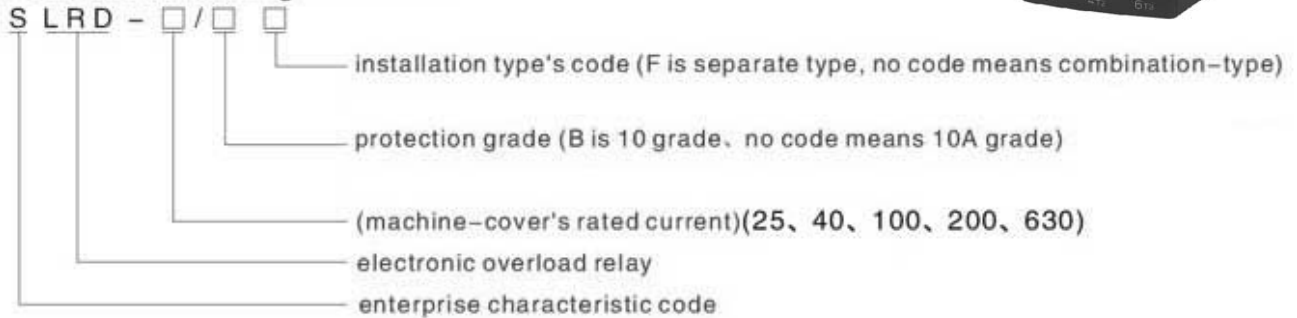




2、 model and its meaning



● Sketch

1、 application range:

S-LRD-13 series electronic overload relay (hereafter named as relay) is mainly applied to certain circuit that AC50/60Hz、 rated work voltage below 690V、 current is within adjusting current range marked on cover to be used for three-phase motor's overload、 open-phase.

This relay is one new、 energy-conservation、 high-tech electrical appliance applying micro controller. Compared with same specification of dial-sheet-metal type heating relay, it could conserve energy by 80% or higher. This relay utilizes micro-controller for testing the circuit wave and current value of main circuit to check out whether the motor is overloaded、 open-phased or not. When overloaded, the micro-controller could decide the delayed time by means of computing the multiple of overload current, once the delayed time is up, it could cut off the NC connector or switch on NO connector through trip configuration, the micro-controller would shorten delayed time during open-phase.

Normal work condition

- 1、 the altitude couldn't exceed 2000m;
- 2、 surrounding air temperature: $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$, the average temperature within 24 hours shouldn't exceed $+35^{\circ}\text{C}$.
- 3、 air condition: when the temperature is $+40^{\circ}\text{C}$, the comparative humidity of air couldn't exceed 50%, the $+25^{\circ}\text{C}$ is the upper limit under lower temperature, the monthly average maximum comparative humidity in the moistest month should be below 90%, and its average lowest temperature should be below $+25^{\circ}\text{C}$, the dew on product's surface resulted from temperature's changing should be taken in account.
- 4、 pollution grade: 3 grade
- 5、 installation type: III category
- 6、 the slope between installation surface and vertical surface couldn't exceed $\pm 5^{\circ}$.
- 7、 the product should be used and installed at certain place without any shock、 vibration etc.

Configuration feature

- 1、 three-phase electronic type, the trip grade is divided into 10A、 10 grade.
- 2、 Owns open-phase protection function
- 3、 Owns adjusting current sustaining adjustable device;
- 4、 Owns two indication lamp separately used for indicating normal、 overload delaying、 open-phase、 open-phase delaying;
- 5、 Owns manual test configuration
- 6、 Owns manual reset button;
- 7、 Owns one NO and NC connector;
- 8、 Installation type: it could be plug-in installed or separately installed with contactor.

● Protection characteristics

1、 the motion characteristics of relay when all phases is loaded balanced (read form 1)

(form)1

| serial No | adjusting current multiple | motion time | | initial condition | surrounding air's temperature |
|-----------|----------------------------|---------------------|---------|---|--------------------------------|
| | | | | | |
| 1 | 1.05 | no motion within 2h | | cold state | (20 ± 5)°C room temperature |
| 2 | 1.2 | motion within 2h | | | |
| 3 | 1.5 | 10A grade | <2min | hot state (conducting test after serial No 1) | |
| | | grade | <4min | | |
| 4 | 7.2 | 10A grade | 2s~ 10s | cold state | |
| | | grade | 4s~ 10s | | |

During whole-phase operation, if relay's current achieves 1.05 times of adjusting current and keeps at this level, the green lamp flashes and red lamp no flashing, it stands for that it is not at overload delayed state, which is equivalent with the state of No 1 in form 1 that no motion within 2h. as for the No 1 in form 1, its permitted current error is -3%, the No, its current permitted error is +3%. The cold state in form 1 is corresponding with the state that re-switch-on 5s after relay's main circuit being broken off.

