

Instruction Manual

Intelligent creepage protection circuit breaker

(metering + RS485)

(metering + RS485+WIFI)

1 Scope and characteristics of application

The ZXBX1L-125 series RS485 circuit breaker is suitable for AC 50/60Hz, rated working power 230/400V, rated working current 80A and below. When there is over-voltage in the line (set over-voltage) to protect the power equipment, simultaneously has the overload and the short circuit protection function. Good-looking, Good and reliable performance, High on-off ability, Quick release, Modular rail type installation.

2 Normal working conditions

2.1 Ambient air temperature

- a The upper limit shall not exceed 40°C
- b The lower limit shall not be lower than -5 °C
- c The average value within 24h does not exceed 35°C
- d Limit service temperature -25°C ~ 70°C

2.2 Altitude

The elevation of the installation site shall not exceed 2,000 metres.

2.3 Atmospheric condition

- a When the ambient air temperature is + 40 °C, the relative humidity of the air does not exceed 50%, Higher relative humidity can be achieved at lower temperatures.
- b When the monthly mean minimum temperature of the wettest month is 25 °C, the monthly mean phase humidity is 90%.

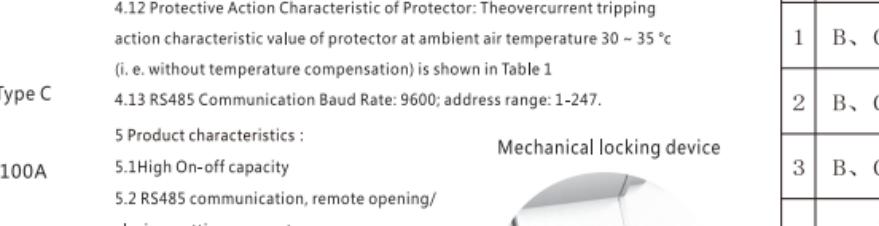
- c Condensation on the surface of the product due to a change in temperature has been taken into account.
- 2.4 Pollution level

The pollution level used in the circuit breaker is level 2.

2.5 Type of installation

Class II, Class III installation

3 Type and meaning



4 Technical parameter

4.1 Rated operating voltage : AC230V/400V

4.2 Shell frame rating current : 100A

4.3 On-off capacity : Ics=10000A

4.4 Rated current In: 10A,32A,40A,50A,63A,80A,100A.

4.5 Life Span: Mechanical Life, on and off 10,000 times, Electrical Life, on and off 6000 times.

4.6 Operating characteristics under overpressure condition :

4.6.1 Overpressure action value setting range: AC 240-300V.

4.6.2 Overvoltage recovery value Uvor: AC 220-275V,

4.7 Undervoltage characteristic :

4.7.1 Undervoltage action value setting range: AC 140-190V.

4.7.2 Undervoltage recovery value Uvir: AC 170-220V.

4.7.3 Undervoltage action delay: 0.5S-6S.

4.8 Re-Power after power failure : set to automatic mode, when the detection of no fault automatically closing, closing time less than 3s; if set to manual mode, can not automatically closing.

4.9 Wiring: Using clamp wiring terminal.

4.10 The cross-sectional area of the connecting cable can reach 35mm².

4.11 Installation: installed on 35*7.5 mm standard guide rail.

4.12 Protective Action Characteristic of Protector: The overcurrent tripping action characteristic value of protector at ambient air temperature 30 ~ 35 °C (i. e. without temperature compensation) is shown in Table 1

4.13 RS485 Communication Baud Rate: 9600; address range: 1-247.

5 Product characteristics :

5.1 High On-off capacity

5.2 RS485 communication, remote opening/closing, setting parameters.

5.3 Maintenance can be remote locking, remote unlocking, with mechanical locking; mechanical locking device see right picture.

5.4 Under-voltage protection: Can set under-voltage action value, can also turn off under-voltage function.

5.5 Loss of voltage protection: When the under-voltage function is turned on, there is loss of voltage protection, that is, power cut trip, the product can not be closed manually at this time.

