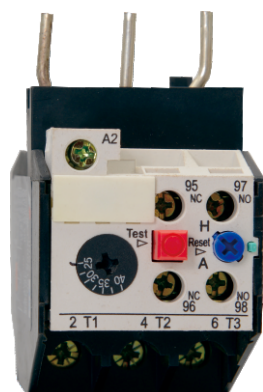


## JRS2

### Series Thermal Over-load Relay

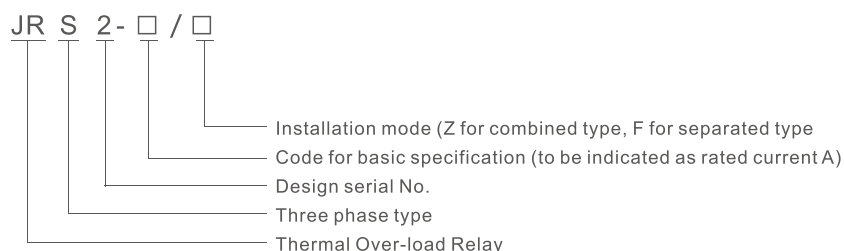


### Usage and its scope of application

JRS2 Series Thermal Relay is suitable for the power system of AC50Hz/60Hz, rated voltage  $U_e$ : 690V, current 0.1~630 (A) as the use of over-load and break-phase protection of AC motor or circuit. Thermal relay has the functions of break phase protection, temperature compensation, optional selection of manual reset and auto-reset, inspection of action flexibility, and manually break the NC contacts and NO contacts.

This product conforms to: IEC60947-4-1 etc. standards.

### Model No.



### Normal operating condition and installation condition

3.1 Ambient temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , average value within 24h does not exceed  $+35^{\circ}\text{C}$ ;

3.2 Height of altitude: does not exceed 2000m,

3.3 Atmosphere: when highest temperature is  $+40^{\circ}\text{C}$ , the relative humidity does not exceed 50%; it allowed the relatively high humidity when it is under the relatively low temperature, for example, it reaches 90% when  $+20^{\circ}\text{C}$ ; It should take special measurements if there produced condensation that is due to the temperature variation.

3.4 Grade of pollution: 3

3.5 Installation category: III

3.6 Position of installation: the gradient between the installation side of relay and the vertical side is not more than  $\pm 5^{\circ}$

3.7 Impact and vibration: product should be installed and used at the places of no obvious shake, impact and vibration.

3.8 Installation mode:

JRS2-12.5, 25, 32, 45, 80 has three kinds of installation mode: combination installation, screw installation, 35mm standard rail installation.

JRS2-63, 135, 150, 180, 400, 630 has two kinds of installation mode: screw installation, 35mm standard rail installation.

3.9 Protection grade: IP00

# RELAY

Continued table 2

| Model              | Setting current adjustable scope A | Recommended SCPD model, specification | Conductor's cross section for main circuit mm |
|--------------------|------------------------------------|---------------------------------------|-----------------------------------------------|
| JRS2-63、 80        | 40-57                              | RDT16-00-125                          | 16                                            |
|                    | 50-63                              |                                       |                                               |
| JRS2-135、 150、 180 | 55-80                              | RDT16-1-160                           | 25                                            |
| JRS2-80            | 57-70                              |                                       |                                               |
|                    | 63-80                              |                                       |                                               |
| JRS2-80            | 77-88                              | RDT16-1-160                           | 35                                            |
| JRS2-135、 150、 180 | 63-90                              | RDT16-1-200                           |                                               |
|                    | 80-110                             | RDT16-1-250                           |                                               |
| JRS2-400           | 80-125                             |                                       | 50                                            |
| JRS2-135、 150、 180 | 90-120                             |                                       |                                               |
|                    | 110-135                            |                                       |                                               |
| JRS2-150、 180      | 120-150                            |                                       |                                               |
| JRS2-400           | 125-200                            | RDT16-2-400                           |                                               |
| JRS2-180           | 135-160                            | RDT16-2-315                           | 70                                            |
|                    | 150-180                            | RDT16-2-400                           | 95                                            |
| JRS2-400           | 160-250                            | RDT16-3-500                           | 120                                           |
|                    | 200-320                            | RDT16-3-630                           | 185                                           |
|                    | 250-400                            | RDT16-4-800                           | 240                                           |
| JRS2-630           | 320-500                            | RDT16-4-1000                          | 2×150                                         |
|                    | 400-630                            |                                       | 2×185                                         |

