



NR2 Thermal Overload Relay

1. General

1.1 Certificates: CE, KEMA, UkrSEPRO, EAC, RCC, UL;

1.2 Electric ratings: AC 50/60Hz, 690V, 0.1A~630A;

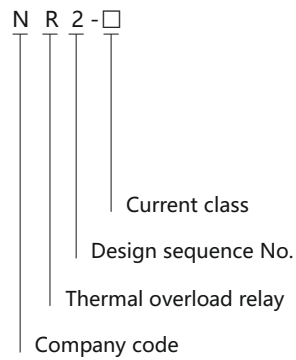
1.3 Tripping class: 10A;

1.4 Mounting version:

- a. Plug-in: Available for NR2-11.5, 25, 36, 93, 150;
- b. Independent: Available for NR2-200, 630;

1.5 Standard: IEC/EN 60947-4-1

2. Type designation



3. Features

3.1 3-phase bimetal

3.2 Continuously readjustable current settings

3.3 Temperature compensation

3.4 Tripping indicator

3.5 Test button

3.6 Stop button

3.7 Manual and automatic reset button

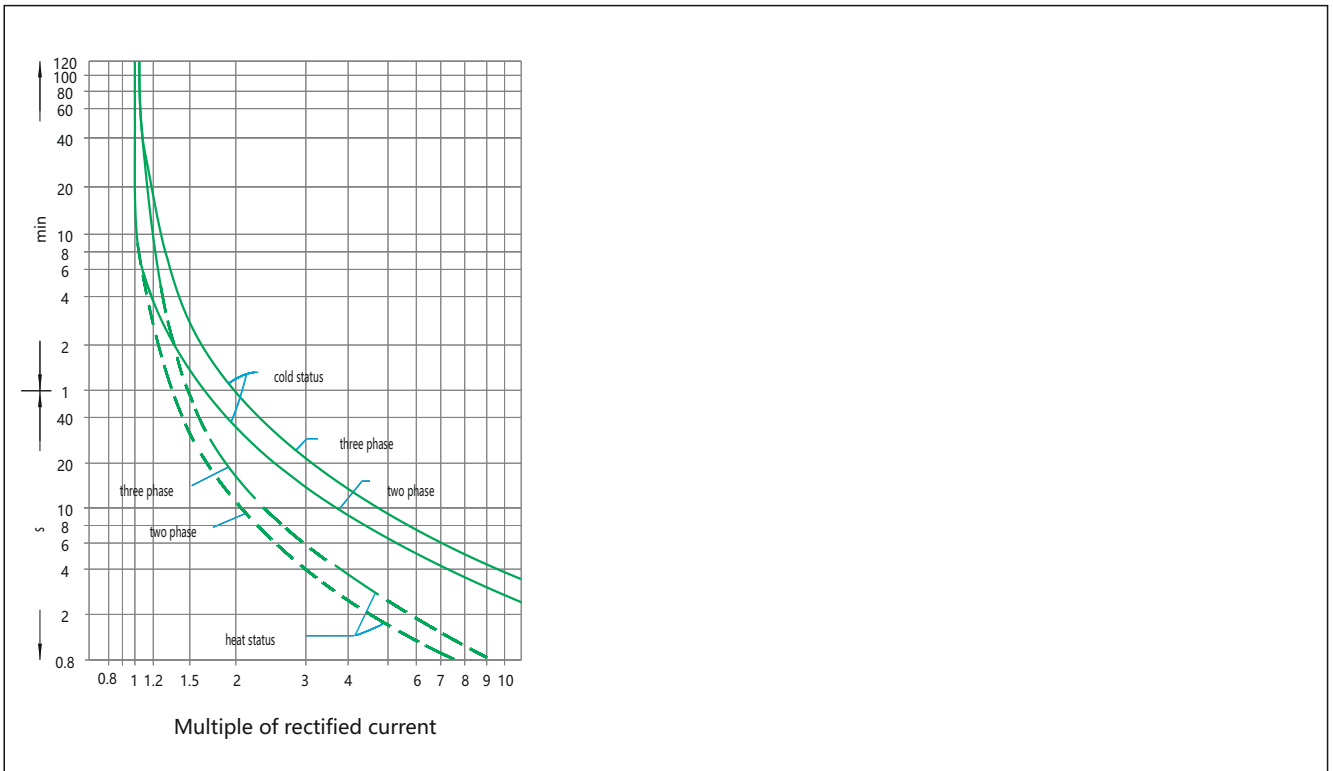
3.8 Electrically separated 1N/O plus 1N/C contact

