Single Relay Module (000x0000 Article Number) (TS2182)

OKdo™

DESIGN THE WORLD

Product Details

The TelePort relay is an "automatic switch" that uses a small current to control a large current.

In daily life, we generally use AC power supply to drive electrical equipment, and sometimes we use switches to control electrical appliances. If the switch is directly connected to a AC circuit, people will be in danger once there is a electricity leakage. Therefore, we design this relay module with NO (normally open) and NC (normally closed) terminals.

Features and Benefits

- Compatible with RJ11 6P6C OKdo TelePort Control boards and expansion shields.
- Capable of switching a maximum load of AC 250V/10A, DC 30V/10A. with a Normally Open (NO) relay.
- Low 5mA trigger current, strong drive capability and stable performance.

Technical Specifications

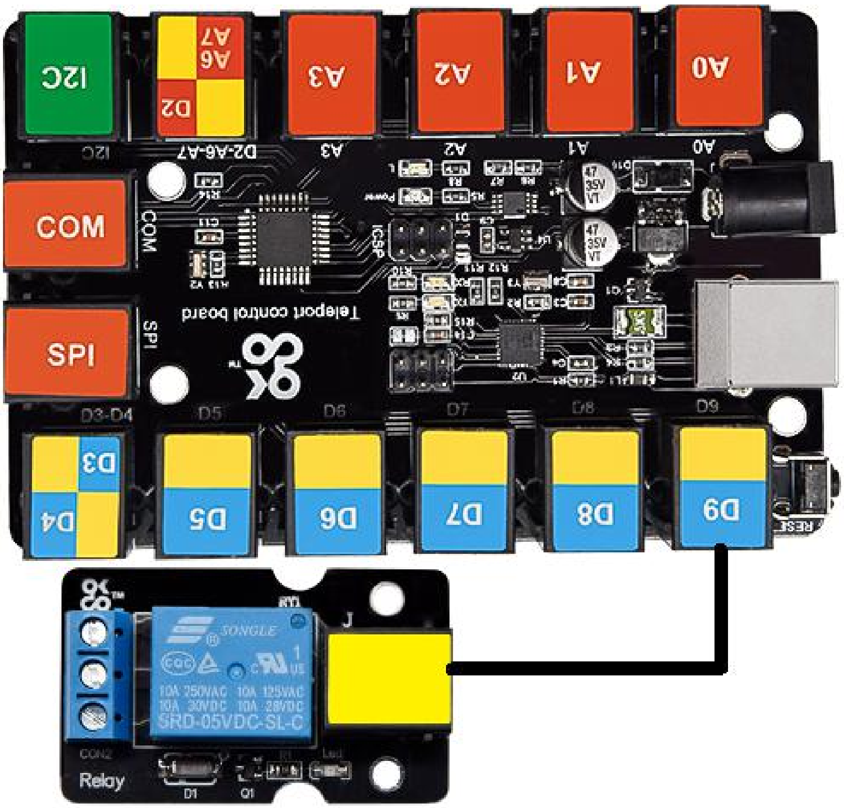
Sensor type	Digital output
Working voltage	3.3V-5V
Rated current	10A (NO) 5A (NC)
Maximum switching voltage	150VAC 24VDC
Control signal	TTL level

Applications

- Automobile sector
- Household application
- Industrial control relay

This module is compatible with the TS2180-Raspberry Pi shield, the TS2179-Micro:bit shield and the TS2178-TelePort main board.

➢ Arduino Application



This module is compatible with the TS2178 TelePort control board.