Action scope of the thermal relay when its each pole electrified to see table 3

table 3

| Model | Multiple of setting current | Action time        |     |              | Predict results | Initial status                        | Ambient temperature℃ |
|-------|-----------------------------|--------------------|-----|--------------|-----------------|---------------------------------------|----------------------|
| 1     | 1.05                        | > 2h               |     |              | No action       | Cool status                           | 20±5℃                |
| 2     | 1.20                        | < 2h               |     |              | Action          | Thermal status<br>(after serial No.1) |                      |
| 3     | 1.50                        | Grade of releasing | 10A | < 2min       | Action          |                                       |                      |
|       |                             |                    | 10  | < 4min       | Action          |                                       |                      |
| 4     | 7.50                        |                    | 10A | 2s < top≤10s | Action          | Cool status                           |                      |
|       |                             |                    | 10  | 4s < top≤10s | Action          |                                       |                      |

Releasing grade: JRS2-12.5, JRS2-25, JRS2-32, JRS2-45, JRS2-63 is 10A grade, JRS2-80, JRS2-135,JRS2-150, JRS2-180, JRS2-400, JRS2-630 is 10 grade.

Action scope of thermal relay when two poles electrified to see table 4

table 4

| No. | Multiple of setting current |               | Action time | Initial status                     | Ambient temperature ℃ |
|-----|-----------------------------|---------------|-------------|------------------------------------|-----------------------|
|     | Any two phases              | Another phase |             |                                    |                       |
| 1   | 1.00                        | 0.90          | > 2h        | Cool status                        | 20±5℃                 |
| 2   | 1.15                        | 0             | ≤2h         | Thermal status (after serial No.1) |                       |

Basic parameter of auxiliary circuit to see table 5

table 5

|                                          |       |     |       |
|------------------------------------------|-------|-----|-------|
| Rated insulation voltage Ui (V)          | 380   |     |       |
| Setting thermal current Ith (A)          | 6     |     |       |
| Usage category                           | AC-15 |     | AC-13 |
| Rated operating voltage Ue (V)           | 220   | 380 | 220   |
| Rated operating current Ie (A)           | 1.9   | 1.1 | 0.2   |
| Suited fuse (RDT16 type) specification A | 6     |     |       |

## Main technical parameter

Rated insulation voltage of thermal relay as well as suited AC contactor to see table 1

table 1

| Model     | Suited contactor model for combination installation | Rated insulation voltage | Electrical life | Frequency of over-load protection |
|-----------|-----------------------------------------------------|--------------------------|-----------------|-----------------------------------|
| JRS2-12.5 | CJX1-0.9,CJX1-12                                    | 660V                     | 10000           | 10000                             |
| JRS2-25   | CJX1-16,CJX1-22, CJX1-32                            |                          |                 |                                   |
| JRS2-32   | CJX1-32,CJX1-22                                     |                          |                 |                                   |
| JRS2-45   | CJX1-32,CJX1-38                                     |                          |                 |                                   |
| JRS2-63   | CJX1-0.9,12,16,22,32,38,48,63,75                    |                          |                 |                                   |
| JRS2-80   | CJX1-45,63,75                                       |                          |                 |                                   |
| JRS2-125  | CJX1-85,110,140                                     |                          |                 |                                   |
| JRS2-150  | CJX1-85,110,140,170                                 |                          |                 |                                   |
| JRS2-180  | CJX1-85,110,140,170,205                             |                          |                 |                                   |
| JRS2-400  | CJX1-250,300,400                                    |                          |                 |                                   |
| JRS2-630  | CJX1-500,630                                        |                          |                 |                                   |