4. Technical data


4.1 Protection properties


| Item | Series No. | I/In | Operating time T_p | Test condition |
|--------------------------|------------|----------------|----------------------|---|
| Overload protection | 1 | 1.05 | >2 h | Start from cold status |
| | 2 | 1.2 | ≤ 2 h | Start from heat status, right after item No.1 |
| | 3 | 1.5 | ≤ 2 min | Start from heat status, right after item No.1 |
| | 4 | 7.2 | $2s < T_p \leq 10s$ | Start from cold status |
| Phase failure protection | 5 | Any two phases | >2 h | Start from cold status |
| | | Another phase | | |
| Phase failure protection | 6 | 1.0 | ≤ 2 h | Start from heat status, right after item No.5 |
| | | 1.15 | | |



Curves







4.2 Main Technical Parameters

| Model | | NR2-11.5 | | | | | | | |
|-----------------------------------|--------------------------------|---|-----------|-----------|-----------|--------|-------|--------|--|
| Picture | |  | | | | | | | |
| Current class(A) | | 13 | | | | | | | |
| Phase failure protection function | | Yes | | | | | | | |
| Automatic & manual reset | | Yes | | | | | | | |
| Temperature compensation | | Yes | | | | | | | |
| Tripping indicator | | Yes | | | | | | | |
| Test & stop pushbutton | | Yes | | | | | | | |
| Mounting mode | Plug-in | Yes | | | | | | | |
| | Independent | Yes | | | | | | | |
| Auxiliary contacts | No. of contacts | 1N/O+1N/C | | | | | | | |
| | Rated current (A) (AC-15 220V) | 2.73 | | | | | | | |
| | Rated current (A) (AC-15 380V) | 1.58 | | | | | | | |
| | Rated current (A) (DC-13 220V) | 0.2 | | | | | | | |
| | | Current setting range | | | | | | | |
| Rated operational current(A) | | 0.1~0.16 | 0.16~0.25 | 0.25~0.40 | 0.40~0.63 | 0.63~1 | 1~1.6 | 1.25~2 | |
| Matched fuse | aM(A) | 0.25 | 0.5 | 1 | 1 | 2 | 2 | 4 | |
| | gG(A) | 2 | 2 | 2 | 2 | 4 | 4 | 6 | |

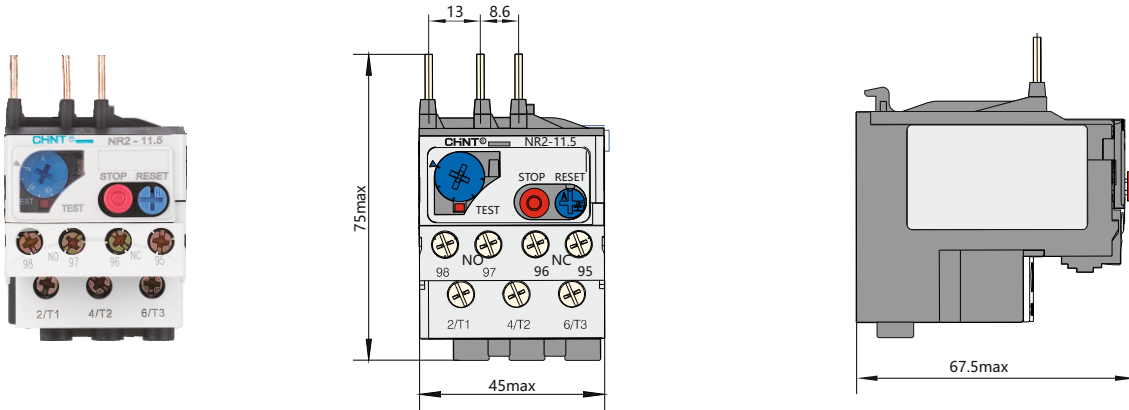
| Model | | NR2-93 | | | | | | | |
|-----------------------------------|--------------------------------|---|-------|-------|-------|-------|-------|-------|--|
| Picture | |  | | | | | | | |
| Current class(A) | | 93 | | | | | | | |
| Phase failure protection function | | Yes | | | | | | | |
| Automatic & manual reset | | Yes | | | | | | | |
| Temperature compensation | | Yes | | | | | | | |
| Tripping indicator | | Yes | | | | | | | |
| Test & stop pushbutton | | Yes | | | | | | | |
| Mounting mode | Plug-in | Yes | | | | | | | |
| | Independent | Yes | | | | | | | |
| Auxiliary contacts | Configuration of contacts | 1N/O+1N/C | | | | | | | |
| | Rated current (A) (AC-15 220V) | 2.73 | | | | | | | |
| | Rated current (A) (AC-15 380V) | 1.58 | | | | | | | |
| | Rated current (A) (DC-13 220V) | 0.2 | | | | | | | |
| | | Current setting range | | | | | | | |
| Rated operational current(A) | | 23~32 | 30~40 | 37~50 | 48~65 | 55~70 | 63~80 | 80~93 | |
| Matched fuse | aM(A) | 40 | 40 | 63 | 63 | 80 | 80 | 100 | |
| | gG(A) | 63 | 100 | 100 | 100 | 125 | 125 | 160 | |

