



# JRS1D Series Thermal Overload Relay User Manual



Please carefully read this User Manual before installing and operating the product, and keep this manual properly for future reference

### **Safety Notice**

Please carefully read this instruction before the installation, operation, run, maintenance, and inspection, and follow the contents of the instruction to properly install and operate this product.



#### **Danger:**

- Do not operate the relay with your wet hands;
- Do not touch the energized parts during operation;
- Mark sure that the product is de-energized during the maintenance and service;

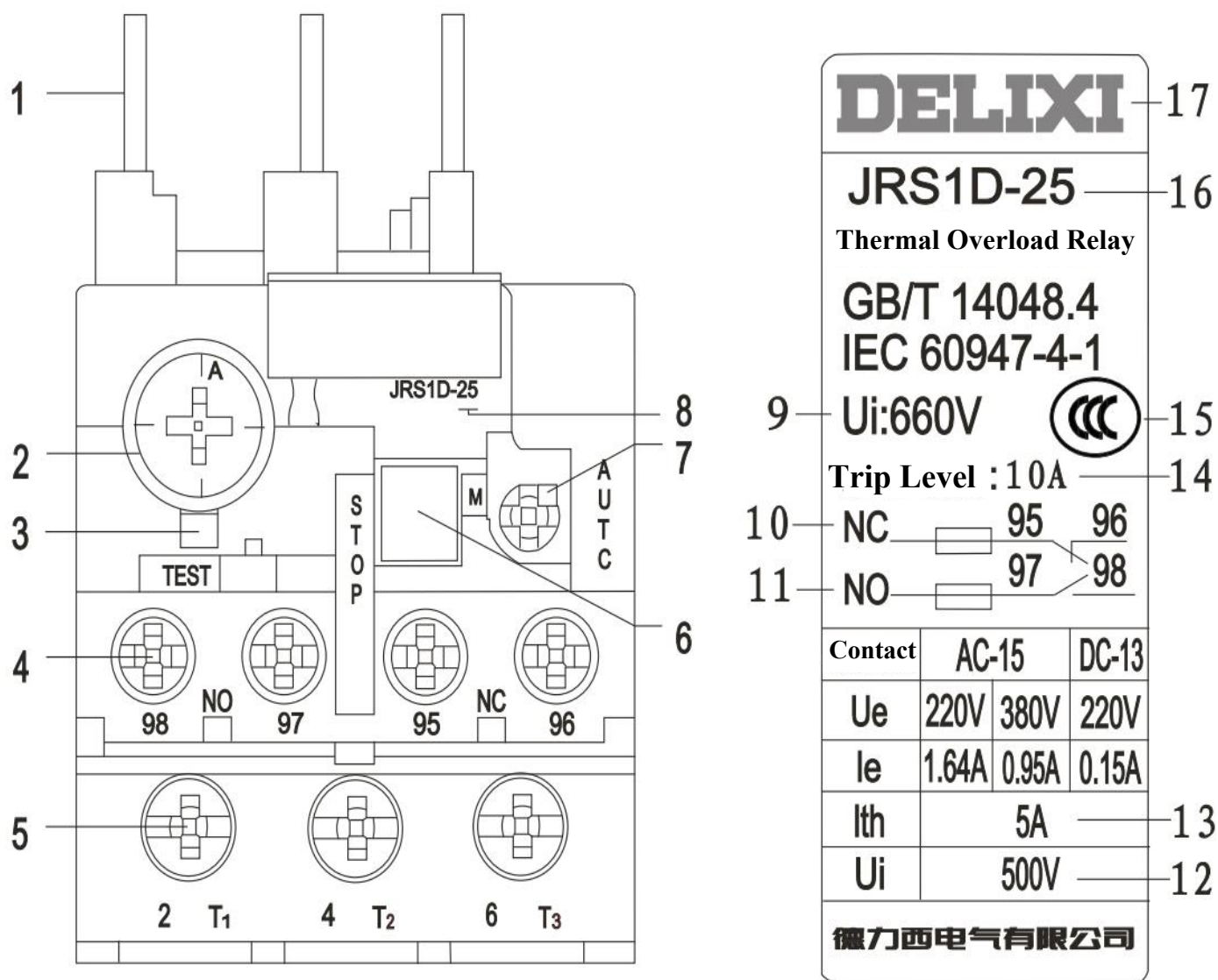


#### **Caution:**

- The installation, maintenance and service shall be performed by the qualified professional;
- Before installation, please confirm that the rated operating current value of the motor is within the setting current adjustment range of the thermal relay;
- It is not suitable for overload protection of motors with frequent reversible operation or on-off. For heavy-duty starting motors (starting time greater than 2s), measures should be taken to keep the thermal relay away from the starting current;
- All fasteners except wiring screws cannot be rotated;
- Please tighten the terminals regularly;
- Do not let foreign objects fall into the product;
- If found damage or abnormal sound when unpacking, please stop the operation immediately and contact the supplier;
- When scrapping the product, please dispose the product waste properly. Thanks for your cooperation;

## About JRS1D Relay

### ● Panel Introduction



1. Power terminal    2. Current adjustment    3. Test button    4. Auxiliary contact  
 5. Load end    6. Stop button    7. Manual reset button, manual and automatic adjustment button  
 8. Frame current    9. Main circuit rated insulation voltage    10. NC contact  
 11. NO contact    12. Rated insulation voltage of auxiliary circuit  
 13. Conventional thermal current of auxiliary circuit  
 14. Trip level: JRS1D-25 and 36 are 10A level, JRS1D-93 is 10 level  
 15. Certification mark    16. Model    17. Trademark

## **Normal Operation, Installation and Transport Conditions**

### **●Normal Operation and Installation Conditions**

(1) The ambient air temperature is not higher than +40°C, and is not below -5°C, and the average value within 24 hours does not exceed +35°C;

(2) The altitude of the installation site does not exceed 2000m;

(3) Atmospheric conditions

The relative humidity of the atmosphere does not exceed 50% when the highest ambient temperature is +40°C, and a higher relative humidity is allowed at lower temperatures, such as 90% at 20°C. Protective measures shall be taken for condensation occasionally occurred due to temperature changes.

(4) The installation position shall be vertical, and the inclination angle at each direction shall not exceed 5°;

(5) Installed at a place where there is no impact, vibration, and rain or snow erosion;

(6) Pollution level: Level 3;

(7) Installation category: Class III;

(8) Rated impact withstand voltage  $U_{imp}$ : 6000V;

(9) Protection grade: IP00.

### **● Normal Storage and Transport Conditions**

(1) Temperature: -25°C~+55°C;