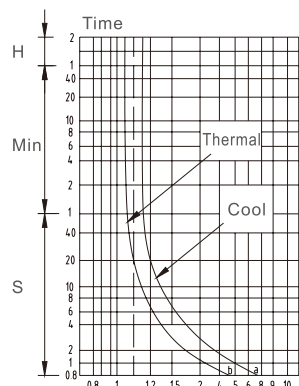
Setting current adjusting scope of thermal relay as well as the recommended SCPD model and specification to see table 2

table 2

| Model                    | Setting current adjustable scope A | Recommended SCPD model, specification | Conductor's cross section for main circuit (mm²) |
|--------------------------|------------------------------------|---------------------------------------|--------------------------------------------------|
| JRS2-12.5,25,45,63       | 0.1-0.16                           | RDT16-00-2                            | 1                                                |
|                          | 0.16-0.25                          |                                       |                                                  |
|                          | 0.25-0.4                           |                                       |                                                  |
| JRS2-12.5                | 0.32-0.5                           |                                       |                                                  |
| JRS2-12.5,25,45,63       | 0.5-0.63                           | RDT16-00-4                            |                                                  |
|                          | 0.63-1                             |                                       |                                                  |
|                          | 0.8-1.25                           |                                       |                                                  |
|                          | 1-1.6                              |                                       |                                                  |
| JRS2-12.5,25,45,63       | 1.25-2                             | RDT16-00-6                            |                                                  |
|                          | 1.6-2.5                            |                                       |                                                  |
|                          | 2-3.2                              |                                       |                                                  |
|                          | 2.5-4                              |                                       |                                                  |
| JRS2-12.5,25,45,63       | 3.2-5                              | RDT16-00-10                           | 1                                                |
| JRS2-12.5,25,32,50,63,80 | 4-6.3                              | RDT16-00-16                           |                                                  |
| JRS2-12.5,25,45,63       | 5--8                               |                                       |                                                  |
| JRS2-12.5,25,32,45,63    | 6.3-10                             | RDT16-00-20                           |                                                  |
| JRS2-12.5,25,45,63       | 8-12.5                             | RDT16-00-25                           | 2.5                                              |
| JRS2-12.5                | 10-14.5                            | RDT16-00-32                           |                                                  |
| JRS2-25,32,45,63         | 10--16                             | RDT16-00-40                           |                                                  |
| JRS2-80                  | 11--17                             |                                       |                                                  |
| JRS2-25,32,45,63,80      | 12.5-20                            |                                       |                                                  |
| JRS2-25,32,45,63,80      | 16-25                              | RDT16-00-50                           | 4                                                |
| JRS2-32,45,63,80         | 20-32                              | RDT16-00-63                           |                                                  |
| JRS2-32,45               | 25-36                              | RDT16-00-80                           | 6                                                |
| JRS2-63,80               | 25-40                              |                                       |                                                  |
| JRS2-45                  | 32-40                              |                                       |                                                  |
| JRS2-45                  | 36-45                              | RDT16-00-100                          | 10                                               |
| JRS2-63                  | 32-45                              |                                       |                                                  |
| JRS2-80                  | 32-40                              |                                       |                                                  |

# RELAY

Releasing grade of thermal relay: JRS2-12.5, 25, 32, 45, 63, 80, 135, 150, 180, 400, 630 is 10A grade  
Its action scope classic curve to see map 2

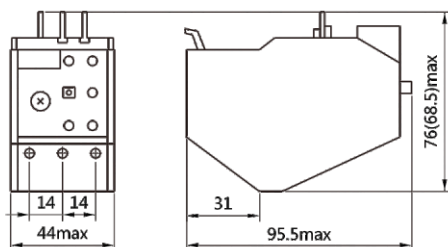


Multiple of setting current  
Map 1 Action scope curve

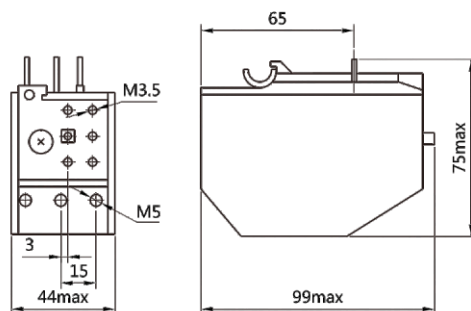
- A. Three phase balance, unbalance, starting by cool status;
- B. Three phase balance, break phase, starting by thermal status