5.6 Voltage, current, leakage current, temperature action value can be set.

5.7 Can Read real-time voltage, current, leakage current, temperature, power value, with metering function.

5.8 Manual/automatic setting: Manual or automatic mode can be set.

5.9 Can Withstand overpressure value: under overpressure (N-L: 440V) can reliable action, and the product does not suffer any damage.

6 Installation

6.1 The outline dimension drawing and the installation dimension drawing are shown in Fig. 1

6.2 Installation method

The circuit breaker shall be mounted vertically on the mounting rail, which shall be fixed to the plywood or metal plate with M5 screws. And then install the product.

| NO. | types of over-current instantaneous trip off release | rated current In | Initial state | Test Current | Set Time | Expected result |
|-----|--|------------------|---------------|--------------|--------------|-----------------|
| 1 | B、C、D | In≤63A | Cold State | 1.13In | ≥1h | no Trip off |
| | | In>63A | | | ≥2h | |
| 2 | B、C、D | In≤63A | Hot State | 1.45In | ≤1h | Trip off |
| | | In>63A | | | ≤2h | |
| 3 | B、C、D | In≤32A | Cold State | 2.55In | 1s< t < 60s | Trip off |
| | | In>32A | | | 1s< t < 120s | |
| 4 | All values | 3In | Cold State | | ≥0.1s | no Trip off |
| | | 5In | | | | |
| | | 10In | | | | |
| 5 | All values | 5In | Cold State | | <0.1s | Trip off |
| | | 10In | | | | |
| | | 20In | | | | |

figure 1



figure 1

7 Wiring Diagram (See figure 2)

The power supply end and the load end should be connected according to the diagram, no wrong connection



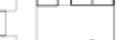
Power Terminal



Load End



Power Terminal



Load End



Power Terminal



Load End



Power Terminal



Load End



Power Terminal



Load End

figure 2

8 The indicator light is illustrated in figure 3
 ● The green light is normal, the green light is always on for closing, and the green light flashes for opening.
 ● Red Light always on: locked
 ● Red Light flashing: Fault Opening State, can not close. The above is the indication status of RS485 lamp.
 ● If wi-fi is available, the indicator light indicates the signal status. The green flash is in the distribution network state, the green light is always on in the network successful state, and the green light is in the offline state slowly.