| NR2-25 | | | | | | | | NR2-36 | |
|---|-------|-----|-------|------|------|-------|-------|---|-------|
|  | | | | | | | |  | |
| 25 | | | | | | | | 36 | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| Yes | | | | | | | | Yes | |
| 1N/O+1N/C | | | | | | | | 1N/O+1N/C | |
| 2.73 | | | | | | | | 2.73 | |
| 1.58 | | | | | | | | 1.58 | |
| 0.2 | | | | | | | | 0.2 | |
| Current setting range | | | | | | | | Current setting range | |
| 1.6~2.5 | 2.5~4 | 4~6 | 5.5~8 | 7~10 | 9~13 | 12~18 | 17~25 | 23~32 | 28~36 |
| 4 | 6 | 8 | 12 | 12 | 16 | 20 | 25 | 40 | 40 |
| 6 | 10 | 16 | 20 | 20 | 25 | 35 | 50 | 63 | 80 |

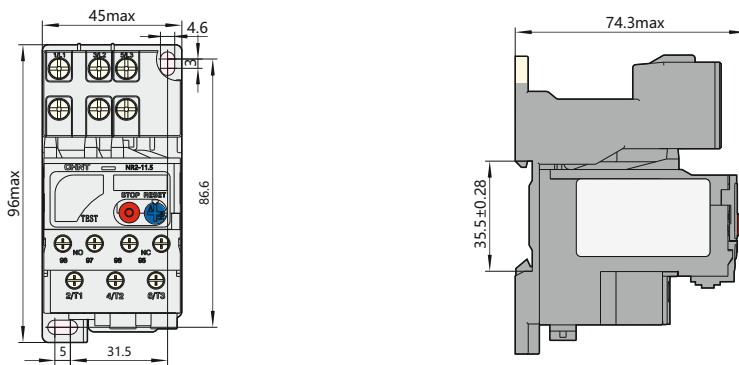
| NR2-150 | | | NR2-200 | | | NR2-630 | | | | |
|---|--------|---------|---|---------|---------|---|---------|---------|--|---------|
|  | | |  | | |  | | |  | |
| 150 | | | 200 | | | 630 | | | | |
| Yes | | | Yes | | | Yes | | | | |
| Yes | | | Yes | | | Yes | | | | |
| Yes | | | Yes | | | Yes | | | | |
| Yes | | | Yes | | | Yes | | | | |
| Yes | | | Yes | | | Yes | | | | |
| Yes | | | No | | | No | | | | |
| No | | | Yes | | | Yes | | | | |
| 1N/O+1N/C | | | 1N/O+1N/C | | | 1N/O+1N/C | | | | |
| 2.73 | | | 2.73 | | | 2.73 | | | | |
| 1.58 | | | 1.58 | | | 1.58 | | | | |
| 0.2 | | | 0.2 | | | 0.2 | | | | |
| Current setting range | | | Current setting range | | | Current setting range | | | | |
| 80~104 | 95~120 | 110~150 | 80~125 | 100~160 | 125~200 | 160~250 | 200~315 | 250~400 | 315~500 | 400~630 |
| 125 | 125 | 160 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 |
| 200 | 224 | 250 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 800 |

