

Huacaoe TYZGTH4CH-B1RF

Huacaoe Zigbee 4-Channel Temperature Monitoring Smart Relay Module

Model: TYZGTH4CH-B1RF

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Huacaoe Zigbee 4-Channel Temperature Monitoring Smart Relay Module. This device allows for remote control and temperature monitoring of up to four electrical appliances via the Tuya Smart Life app, with integrated Zigbee connectivity and a waterproof temperature sensor.

2. SAFETY INFORMATION

- Ensure the power supply is disconnected before any wiring or installation procedures.
- Do not exceed the maximum load current of 10A per channel or 16A total for all four channels. For high-power appliances or generators, use an external contactor.
- Operate the device within the specified working temperature (-40°C to 80°C) and humidity (5% to 90% RH) ranges.
- This device requires a Tuya Zigbee hub for full functionality.
- Keep the device away from water and extreme temperatures, except for the waterproof sensor probe.

3. PACKAGE CONTENTS

- 1 x Huacaoe Zigbee 4-Channel Smart Relay Module
- 1 x 1-meter DS18B20 Waterproof Temperature Sensor
- 1 x User Manual

4. PRODUCT OVERVIEW

The Huacaoe Zigbee 4-Channel Smart Relay Module is designed for intelligent control and monitoring. It

features four independent dry contact relays and a dedicated input for a DS18B20 temperature sensor.



Image 1: Huacaoe Zigbee 4-Channel Smart Relay Module and DS18B20 Temperature Sensor.