2、 the motion feature of relay when all phase is loaded unbalanced (read form 2)

(form)2

| serial No | adjusting current multiple | | | initial condition | surrounding air's temperature |
|-----------|----------------------------|---------------|---------------------|-------------------|--------------------------------|
| | any two phases | any one phase | motion time | | |
| 1 | 1.0 | 0.9 | no motion within 2h | cold state | (20 ± 5)°C room temperature |
| 2 | 1.15 | 0 | motion within 2h | | |

During lack-phase operation, if relay's current achieves 1.0 time of adjusting current and keeps at this level, the red lamp flashes and green lamp no flashing, this state is equivalent with state that no motion within 2h. When the current=1.15 times of adjusting current, the red lamp flashes and green lamp is brightened, it means that it is at delay trip state, through the indication lamp, the motor's operation state could be come into plain view. As for the No 1 in form 2, its current permitted error is -3%, and the current permitted error in No 2 is +3%.

● Main technique data

- 1、 main circuit: the rated insulation voltage is AC690V, rated frequency is 50/60Hz.
- 2、 Auxiliary circuit: the rated insulation voltage is AC400V, rated frequency is 50/60Hz. The use type、 rated work voltage、 rated work current and rated preset heating current (read form 3)

(form)3

| (use type) | AC-15 | | DC-13 |
|------------------------------|-------|-----|-------|
| (rated work voltage)(V) | 230 | 400 | 220 |
| (rated work current)(A) | 2.5 | 1.5 | 0.2 |
| (preset heating current)(A) | 5 | | |

- 3、 the connection lead of main circuit adopts PVC insulation copper-wire or copper cable, its section and length data read form 4.

(form)4

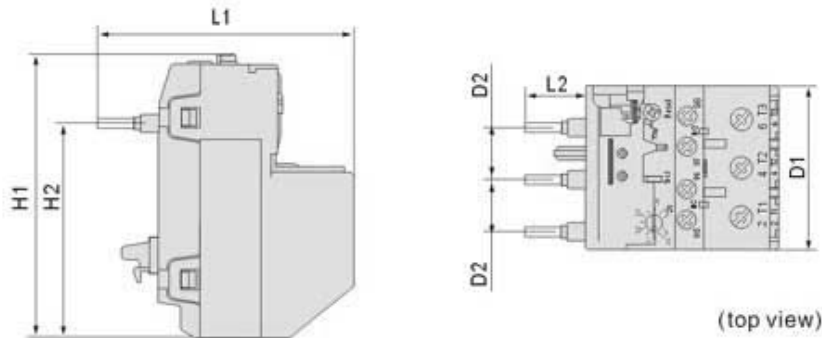
| (current range)(A) | (connection lead) | | |
|--------------------|-----------------------------|-------------|------------|
| | (section)(mm ²) | (length)(m) | (quantity) |
| $I \leq 8$ | 1 | 1 | 1 |
| $8 < I \leq 12$ | 1.5 | 1 | 1 |
| $12 < I \leq 20$ | 2.5 | 1 | 1 |
| $20 < I \leq 25$ | 4.0 | 1 | 1 |
| $25 < I \leq 32$ | 6.0 | 1 | 1 |
| $32 < I \leq 50$ | 10 | 1 | 1 |
| $50 < I \leq 65$ | 16 | 1 | 1 |
| $65 < I \leq 85$ | 25 | 1 | 1 |
| $85 < I \leq 115$ | 35 | 1 | 1 |
| $115 < I \leq 150$ | 50 | 2 | 1 |
| $150 < I \leq 175$ | 75 | 2 | 1 |
| $175 < I \leq 225$ | 95 | 2 | 1 |
| $225 < I \leq 250$ | 120 | 2 | 1 |
| $250 < I \leq 275$ | 150 | 2 | 1 |
| $275 < I \leq 350$ | 185 | 2 | 1 |
| $350 < I \leq 400$ | 240 | 2 | 1 |
| $400 < I \leq 500$ | 150 | 2 | 2 |
| $500 < I \leq 630$ | 185 | 2 | 2 |

● Model-selection and order data

| (model) | rated current (A) | rated current's regulation range | recommended matching contactor's model | recommended matching fuse's model |
|----------|-------------------|----------------------------------|---|-----------------------------------|
| S-LRD-13 | 1.2 | 0.6-1.2 | S-LC1-D12 | 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 | S-LC1-D09 | RT36-20(NT00-20) |
| | 12 | 7-12 | | RT36-25(NT00-25) |
| | 20 | 10-20 | | RT36-40(NT00-40) |
| | 25 | 20-25 | | RT36-50(NT00-50) |
| 32 | 22-32 | S-LC1-D18-D25 | RT36-80(NT00-80) | |
| S-LRD-23 | 4 | 2-4 | S-LC1-D32-D40 | 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) |
| S-LRD-33 | 65 | 30-65 | S-LC1-D40-D50-D65 | RT36-160(NT00-160) |
| | 100 | 50-100 | S-LC1-D80-D95 | RT36-200(NT1-200) |
| S-LRD-53 | 120 | 85-120 | S-LC1-D115-D150, D185, D225 | RT36-250(NT1-250) |
| | 160 | 110-160 | | RT36-315(NT2-315) |
| | 200 | 140-200 | | RT36-400(NT2-400) |
| S-LRD-63 | 250 | 170-250 | S-LC1-D265-D330, D400, D500, D630, D800 | RT36-500(NT3-500) |
| | 315 | 215-315 | | RT36-630(NT3-630) |
| | 400 | 275-400 | | RT36-800(NT4-800) |
| | 500 | 340-500 | | RT36-1000(NT4-1000) |
| | 650 | 430-650 | | RT36-1000(NT4-1000) |