Test Code

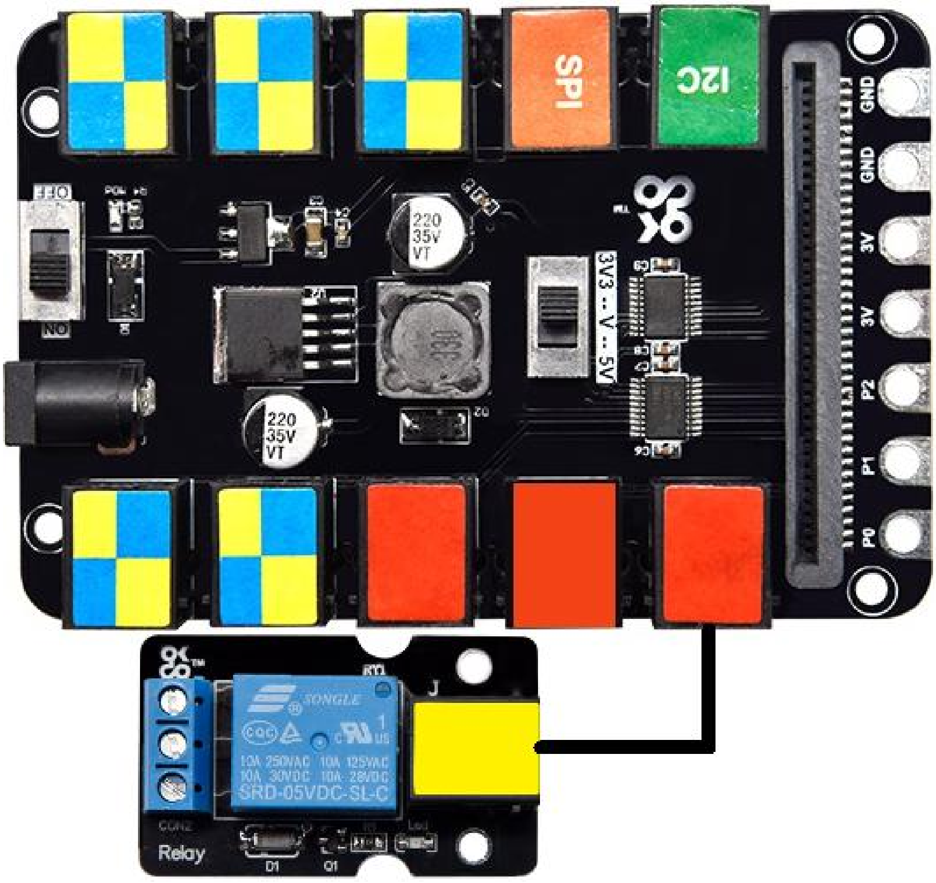
```
 int Relay = 9;
  void setup()
{
  pinMode(Relay, OUTPUT);     //Set Pin9 as output
}
void loop()
{
  digitalWrite(Relay, HIGH);   //Turn on relay
  delay(1000);
  digitalWrite(Relay, LOW);   //Turn on relay
  delay(1000);
}
```

Test Code

Wire up, upload test code and power it up. When the relay module is turned off, the COM (common) terminal block will be connected to the NC (Normally Closed) terminal block.; when the relay module is turned on, the COM (common) terminal block will be connected to the NO (Normally Open) terminal block.

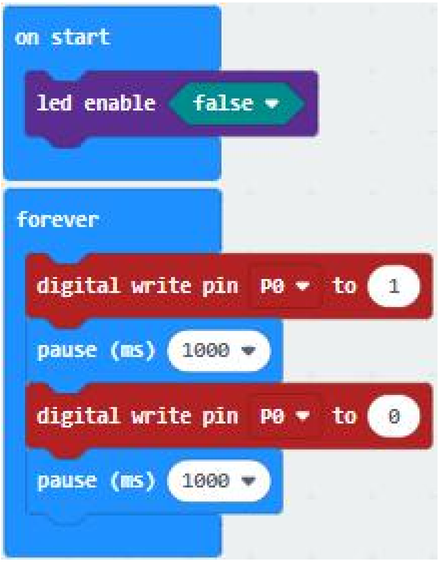
If you want to know more details about Arduino and the TelePort control board, you can refer to TS2178.

➢ Micro:bit Application



It is compatible with the Micro:bit board and the TS2179 Micro:bit expansion board.

Test Code



```
on start
    led enable false
forever
    digital write pin P0 to 1
    pause (ms) 1000
    digital write pin P0 to 0
    pause (ms) 1000
```

..............①Run the "on start" block to boot the program

..............②the LED matrix of the Micro:bit is turned off

..............③The program is run circularly under the command of "forever" block