4.1 Component Identification

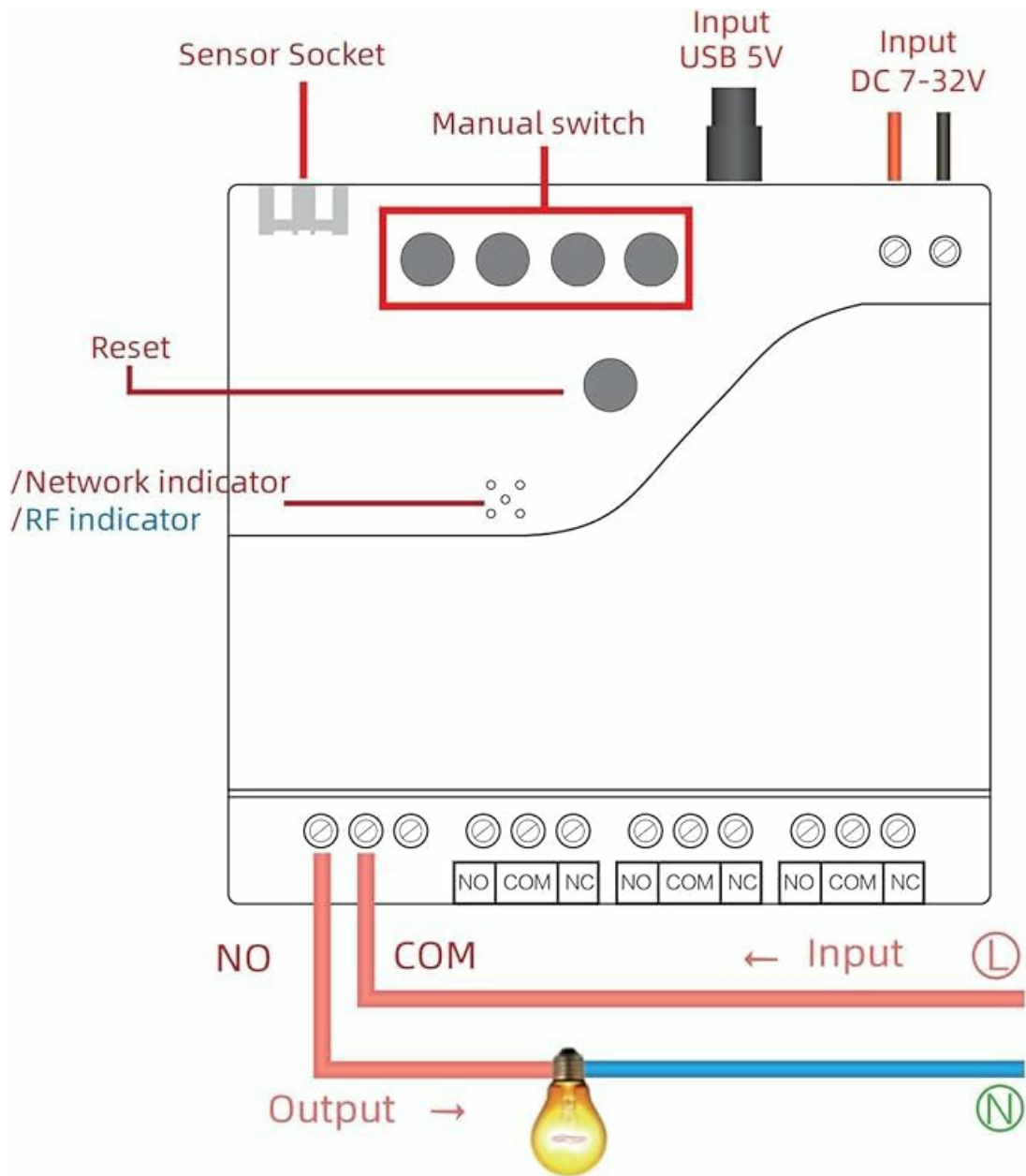


Image 2: Labeled diagram of the relay module showing sensor socket, manual switches, reset button, indicators, and input/output terminals.

- **Sensor Socket:** Connects the DS18B20 temperature sensor.
- **Manual Switches (K1-K4):** Control each relay channel manually.
- **Reset Button:** Used for pairing and resetting the device.
- **Network Indicator:** Shows Zigbee network status.
- **RF Indicator:** Shows 433Mhz RF status.
- **Input USB 5V:** Alternative power input via Micro USB.
- **Input DC 7-32V:** Main power input for the module.
- **Output Terminals (NO, COM, NC):** Dry contact relay outputs for connecting appliances.

5. SPECIFICATIONS

Feature	Specification
Model Number	TYZGTH4CH-B1RF
Power Supply Input	USB 5V or DC 7-32V
Power Consumption	<1W (Quiescent current: 80mA)
Relay Cutover Current	<10A/Channel, Total <16A (for 4 channels)
Working Temperature	-40°C to 80°C
Working Humidity	5% to 90% RH
Wireless Standard	Zigbee 3.0
Material	RF-ABS
Dimensions	2.95 x 2.87 x 0.79 inches
Output Connector Type	Dry Contact (voltage-free)
Temperature Sensor	DS18B20 Waterproof Probe (Stainless Steel)
Sensor Measuring Range	-40°C to 80°C
Sensor Operating Voltage	3.0-5.5V
Sensor Cable Length	1 meter (extendable up to 5m)

6. SETUP INSTRUCTIONS

6.1 Power Supply Connection

The module can be powered by either a USB 5V source or a DC 7-32V source. Connect the appropriate power supply to the designated input terminals.

6.2 Temperature Sensor Connection

Connect the included DS18B20 waterproof temperature sensor to the dedicated sensor socket on the module. Ensure a secure connection.



Image 3: The waterproof DS18B20 temperature sensor probe.

6.3 Appliance Wiring (Dry Contact)

The module provides dry contact outputs (NO, COM, NC) for each of its four channels. This means the relay acts as a switch without providing voltage. You will need to wire your appliance's power circuit through the relay contacts.

- **Normally Open (NO):** The circuit is open (off) when the relay is de-energized and closed (on) when energized.
- **Common (COM):** The common terminal for the relay.
- **Normally Closed (NC):** The circuit is closed (on) when the relay is de-energized and open (off) when energized.