● Outline and installation dimension

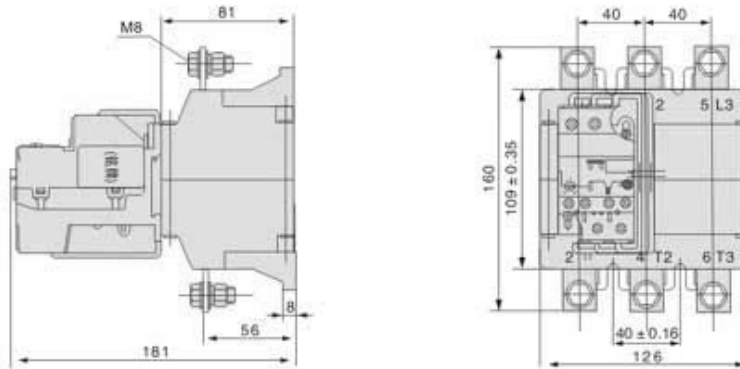
1、 the outline and installation dimension of combination-type product



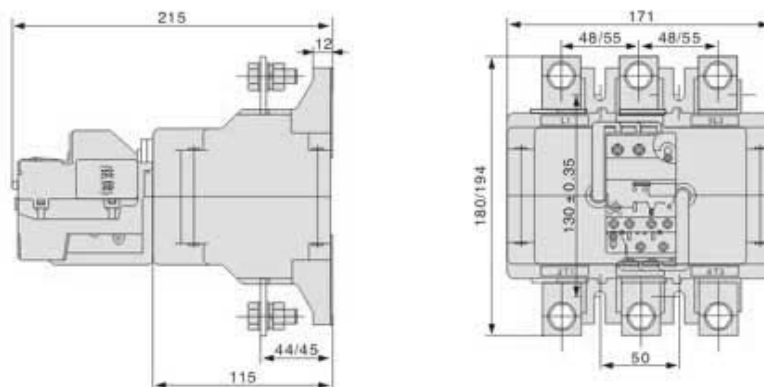
mm

| serial No | outline dimension | | | installation dimension | | |
|-----------|-------------------|---------|-------|------------------------|--------|----------|
| | H1 | L1 | D1 | H2 | L2 | D2 |
| S-LRD-13 | 81.5max | 77.4max | 46max | 61.5±1 | 20±1 | 13.8±0.7 |
| S-LRD-13 | 81.5max | 77.4max | 46max | 61.5±1 | 20±1 | - |
| S-LRD-23 | 93max | 85max | 55max | 70±0.8 | 20±1 | 17±0.5 |
| S-LRD-33 | 101max | 93max | 73max | 74.6±0.8 | 22.8±1 | 20±0.7 |
| S-LRD-43 | 101max | 93max | 73max | 74.6±0.8 | 27.1±1 | 23.5±0.7 |

S-LRD-53-200 outline and installation dimension

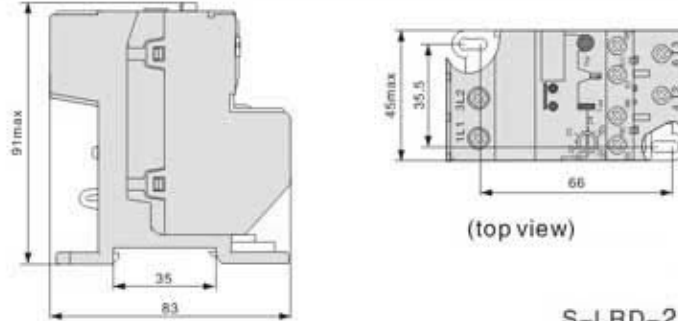


S-LRD-63-630: outline and installation dimension

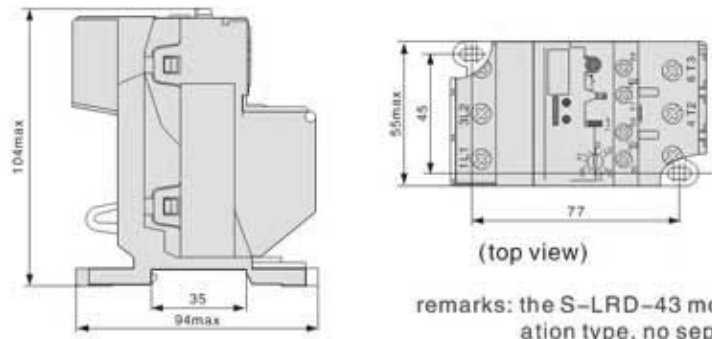


- 2、 the outline and installation dimension of separate (separate installation) product
 The separate (separate installation) product is composed of combination-type product and installation support.

S-LRD-13/F(separate installation type)



S-LRD-23/F(separate installation type)



remarks: the S-LRD-43 model just has combination installation type, no separate installation type.