## External and installation dimension

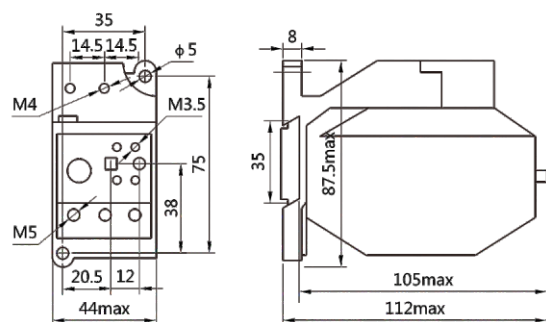
External and installation dimension of thermal to see map 3~10



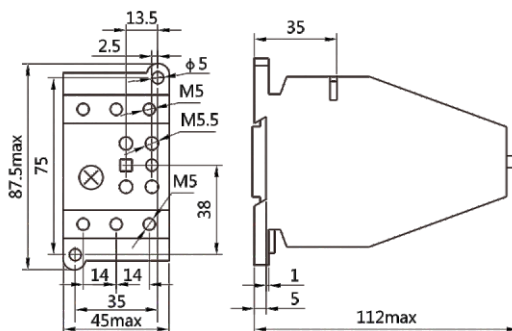
Map 3 External and installation dimension of JRS2-12.5/Z, JRS2-25/Z



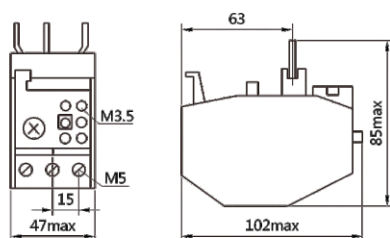
Map 4 External and installation dimension of JRS2-32/Z



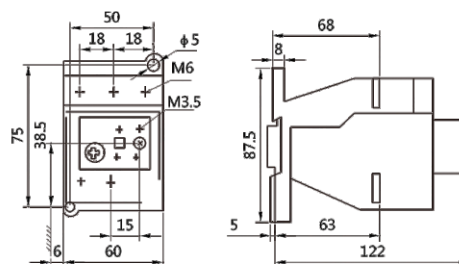
Map 5 External and installation dimension of JRS2-12.5/F, JRS2-25/F, JRS2-32/F



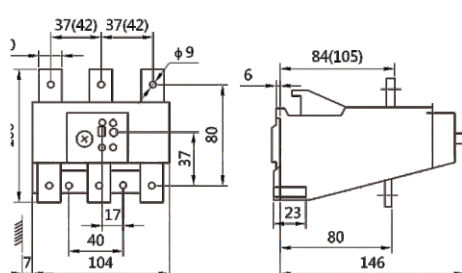
Map 6 External and installation dimension of JRS2-63



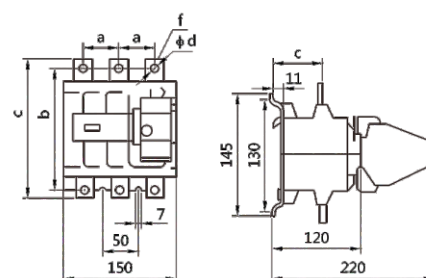
Map 7 External and installation dimension of JRS2-45/Z



Map 8 External and installation dimension of JRS2-80/Z



Map 9 External and installation dimension of JRS2-135, 150 180/F



Map 10 External and installation dimension of JRS2-400, 630

Installation dimension of JRS2-400, 630 to see table 6

table 6

| Model                                    | a  | b   | c  | d  | f    |
|------------------------------------------|----|-----|----|----|------|
| Setting current of 80~200A for JRS2-400  | 46 | 140 | 69 | 9  | 20×3 |
| Setting current of 160~400A for JRS2-400 | 50 | 146 | 70 | 11 | 25×4 |
| Setting current of 320~630A for JRS2-600 | 52 | 156 | 71 | 11 | 30×3 |