5. Overall and mounting dimensions (mm)

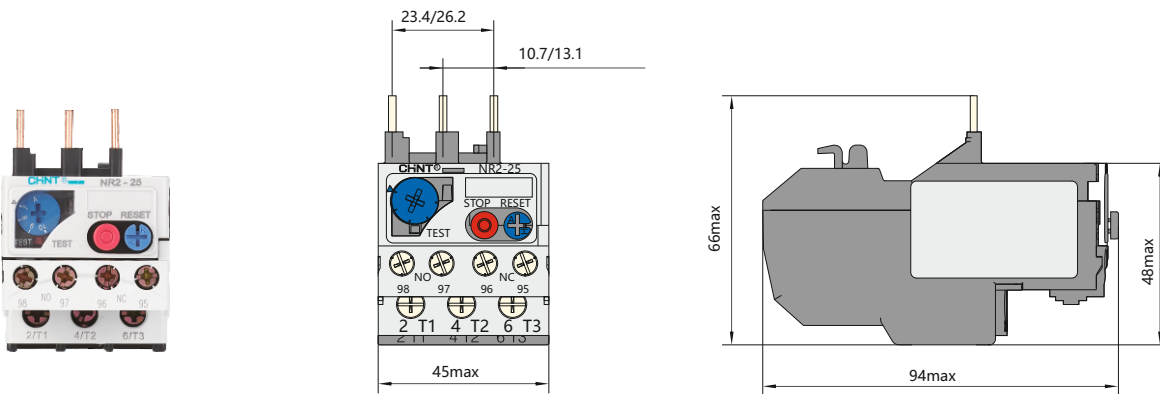
NR2-11.5



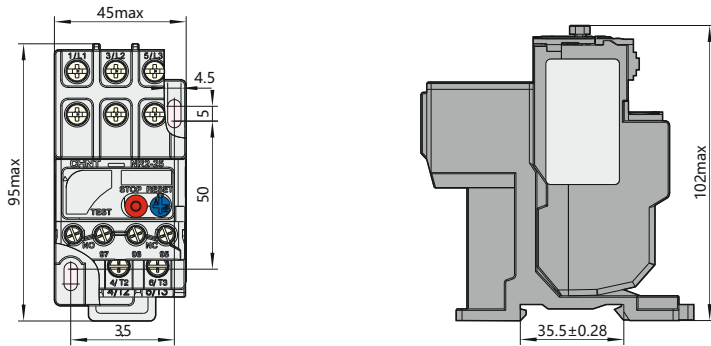
NR2-11.5 with MB-1



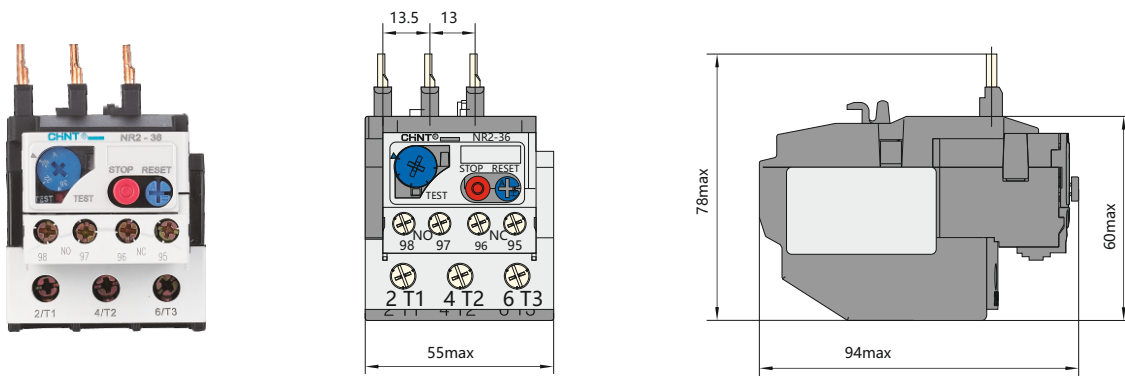
NR2-25



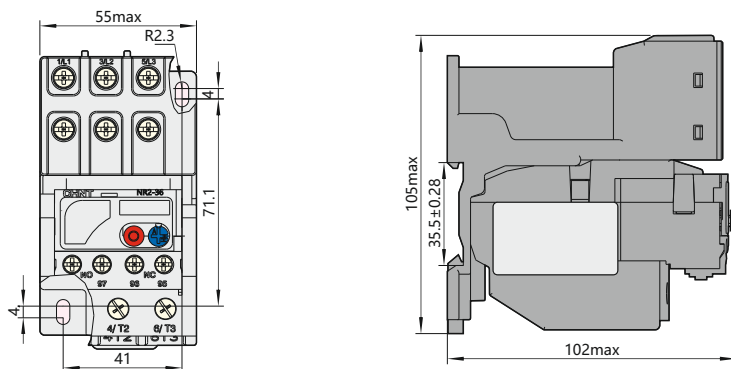
NR2-25 with MB-2



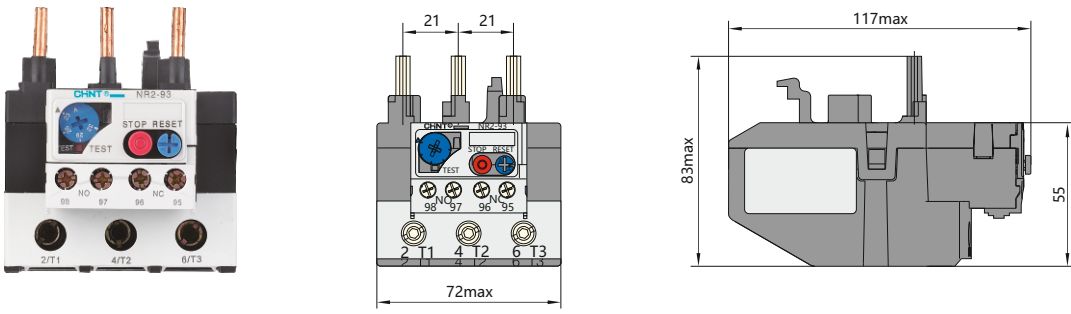
NR2-36



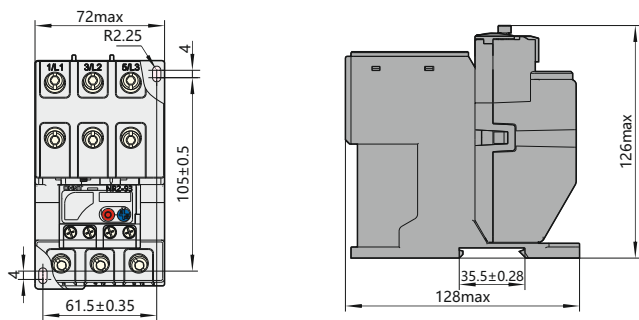
NR2-36 with MB-3



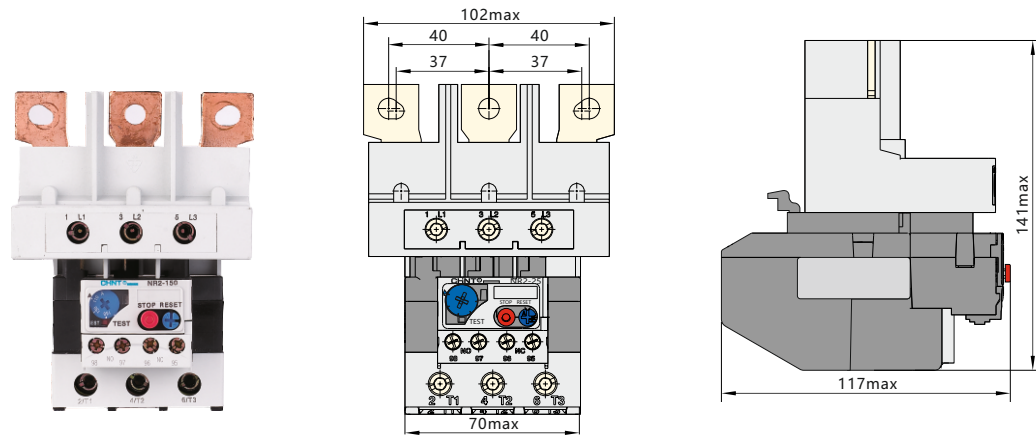
NR2-93