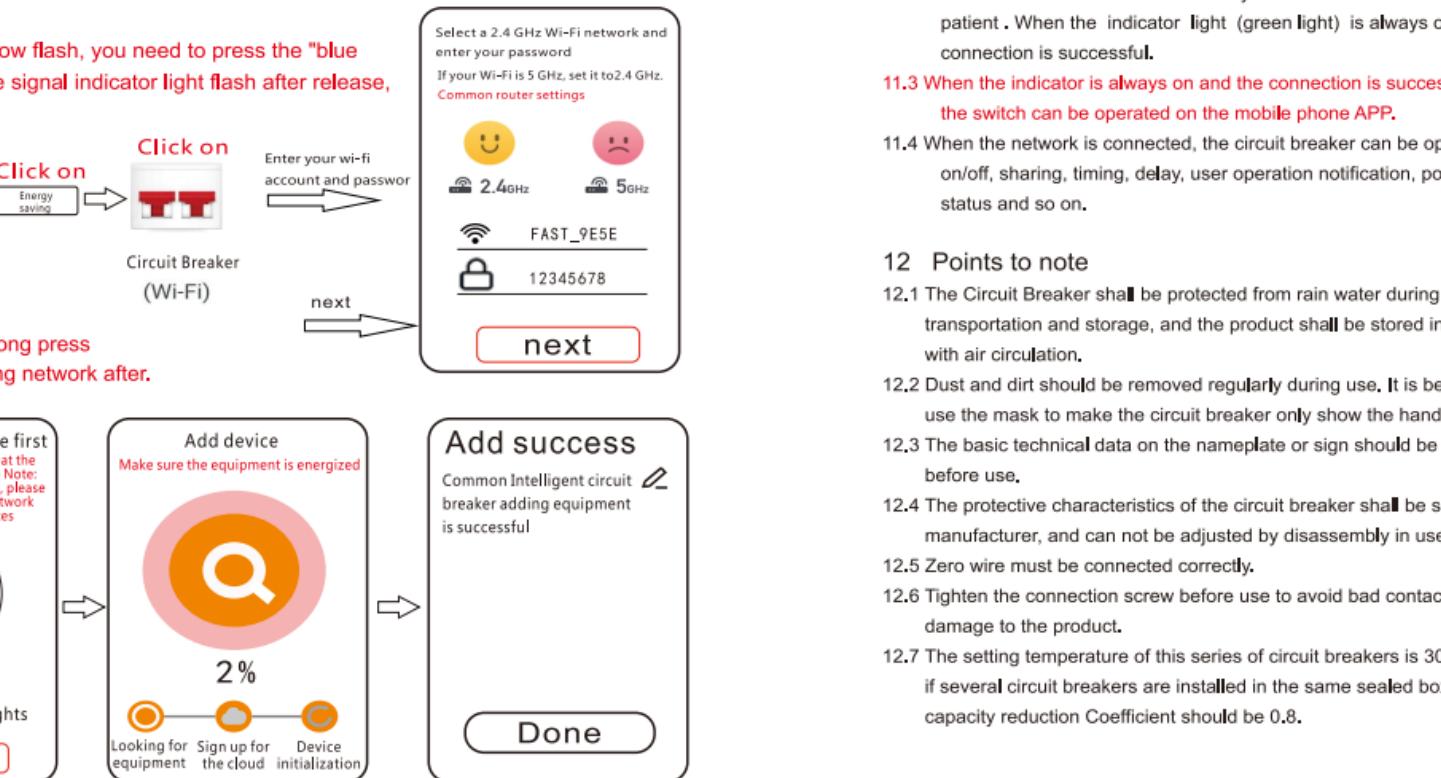
9 Communication instruction
 9.1 Communication settings and functional instructions are detailed in the communication protocol
 9.2 Under-voltage switch on or off via function instruction set.
 9.3 The circuit breaker can be locked remotely by the Lock Function Command, and can not be closed manually after locking, which is convenient for maintenance; The manual closing can be done only after the unlocking command is sent
 9.4 Set auto-closing or manual state by function instruction
 9.5 The real-time voltage can be read through the function command, and the circuit breaker is on/off
 Note: Sending instructions must be connected to the power supply of the product and keep the communication status

10 Install doodler "tuya" APP.
 10.1 Direct scan figure 3 Installation.
 10.2 Download "tuya Smart" app. Search "smart life" in App Store for iOS version or Google play for android version.
 10.3 Apple searches the APP store for "smart life" APP and installs it.
 10.4 As shown in figure 2, the circuit breaker according to the requirements of the correct wiring and electrification, to circuit breaker signal indicator light.

