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## Operation manual

GRB Series PTC Temperature control module

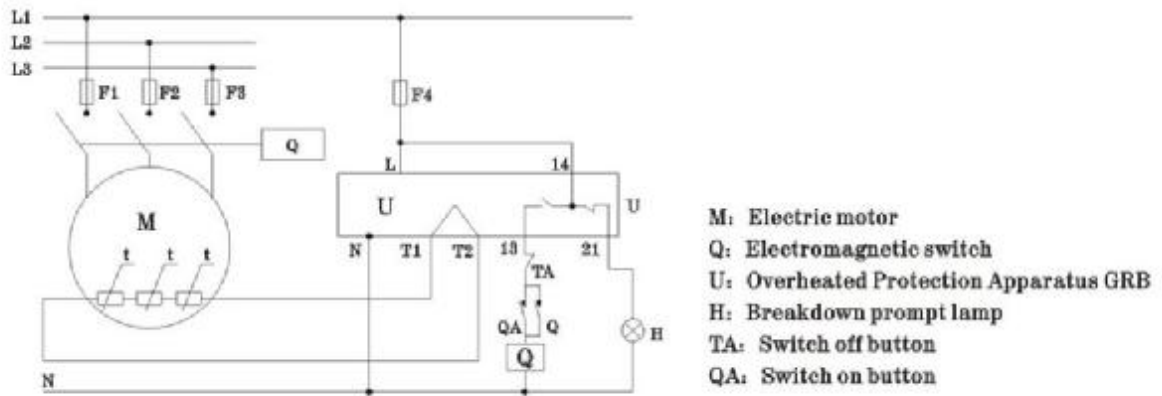
### 1. SUMMARIZATION

The GRB series PTC Temperature control module is specially designed for being used with MZ6 PTC Thermistors, if the electric motor ( or some place on the electric motor)is overheating, the resistance of PTC Thermistors will rise, and can be passed to the protection apparatus, the relay contact inside the protection apparatus transforms to push the control circuit(electromagnetic switch etc) to switch off the main power source, and further to protect the elector motor.

### 2. TECHNICAL PARAMETER

- 1) Operating voltage: AC 220V;
- 2) Allowable volt tolerance:  $\pm 20\%$ ;
- 3) Frequency: 50~60Hz;
- 4) Self-consuming power: <0.8VA;
- 5) Allowable environment temperature: -30~70°C;
- 6) Rated current of switch: 7A;
- 7) Operating resistance:  $3K \Omega \times (1 \pm 10\%)$  ;
- 8) Restoring resistance: 1500~1800  $\Omega$  ;
- 9) Weight: 0.2Kg.

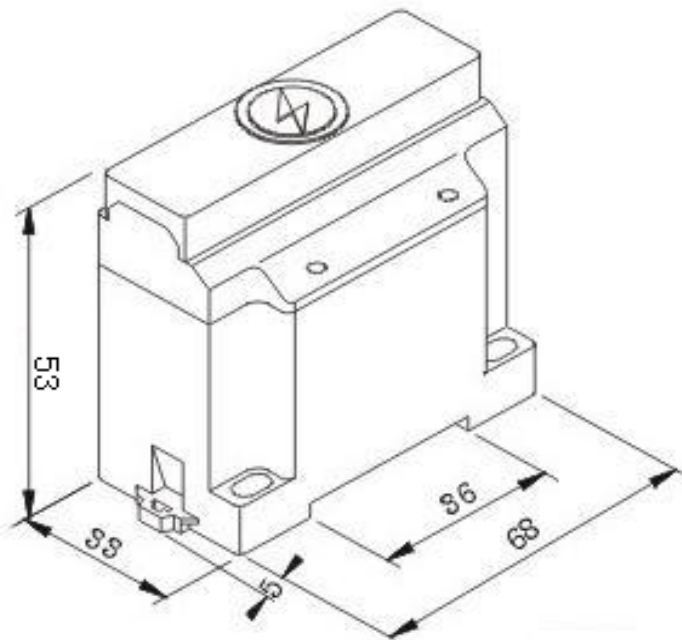
### 3、 PARAMETER CONNECTION DIAGRAM



T1	T2	13	14	21	L	N
PTC connected terminal		Normally closed contact	Common connecting contact	Normally open contact	Electric power connected terminal	

Note: 1). Wiring Reference Chart is made according to when the circuit is powered the relay is functioning ( Normally Open Mode - NO).  
 2). If the Overheat Protector is the Normally Close Mode, replace the position of the terminal 13 to 21 and 21 to 13.