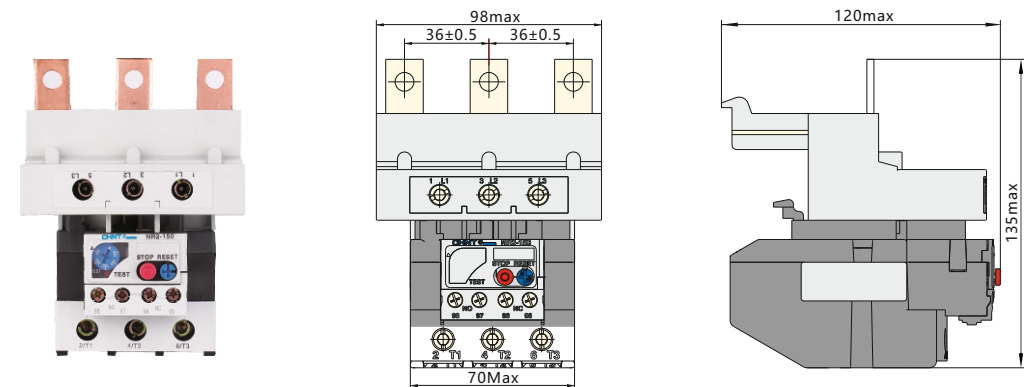
NR2-93 with MB-4



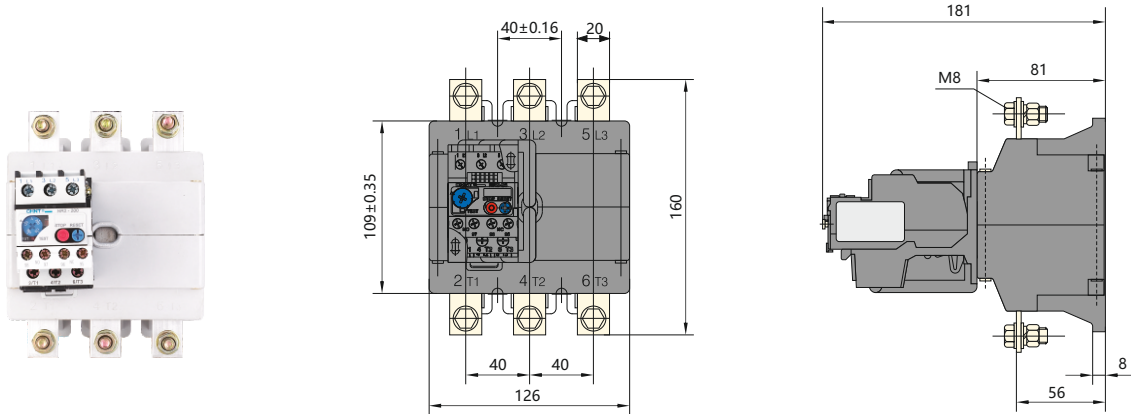
NR2-150 (matched with NC2)



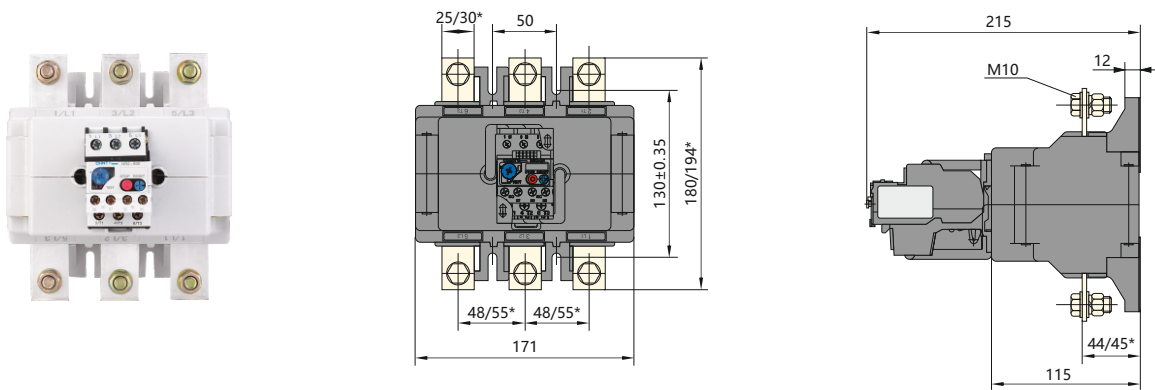
NR2-150 (matched with NC7)



NR2-200



NR2-630







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

6. Wiring



| Items | | | NR2-11.5 | NR2-25 | NR2-36 | NR2-93 | NR2-150 | NR2-200 | NR2-630 |
|---|-------------------|------------------------------|----------|--------|--------|--------|---------|---------|----------|
| Cross section area of conductor mm ² | Main circuit | Single core or stranded wire | 1~4 | 1~4 | 4~10 | 4~35 | 25~95 | 25~95 | 70~2×240 |
| | | Wiring screw | M3.5 | M4 | M4 | M10 | M6/M8 | M8 | M10 |
| | Auxiliary circuit | Single core or stranded wire | 1~2.5 | 1~2.5 | 1~2.5 | 1~2.5 | 1~2.5 | 1~2.5 | 1~2.5 |
| | | Wiring screw | M3.5 | M3.5 | M3.5 | M3.5 | M3.5 | M3.5 | M3.5 |