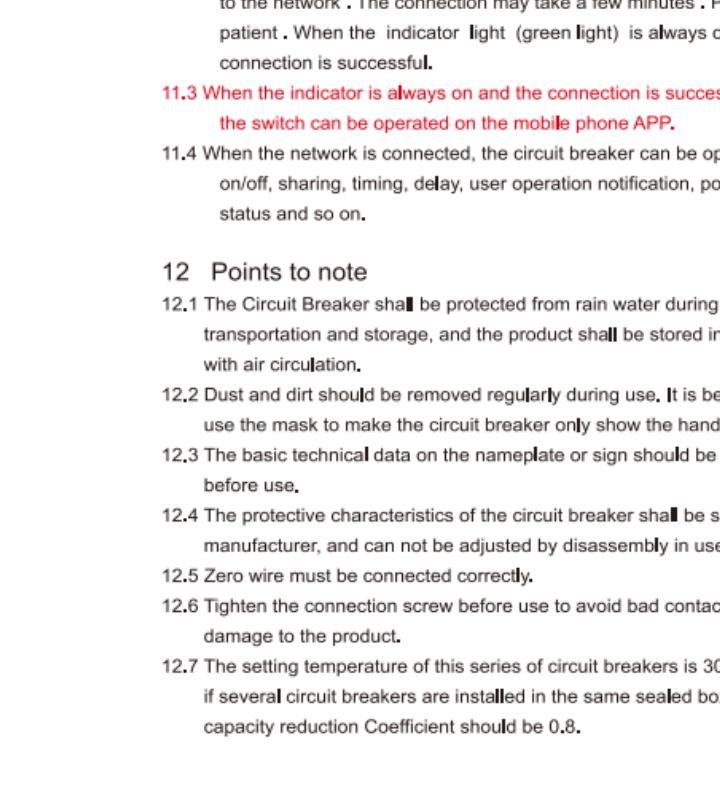


figure 3

11 Distribution Network
 11.1 Run "tuya Smart", Click "+" in the upper right corner and pop up "add manually".
 If the signal indicator light is not bright or slow flash, you need to press the "blue button" key for about 10 seconds, when the signal indicator light flash after release, into the distribution network state.



The indicator lights flash quickly : Direct configuration network.
 Indicator light not on or flashing slowly : Long press the "blue button", fast flicker after matching network after.



11.2 The device was successfully added and then automatically connected to the network . The connection may take a few minutes . Please be patient . When the indicator light (green light) is always on, the connection is successful.
 13 The signal indicator is not on: Please check.
 13.1 Whether the power cord is connected as required (the 1p/3p product external zero wire must be connected to the zero wire of the distribution system).
 13.2 Is The power supply voltage normal.

14 Place of use
 Mainly used in homes, schools, hospitals, shopping malls, office buildings, irrigation, farms, pumps, rental housing and other electrical equipment remote control.

12 Points to note
 12.1 The Circuit Breaker shall be protected from rain water during transportation and storage, and the product shall be stored in a place with air circulation.
 12.2 Dust and dirt should be removed regularly during use. It is better to use the mask to make the circuit breaker only show the handle part.
 12.3 The basic technical data on the nameplate or sign should be checked before use.
 12.4 The protective characteristics of the circuit breaker shall be set by the manufacturer, and can not be adjusted by disassembly in use
 12.5 Zero wire must be connected correctly.
 12.6 Tighten the connection screw before use to avoid bad contact and damage to the product.
 12.7 The setting temperature of this series of circuit breakers is 30 + 5 °C . If several circuit breakers are installed in the same sealed box, the capacity reduction Coefficient should be 0.8.

15 Product function
 15.1 Short circuit protection
 15.2 Overload protection
 15.3 Voltage detection
 15.4 creepage detection
 15.5 Temperature detection
 15.6 Current detection
 15.7 Mechanical locking device
 15.8 Remote Lock. Remote unlock
 15.9 With metering function
 15.10 With parameter setting
 15.11With pre-paid features
 15.12 With fault query

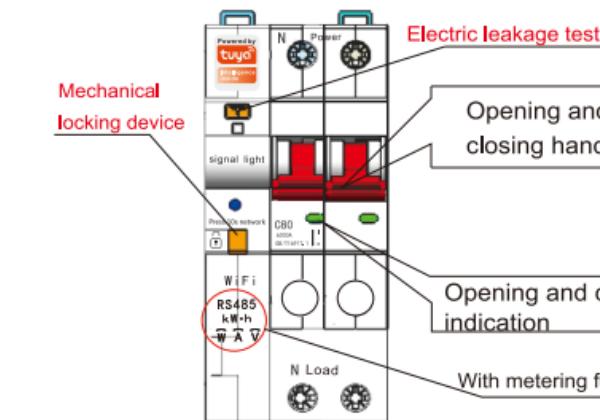
16 The product panel is illustrated in figure 4


figure 4

Note:
 ● The intelligent circuit breaker has voltage, current, leakage current, temperature action value can be set. Can Read real-time voltage, current, leakage current, temperature, power value, with metering function.
 ● Remote control, remote parameter setting