#### 4、OUTLINE DIMENSIONS: 68×33×53(mm)



#### 5、INSTALLTION AND USE

##### 1、Installation

- 1) First please confirm the model of the product conforms to the electrical machinery's matching requirement.
- 2) Install the protector in the equipment's control cabinet, avoid the fire and the rain.
- 3) The GRB-2 type electric motor overheated protection apparatus's base is equipped with the slot, fix one side of the base slot of protector on one side of the

distributing box or distribution cabinet's track, then pull out the protector's set pin, put the protector into the distributing box or distribution cabinet's track, unloose the protector's set pin, then fix the protector into the track. When installing, strain should be made evenly, in order to avoid causing the product damage. As shown in figure 1.

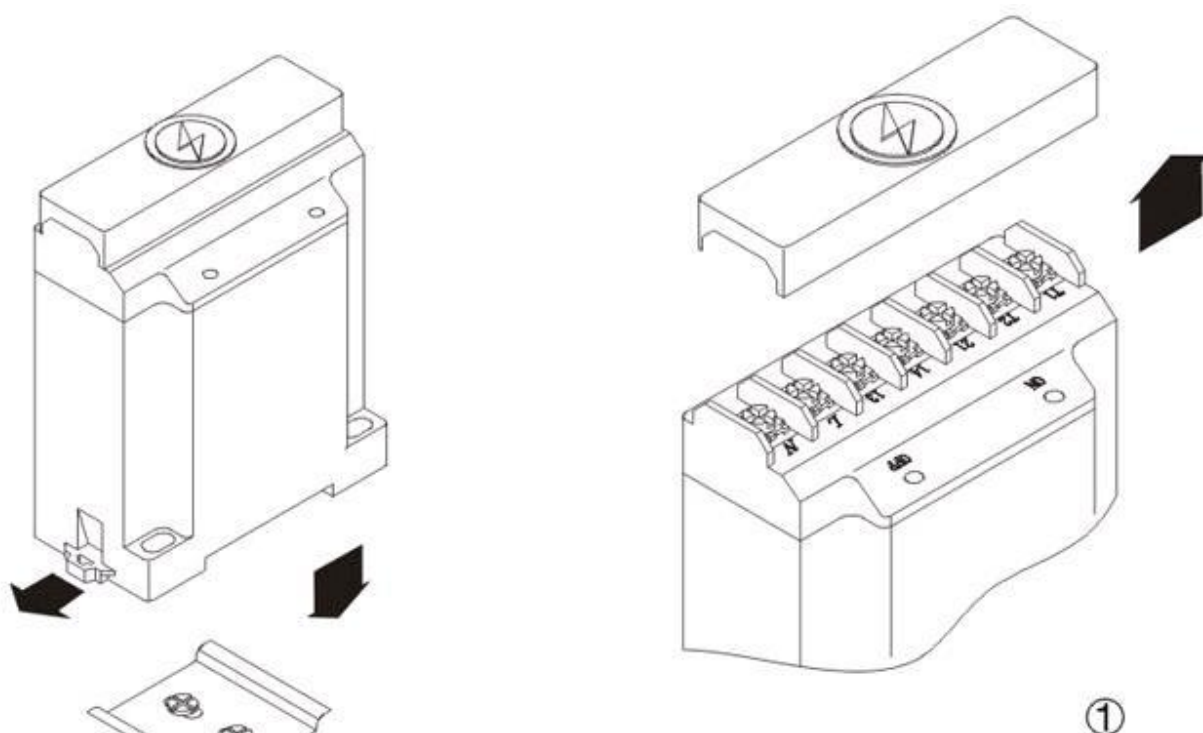
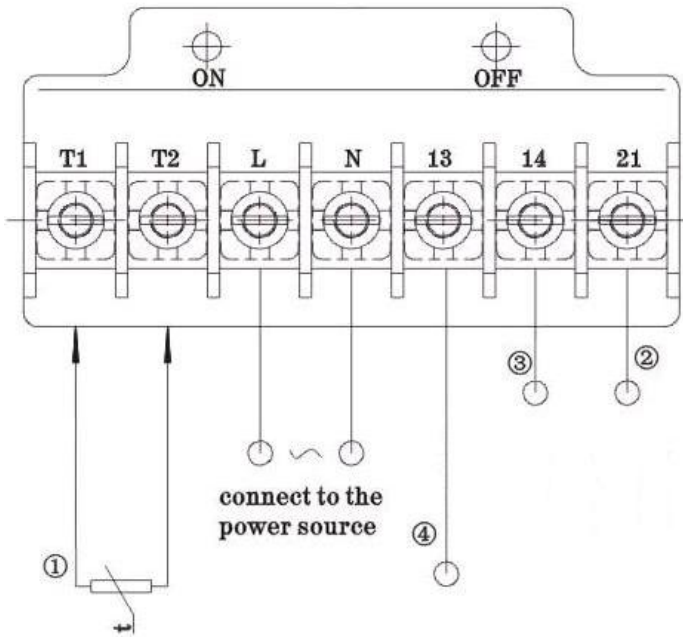