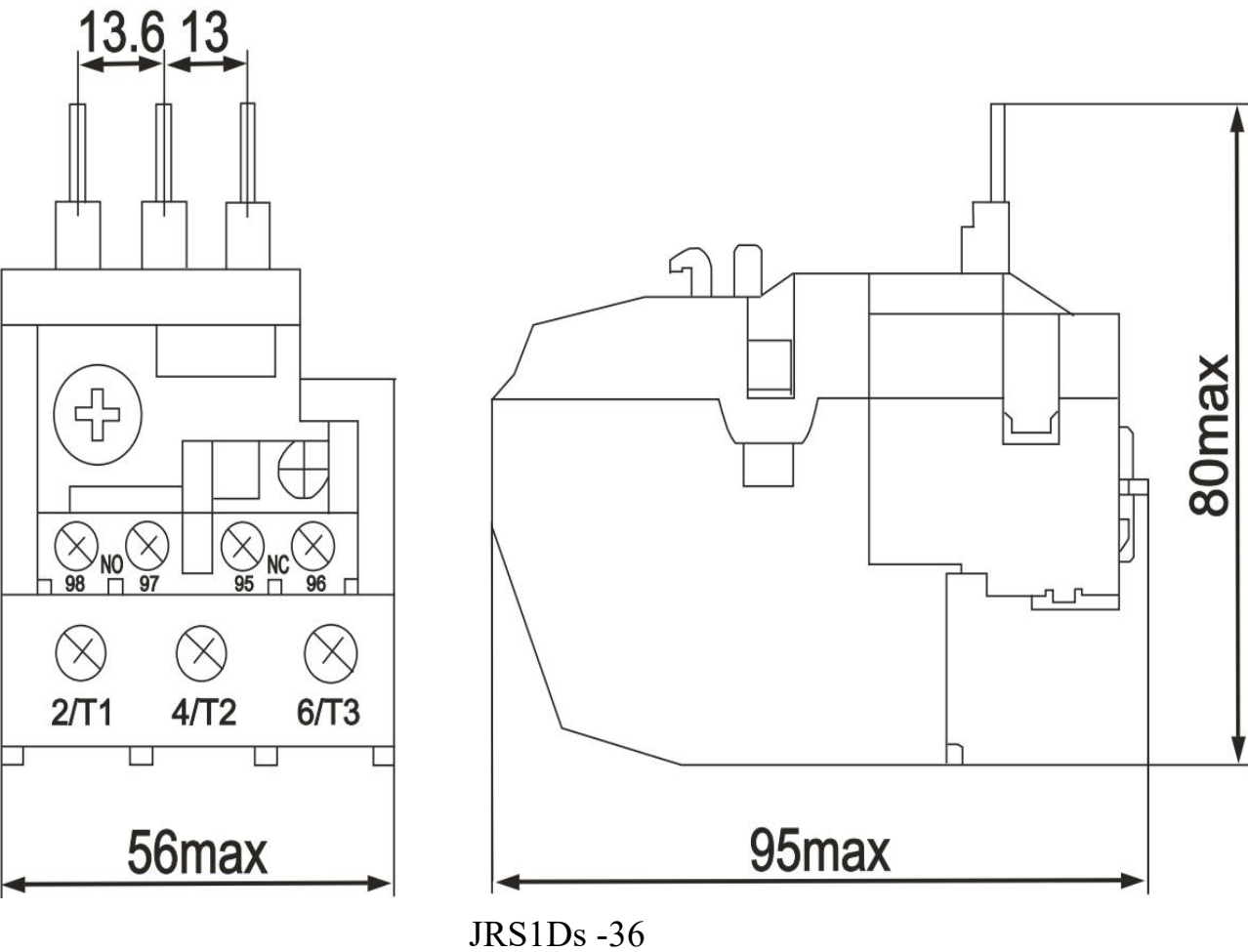
