



# **TOPFLYtech TSR1-B**

## **Wireless relay**

User Manual

Revision 1.1

Thanks for your purchasing of the high-quality IOT sensor from TOPFLYtech. Please read this user manual carefully before installation and operation. Information in this manual is the property of TOPFLYtech. Changes to the specifications and features in this manual may be made by TOPFLYtech without prior notice. No part of this manual could be reproduced, copied, translated, transmitted, or published in any form or by any means without TOPFLYtech's prior written permission.



TSR1-B

The relay is using Bluetooth 5.0 technology for communication. You can use our Bluetooth APP to control it via your phone directly or command it via GPS tracker. It has a heavy load-carrying ability with low current consumption. It provides the customer with cost-effective, efficient and safe environment remotely control method.

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## 1. Quick Reference



TSR1-B

## 2. Product Specifications

General Specifications	
Model Name	TSR1-B
Dimensions	21*51*10mm
Waterproof Class	IP 65
Weight	20g±1g
Operating Voltage	DC 7V~32V
Standby Current	< 1 mA @ 12V&24V
Trigger Current	17 mA@12V / 10 mA@24V
Maximum Load Current	6A @ 250V AC / 6A @ 30V DC
Operating Temperature	-40°C ~ +85°C (-40°F ~ 185°F)
Power Output	+4 dBm
Transmission Range	Up to 300m (Open Field)
Interfaces	
Red	Power
Black	GND
Orange	Normally Closed (NC)
Blue	Common (COM)
Grey	Normally Open (NO)

## 3. Working principles of TSR1-B

In default, The TSR1-B close the circuit between NC and COM. Once it gets the command to work, it will open the circuit between NC and COM and close the circuit between NO and COM.

After power-up, the device reads the settings from the non-volatile memory and stays

the same status as the last time. To ensure safety, it won't take any action unless it gets the encrypted correct command.

#### 4. Initiate Unit Guide

##### 4.1 How to install it

4.1.1 Please refer to below diagram to connect device.

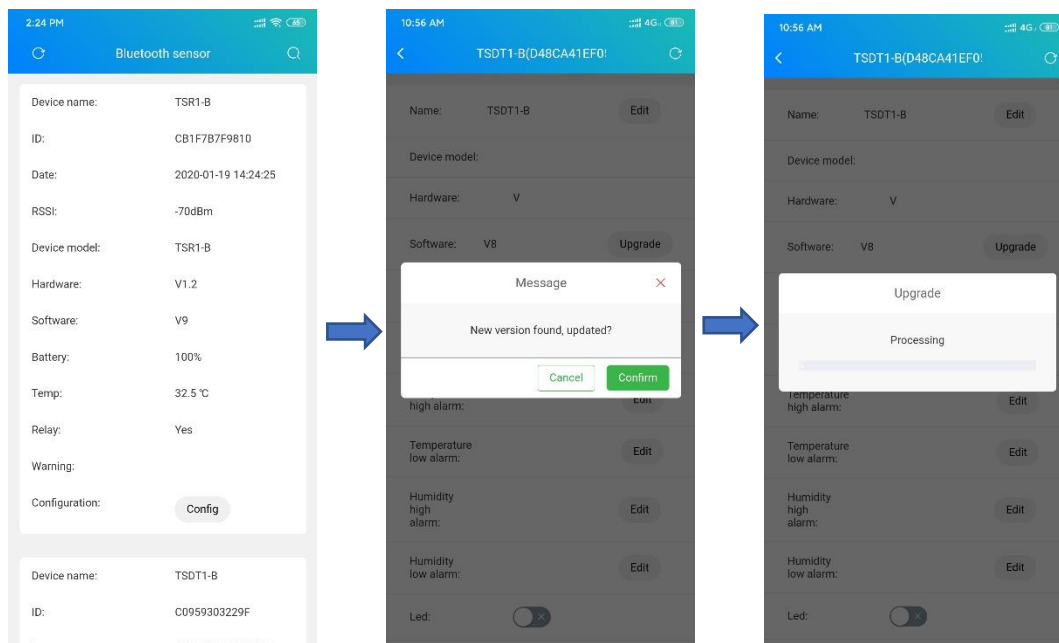


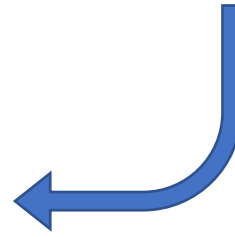
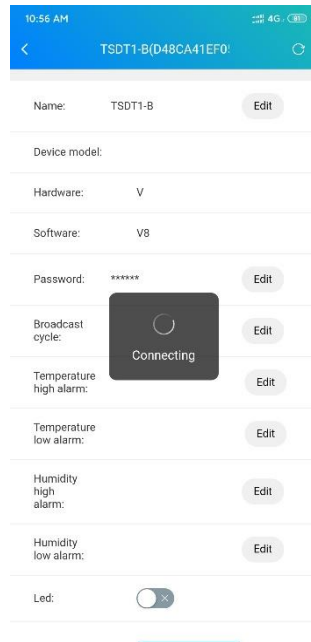
##### 4.2 How to connect it with your phone