..............④Set P0 to high level(1), turn on the relay module

..............⑤delay in 1000ms

..............⑥Set P0 to low level(0), turn off the relay module

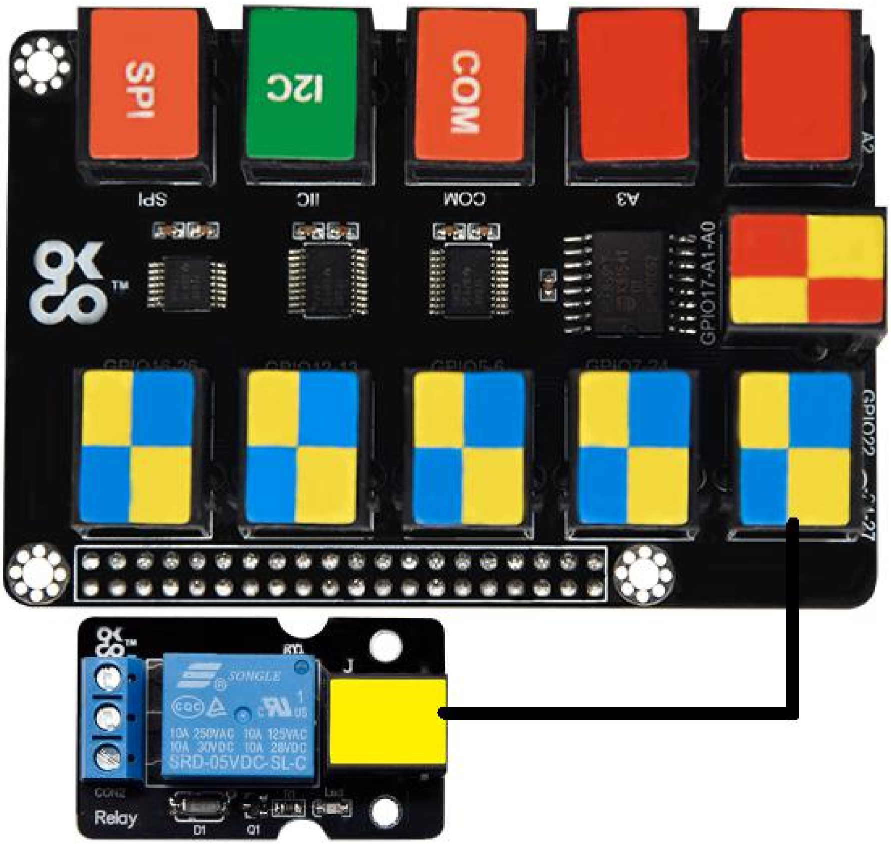
..............⑦delay in 1000ms

Test Result

Wire up, insert the Micro:bit V2.0 into the shield, turn DIP switch to 5V, and ON end, upload test code and power it up. upload test code and power it up. Then the relay module will be connected for 1s and disconnected for 1s.

If you want to know more details about the Micro:bit board and Micro:bit shield, you can refer to TS2179.