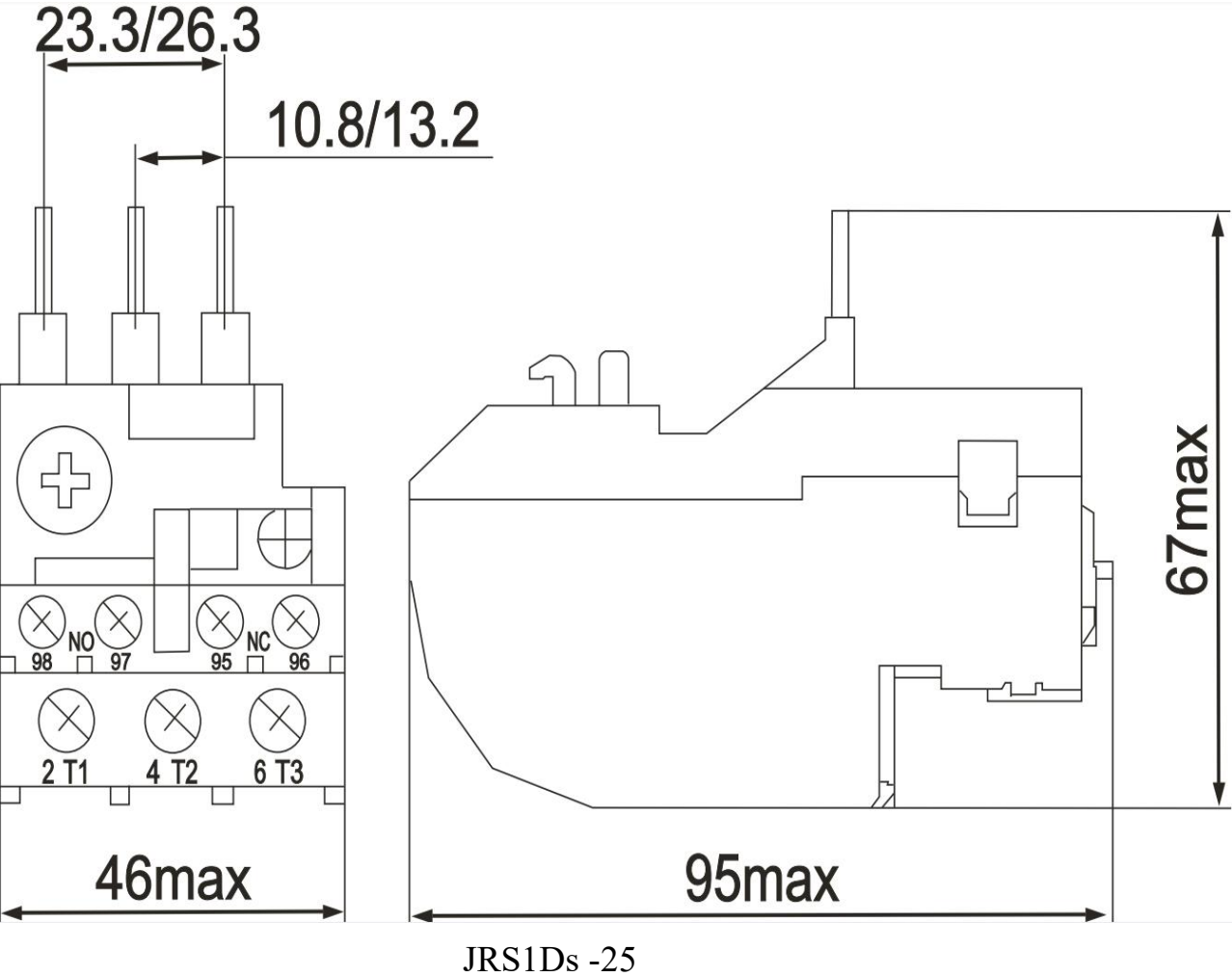
(2) Relative humidity :  $\leq 95\%$ ;