Connect one side of your appliance's power line to the COM terminal and the other side to either the NO or NC terminal, depending on your desired default state.

6.4 Tuya Smart Life App Installation

1. Download the **Tuya Smart Life** app from your smartphone's app store (iOS or Android).
2. Register or log in to your account.

6.5 Pairing with Tuya Zigbee Hub

This device operates on the Zigbee 3.0 protocol and requires a Tuya Zigbee hub for network connectivity and smart features. Ensure your Tuya Zigbee hub is already set up and online.

1. Power on the Huacae Smart Relay Module.
2. Open the Tuya Smart Life app and navigate to your Zigbee hub.
3. Select "Add sub-device" or similar option within the hub's settings.
4. Press and hold the Reset button on the Huacae module until the network indicator blinks rapidly, indicating pairing mode.
5. The app should discover the device. Follow the on-screen prompts to complete the pairing process.
6. For best results, perform the pairing process with the module close to your Tuya Zigbee hub.

7. OPERATING INSTRUCTIONS

Once paired, you can control and monitor the module using the Tuya Smart Life app.

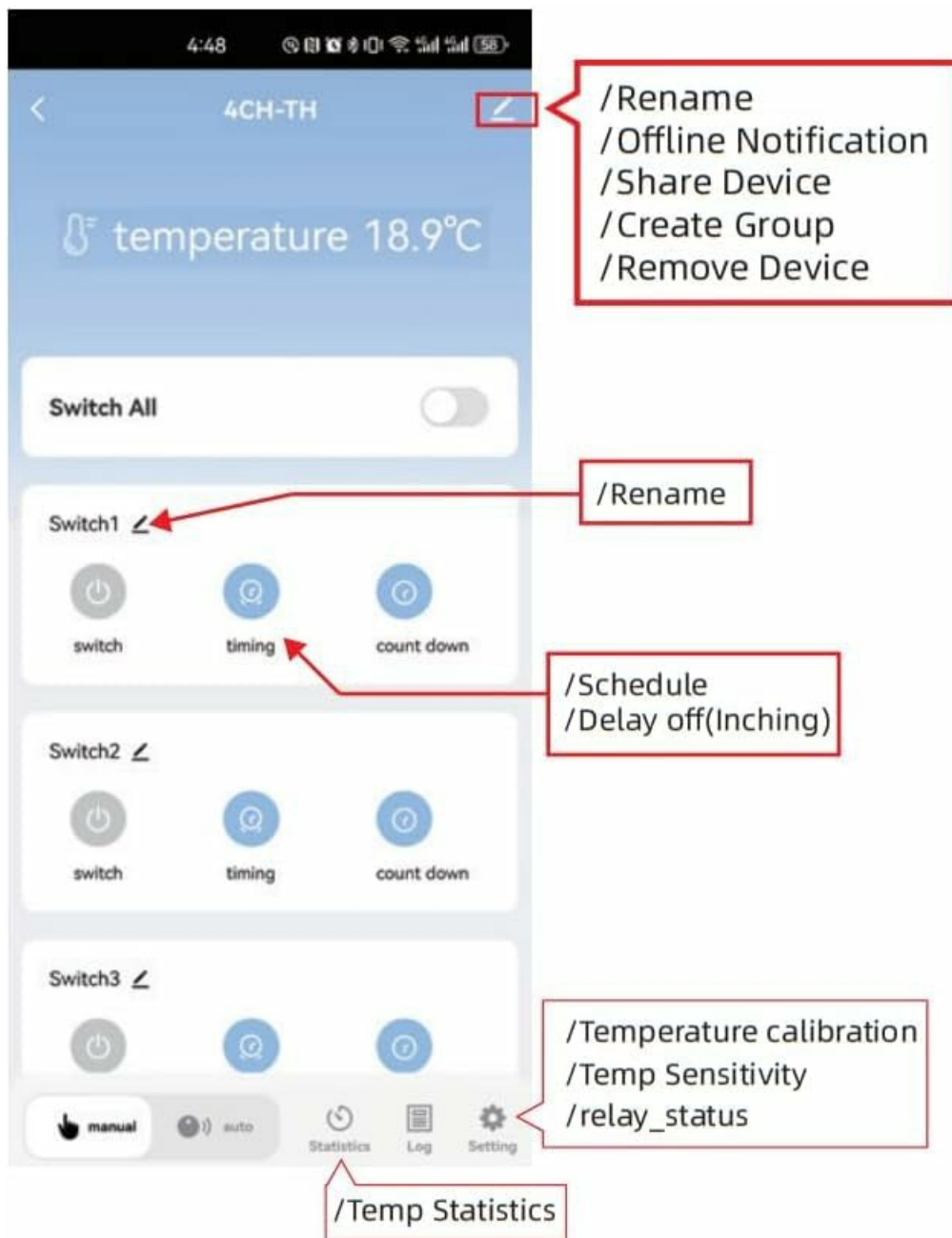


Image 4: Tuya Smart Life app interface for the 4-channel relay module, showing controls and settings.

7.1 Remote ON/OFF Control

In the Tuya Smart Life app, you can individually or collectively turn the four connected devices ON or OFF from anywhere with an internet connection.

7.2 Temperature Monitoring

The app displays real-time temperature readings from the connected DS18B20 sensor. You can switch between Celsius (°C) and Fahrenheit (°F) units. The app also provides temperature statistics per day/month/year.

7.3 Automatic Temperature Control

Set temperature thresholds in the app to automate the control of your appliances. The module can

automatically turn devices ON/OFF based on the ambient temperature.



App Remote Monitoring & Control

Real-time monitoring of temperature changes,
Remote control heating and cooling.



Image 5: Example of automatic heating and cooling control based on temperature settings in the app.

Temperature Automatic Control

Intelligent control of fish tank environment based on real-time temperature feedback



Image 6: Intelligent control of a fish tank environment based on real-time temperature feedback.