D

7. Accessories

| No. | | Description | Application |
|-----|---|-------------|--|
| 1 |  | MB-1 | Incorporate with NR2-11.5 relay to form an independently mounted product |
| 2 |  | MB-2 | Incorporate with NR2-25 relay to form an independently mounted product |
| 3 |  | MB-3 | Incorporate with NR2-36 relay to form an independently mounted product |
| 4 |  | MB-4 | Incorporate with NR2-93 relay to form an independently mounted product |

8. Assembly with contactor

| Model of overload relay | Rated current (A) | Recommended fuse type (RT16 is recommended) | | Model of contactor |
|---|-------------------|---|----|--|
| | | aM | gG | |
|  NR2-11.5 | 0.1~0.16 | 0.25 | 2 | NC6-09 |
| | 0.16~0.25 | 0.5 | 2 | |
| | 0.25~0.4 | 1 | 2 | |
| | 0.4~0.63 | 1 | 2 | |
| | 0.63~1 | 2 | 4 | |
| | 1~1.6 | 2 | 4 | |
| | 1.25~2 | 4 | 6 | |
| | 1.6~2.5 | 4 | 6 | |
| | 2.5~4 | 6 | 10 | |
| | 4~6 | 8 | 16 | |
| | 5.5~8 | 12 | 20 | |
| 7~10 | 12 | 20 | | |
| 9~13 | 16 | 25 | | |
|  NR2-25 | 0.1~0.16 | 0.25 | 2 | NC1-09 NC1-12 NC1-18 NC1-25 NC1-32 NC7-09~18 NC7-25~32 |
| | 0.16~0.25 | 0.5 | 2 | |
| | 0.25~0.4 | 1 | 2 | |
| | 0.4~0.63 | 1 | 2 | |
| | 0.63~1 | 2 | 4 | |
| | 1~1.6 | 2 | 4 | |
| | 1.25~2 | 4 | 6 | |
| | 1.6~2.5 | 4 | 6 | |
| | 2.5~4 | 6 | 10 | |
| | 4~6 | 8 | 16 | |
| | 5.5~8 | 12 | 20 | |
| | 7~10 | 12 | 20 | |
| | 9~13 | 16 | 25 | |
| | 12~18 | 20 | 35 | |
| 17~25 | 25 | 50 | | |

| Model of overload relay | Rated current (A) | Recommended fuse type (RT16 is recommended) | | Model of contactor |
|---|-------------------|---|-----|--|
| | | aM | gG | |
|  NR2-36 | 23~32 | 40 | 63 | NC1-32 NC7-32~38 |
| | 28~36 | 40 | 80 | |
|  NR2-93 | 23~32 | 40 | 63 | NC1-40 NC1-50 NC1-65 NC1-80 NC1-95 NC7-40~65 NC7-80~95 |
| | 30~40 | 40 | 100 | |
| | 37~50 | 63 | 100 | |
| | 48~65 | 63 | 100 | |
| | 55~70 | 80 | 125 | |
| | 63~80 | 80 | 125 | |
| 80~93 | 100 | 160 | | |
|  NR2-150 (matched with NC2) | 80~104 | 125 | 200 | NC2-115 NC2-150 |
| | 95~120 | 125 | 224 | |
| | 110~150 | 160 | 250 | |
|  NR2-150 (matched with NC7) | 80~104 | 125 | 200 | NC7-115 NC7-150 NC7-170 |
| | 95~120 | 125 | 224 | |
| | 110~150 | 160 | 250 | |
|  NR2-200 | 80~125 | 125 | 200 | NC2-115 NC2-150 NC2-185 NC2-225 NC7-115~170 NC7-205 |
| | 100~160 | 160 | 250 | |
| | 125~200 | 200 | 315 | |
|  NR2-630 | 160~250 | 250 | 400 | NC2-185 NC2-225 NC2-265 NC2-330 NC2-400 NC2-500 NC2-630 NC7-205~300 NC7-410~475 NC7-620 |
| | 200~315 | 315 | 500 | |
| | 250~400 | 400 | 630 | |
| | 315~500 | 500 | 800 | |
| | 400~630 | 630 | 800 | |