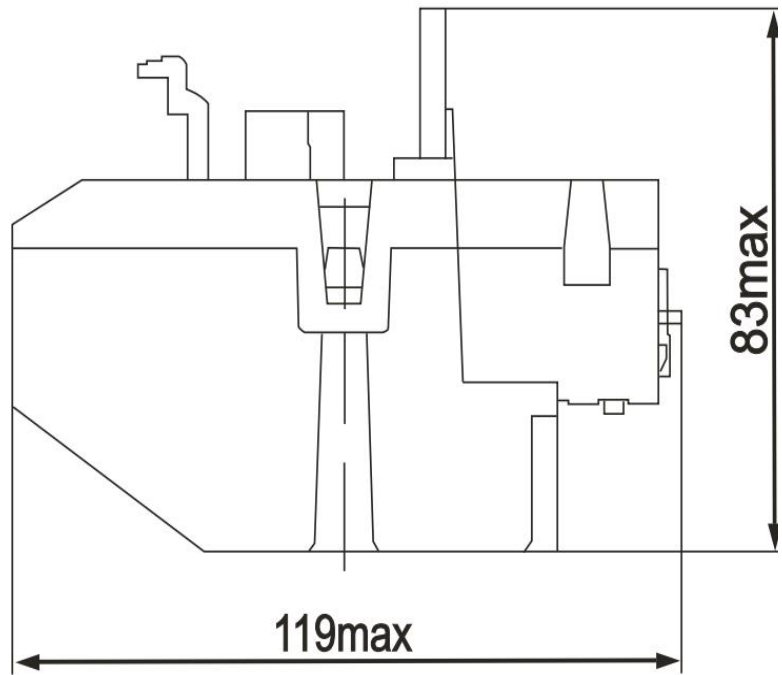
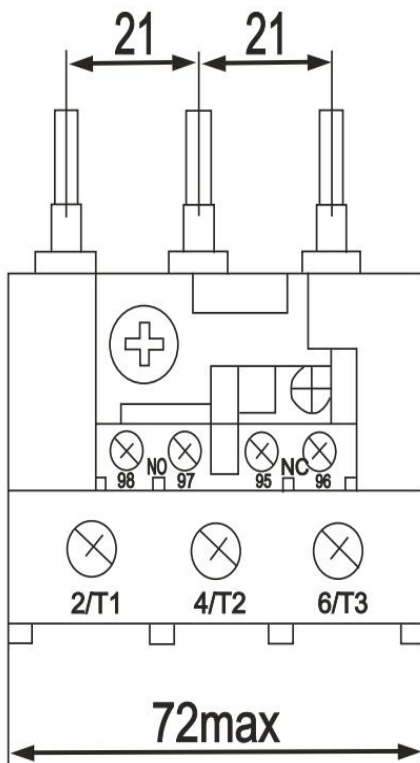
(3) During the transport, please handle the product gently, and do not upside it down, and prevent the product from harsh collision;