7.4 Timing Functions

The app supports scheduled, countdown, and cycle timers to turn devices ON/OFF at specified times.



Timing function

Each device supports up to eight enabled schedule/countdown/cycle timers



Image 7: Timing functions allow scheduling and countdown for connected devices.

7.5 Voice Control

Integrate the module with Amazon Alexa for voice control. Once configured in the Tuya app, link it to your Alexa account to control devices with voice commands.

7.6 Device Sharing

You can share control of the device with family members through the Tuya Smart Life app, granting them permissions to operate the switch.

Share control

You can share your equipment with your family, add some permissions, and let your family be free to control the Switch.



Image 8: Share control of the device with family members via the app.

7.7 Bluetooth and RF Functionality

The module includes extra Bluetooth and 433Mhz RF functions. If the device goes offline from the Zigbee network, you can still control it via Bluetooth using the Tuya app within available distance. It also supports fixed code 433Mhz RF.

8. MAINTENANCE

- Keep the module clean and free from dust. Use a dry, soft cloth for cleaning.
- Regularly check wiring connections for security and integrity.
- Ensure the temperature sensor probe is clean for accurate readings.

9. TROUBLESHOOTING

- **Device not pairing:** Ensure the module is close to your Tuya Zigbee hub during pairing. Confirm the hub is online and in pairing mode.
- **Temperature not displaying in app:** This module specifically supports Tuya Zigbee hubs. If paired with other brands' Zigbee gateways, temperature data may not display.
- **Device unresponsive after power cycle:** Some users have reported needing to press a button to reactivate the unit after a power outage. If this occurs, manually press one of the K1-K4 buttons or the reset button.
- **Relay not switching:** Check power supply to the module and the appliance. Verify wiring connections. Ensure the load does not exceed 10A per channel.
- **Inaccurate temperature readings:** Ensure the sensor probe is correctly connected and positioned in the area to be monitored.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the seller's contact information or the product listing on the platform where it was purchased. Keep your purchase receipt for warranty claims.