- 4.2.1 Download the application called "TFTBLE" from Play Store.
- 4.2.2 Turn your phone the feature Bluetooth on.
- 4.2.3 Run the "TFTBLE" and allow all the permissions it needs.
- 4.2.4 Find the device named "TSR1-B".

##### 4.3 How to update the firmware of the sensor

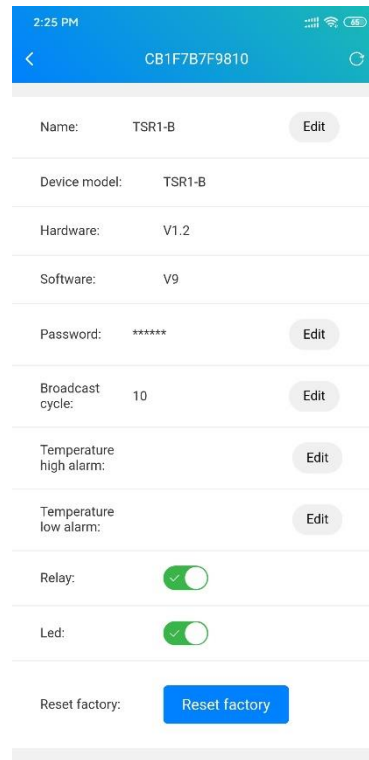
- 4.3.1 Click "Config" button.
- 4.3.2 If there is available latest version, it will show you a pop notice.
- 4.3.3 "Confirm" it to update the firmware.
- 4.3.4 Waiting for some minutes. In the process of updating, please don't leave your phone far away from the sensor.





#### 4.4 How to configure it with your phone

- 4.4.1 Run the APP and click the “Config” button
- 4.4.2 Input the edit password. The password is “654321” in default.
- 4.4.3 You will find configure box. We support Name/Password/Broadcast cycle/Temperature alarm/Relay/Led/Reset setting by APP.



4.5 How to connect it with TOPFLYtech tracker

- 4.5.1 Please make sure the device you want to connect has Bluetooth feature.
- 4.5.2 Please refer to the accordingly latest command list. Hardwired series please refer to <0x25> command list. OBD II series please refer to <0x26>.
- 4.5.3 Add the sensor ID into the ID list of the tracker. You can get the ID by scanning QR code and APP.

BTIDA,0000,A,B#	Add BLE sensor A=sensor ID B=sensor type (1=temperature and humidity sensor, 2=door sensor, 3=wireless relay) One tracker supports up to 40 BLE sensors (temperature & humidity sensor+door sensor+wireless relay)
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- 4.5.4 Please view the sensor data from your platform.

4.6 How to turn the relay on by the command

- 4.6.1 Please refer to below command list.

BTRELAY,0000,A,B,C#	A=Relay ID B=Relay Password C=0(disable)/1(enable)
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4.7 How to connect it with the third-party Bluetooth device

- 4.7.1 If you want to forward the sensor data to the third-party Bluetooth device, you need to contact TOPFLYtech about the compatibility issue.

**5. Quick Trouble Shooting**

- 5.1 The APP shows "Loading" all the time
  - 5.1.1 End the program first.
  - 5.1.2 Check the Bluetooth status and make sure the BLE is on.
  - 5.1.3 Make sure all the permissions of the APP are allowed. You can enter <Settings>-<Permissions> to manage it.
  - 5.1.4 Close to the sensor and run APP again.

**6. Warranty and Stock**

The device standard warranty period is 12 months starting from the date of purchasing.

**7. Basic**

Below are parameter setting of the sensor by the APP.

Parameter	Description
Password	Default Password Is "654321". You Can Protect Your Sensor Setting by Changing Password.

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Broadcast Cycle	The Uploading Period Setting of Sensor.
Temperature High Alarm	Once meets this condition, it will trigger alarm.
Temperature Low Alarm	Once meets this condition, it will trigger alarm.
LED	LED Controller Switch.
Reset Factory	It will clean All setting.