**Installation Product**

- Outline and Installation Dimensions

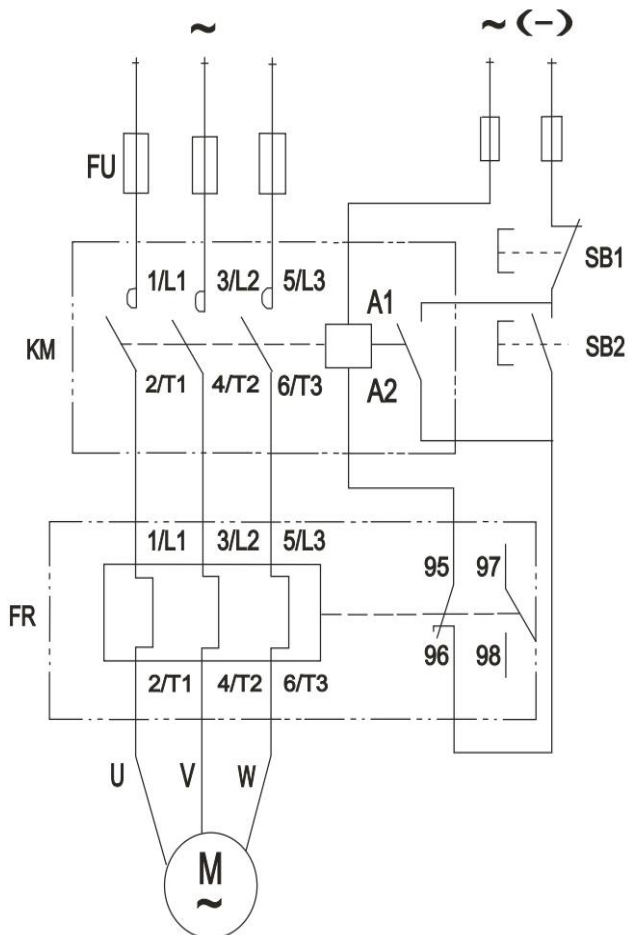
Unit: mm





JRS1Ds -93

## Wiring Diagram



**FU- Fuse**  
**KM- Contactor**  
**FR- Thermal relay**  
**SB1- Stop button**  
**SB2- Start button**

## Wiring Capacity Table

JRS1D-25, JRS1D-36 current is calculated as 100%  $I_e$ , JRS1D-93 current is calculated as 125%  $I_e$ .

| Main circuit      | Setting current range A | Cross-sectional area of connecting wire mm <sup>2</sup> |
|-------------------|-------------------------|---------------------------------------------------------|
|                   | $0 < I_e \leq 8$        | 1.0                                                     |
|                   | $8 < I_e \leq 12$       | 1.5                                                     |
|                   | $12 < I_e \leq 20$      | 2.5                                                     |
|                   | $20 < I_e \leq 25$      | 4.0                                                     |
|                   | $25 < I_e \leq 32$      | 6.0                                                     |
|                   | $32 < I_e \leq 50$      | 10                                                      |
|                   | $50 < I_e \leq 65$      | 16                                                      |
|                   | $65 < I_e \leq 85$      | 25                                                      |
|                   | $85 < I_e \leq 115$     | 35                                                      |
|                   | $115 < I_e \leq 150$    | 50                                                      |
| Auxiliary circuit |                         | $\leq 2.5$                                              |