figure 1

## 2、Wiring

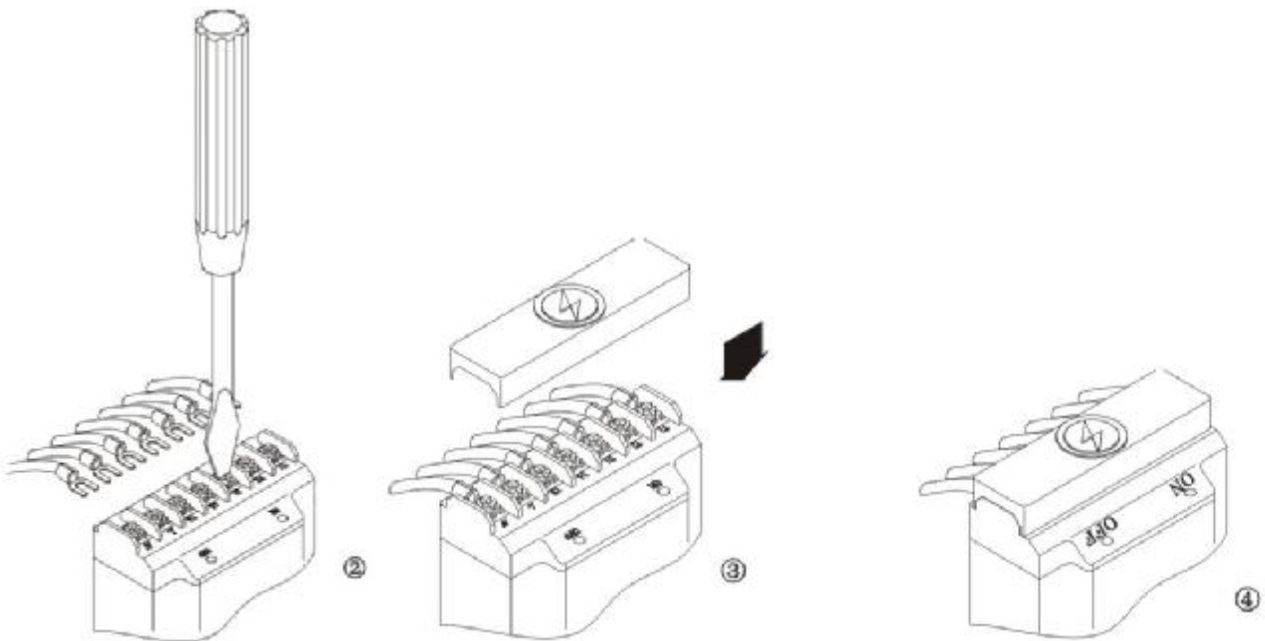
- 1) Open the wiring lid of protector. Connect L,N ends to the power source. Connect T1,T2 ends to PTC thermistor. Connect 14 end to the power source. 13 end should be connected to the electric motor's start switch. 21 end should be connected to the failure indication instrument or the failure warning device.



- ① connect to PTC thermistor
- ② connect to the failure indication instrument or failure warning device
- ③ connect to the power source
- ④ connect to the electric motor's start switch

Wiring graph

2) Lead wire should be connected to the right wiring terminal and firmed.



3) Cover the wiring lid tightly after wiring.

4) The installation is finished, as the chart shows.

### 3、 Safety attention

1) When installing the protector, the product can't be stricken, prevents the product the product from being damaged.

2) In the course of installation, Product should be far away from the fire, In order to avoid the product reach to the high temperature and cause the product's primary

elements being damaged.

- 3) The product should install in the distribution box or the distribution cabinet prevented the product being soaked by the water.
- 4) Before installation, please confirm whether the product specification model conforms to the requirement, prevents the wrong use.
- 5) Please confirm the input power source is cut off before wiring, in order to avoid getting an electric shock.
- 6) The wiring work must be handled by the special electrician, in order to avoid getting an electric shock.
- 7) Before wiring, the product should be correctly installed, otherwise there may be the danger of getting an electric shock.
- 8) Must confirm the product rated voltage is consistent with the alternating current supply voltage, in order to avoid damaging the product.
- 9) When the electric motor protected by protector works normally, The protector's green signal light is shining. When the electric motor's red signal light is shining, the green signal light goes out.
- 10) Do not open the products and change the inside elements.