRE8-200







Note: Dimension with "*" for the product above 400A.

6. Applications








7. Accessories

7.1 Mounting base

| Mounting base | Description | Application |
|---|--------------------------|--|
|  | NRE8-25 mounting bracket | Incorporates with NRE8-25 to form an independently mounted product |
|  | NRE8-40 mounting bracket | Incorporates with NRE8-40 to form an independently mounted product |

7.2 Assembly with contactors

| Thermal overload Relay | Rated current (A) | Current setting range (A) | Model of recommended contactor | Model of recommended fuse |
|---|-------------------|---------------------------|--------------------------------------|---------------------------|
|  NRE8-25 | 1.2 | 0.6~1.2 | NC1-09 | RT36-4 (NT00-4) |
| | 2.4 | 1.2~2.4 | | RT36-6 (NT00-6) |
| | 4 | 2~4 | | RT36-10 (NT00-10) |
| | 8 | 4~8 | | RT36-16 (NT00-16) |
| | 10 | 5~10 | NC1-12 | RT36-20 (NT00-20) |
| | 12 | 7~12 | | RT36-25 (NT00-25) |
| | 20 | 10~20 | NC1-18, NC1-25 | RT36-40 (NT00-40) |
| | 25 | 20~25 | NC1-25 | RT36-50 (NT00-50) |
| 32 | 22~32 | NC1-32 | RT36-80 (NT00-80) | |
|  NRE8-40 | 4 | 2~4 | NC1-40 | RT36-10 (NT00-10) |
| | 8 | 4~8 | | RT36-16 (NT00-16) |
| | 10 | 5~10 | | RT36-20 (NT00-20) |
| | 20 | 10~20 | | RT36-40 (NT00-40) |
| | 40 | 20~40 | | RT36-80 (NT00-80) |
|  NRE8-100 | 65 | 30~65 | NC1-50, NC1-65 | RT36-160 (NT00-160) |
| | 100 | 50~100 | NC1-80, NC1-95 | RT36-200 (NT1-200) |
|  NRE8-200 | 120 | 85~120 | NC2-115, NC2-150 NC2-185, NC2-225 | RT36-250 (NT1-250) |
| | 160 | 110~160 | | RT36-315 (NT2-315) |
| | 200 | 140~200 | | RT36-400 (NT2-400) |
|  NRE8-630 | 250 | 170~250 | NC2-225, NC2-265 | RT36-500 (NT3-500) |
| | 315 | 215~315 | | RT36-630 (NT3-630) |
| | 400 | 275~400 | NC2-330, NC2-400 | RT36-800 (NT4-800) |
| | 500 | 340~500 | NC2-500, NC2-630 | RT36-1000 (NT4-1000) |
| | 630 | 430~630 | | RT36-1000 (NT4-1000) |