## Maintenance

- Carry out regular maintenance and remove the dust deposited on the thermal overload relay in time
- The thermal overload relay should be tested regularly to ensure that its action mechanism is flexible and the normally open and normally closed contacts are in good contact.
- Terminal screw torque: Auxiliary contact: 1.2N.m  
Main circuit: JRS1D-25:1.7 N.m  
JRS1D-36:1.7 N.m  
JRS1D-93:10 N.m

**Rated operating current matches the corresponding contactor and fuse model**

| Model                                                                       | Rated operating current I <sub>e</sub> A | Setting current adjustment range A | Applicable contactor model | Fuse rated current I <sub>max</sub> A |
|-----------------------------------------------------------------------------|------------------------------------------|------------------------------------|----------------------------|---------------------------------------|
| JRS1D -25                                                                   | 0.16                                     | 0.1~0.16                           | CJX2 -09~38                | 4                                     |
|                                                                             | 0.25                                     | 0.16~0.25                          |                            | 4                                     |
|                                                                             | 0.4                                      | 0.25~0.4                           |                            | 4                                     |
|                                                                             | 0.63                                     | 0.4~0.63                           |                            | 4                                     |
|                                                                             | 1                                        | 0.63~1                             |                            | 4                                     |
|                                                                             | 1.6                                      | 1~1.6                              |                            | 4                                     |
|                                                                             | 2.5                                      | 1.6~2.5                            |                            | 6                                     |
|                                                                             | 4                                        | 2.5~4                              |                            | 10                                    |
|                                                                             | 6                                        | 4~6                                |                            | 16                                    |
|                                                                             | 8                                        | 5.5~8                              |                            | 20                                    |
|                                                                             | 10                                       | 7~10                               |                            | 20                                    |
|                                                                             | 13                                       | 9~13                               | CJX2 -12~38                | 25                                    |
|                                                                             | 18                                       | 12~18                              | CJX2 -18~38                | 35                                    |
|                                                                             | 25                                       | 17~25                              | CJX2 -25~38                | 50                                    |
|                                                                             |                                          |                                    |                            | 63                                    |
| JRS1D -36                                                                   | 32                                       | 23~32                              | CJX2 -32~38                | 80                                    |
|                                                                             | 40                                       | 30~40                              |                            |                                       |
| JRS1D -93                                                                   | 32                                       | 23~32                              | CJX2 -40~95                | 63                                    |
|                                                                             | 40                                       | 30~40                              |                            | 80                                    |
|                                                                             | 50                                       | 37~50                              | CJX2 -50~95                | 100                                   |
|                                                                             | 65                                       | 48~65                              |                            | 100                                   |
|                                                                             | 70                                       | 55~70                              | CJX2 -65~95                | 125                                   |
|                                                                             | 80                                       | 63~80                              | CJX2 -80~95                | 125                                   |
|                                                                             | 93                                       | 80~93                              | CJX2 -95                   | 160                                   |
| Note: The recommended fuse models for this thermal relay are RT16 and NT00. |                                          |                                    |                            |                                       |



### Company Commitment

Under the condition that users follow the use and storage conditions and the product are well sealed, within 36 months from the production date, our company will provide repair and replacement service free of charge for any damage or abnormal operation due to poor manufacture quality. A paid repair will be provided if the warranty period expires. For any damage due to one of the following situations, a paid repair will be given even if within the warranty period:

- (1) Improper operation, maintenance, or storage;
- (2) Modified and improper repair without permission;
- (3) Damage due to falling off or found during installation after purchase;
- (4) Force majeure such as earthquakes, fires, lightning strikes, abnormal voltages, and secondary disasters; If you have any question, please contact the dealer or our company's customer service department.

**DELIXI**  
ELECTRIC  
德力西电气

## Certificate

DELIXI ELECTRIC LTD

Name: Thermal Overload Relay

Model: JRS1D Series

This product passes the inspection and is allowed to be shipped.

Standard: GB/T 14048.4

Inspector: Check 05

Production date: See label on inner box

**www.cn-delixi.com**

The first edition of this manual was issued on Aug., 2017.