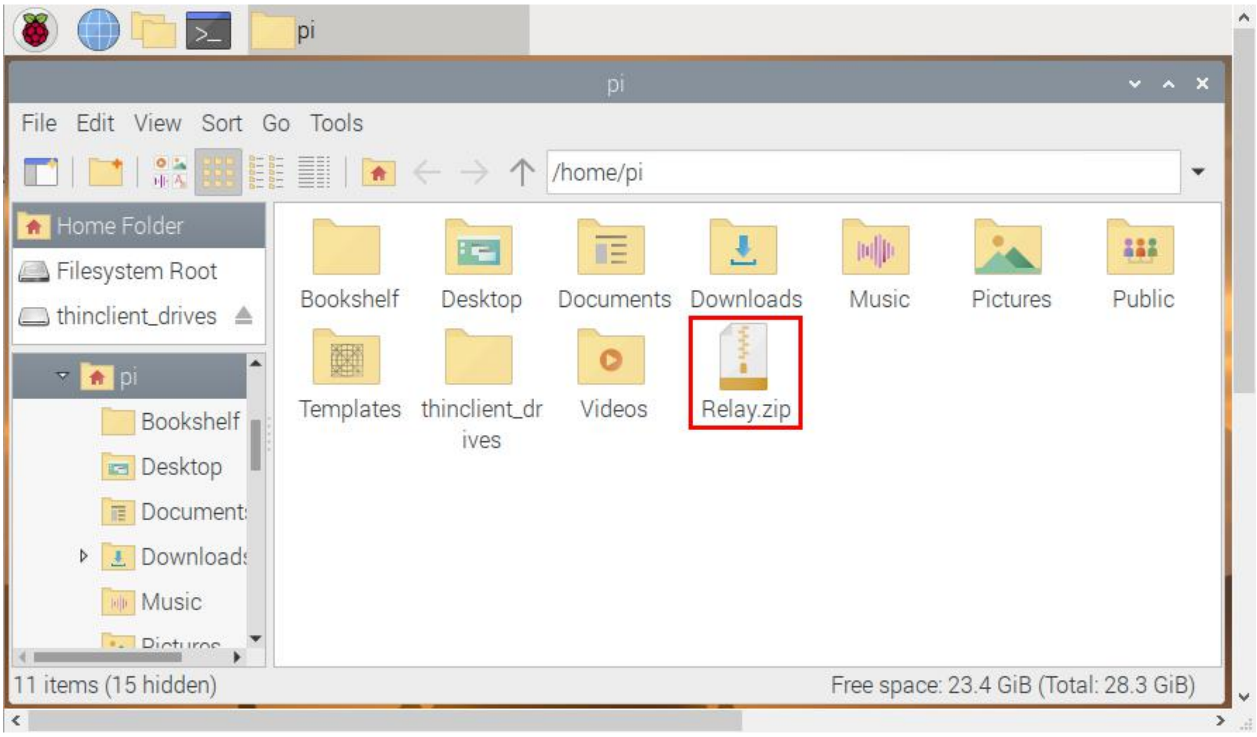
- **Raspberry Pi Application**

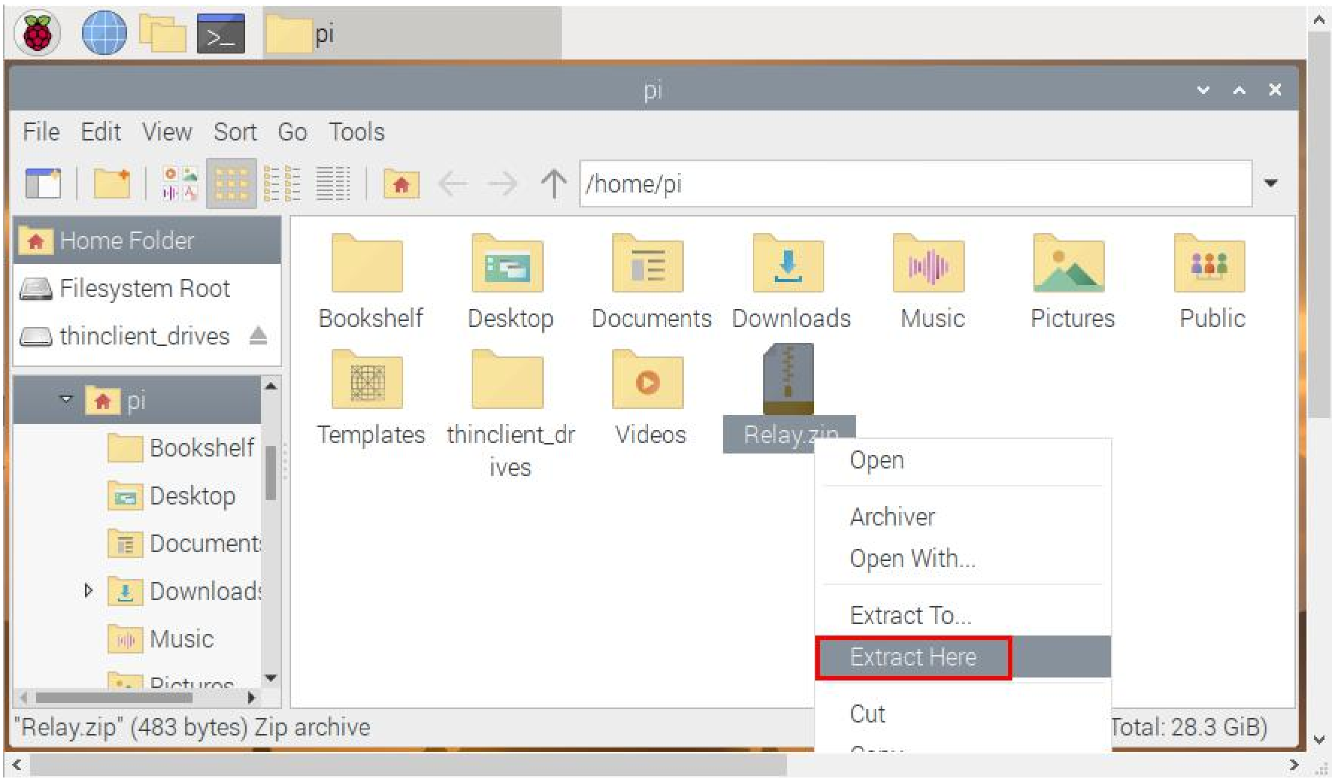


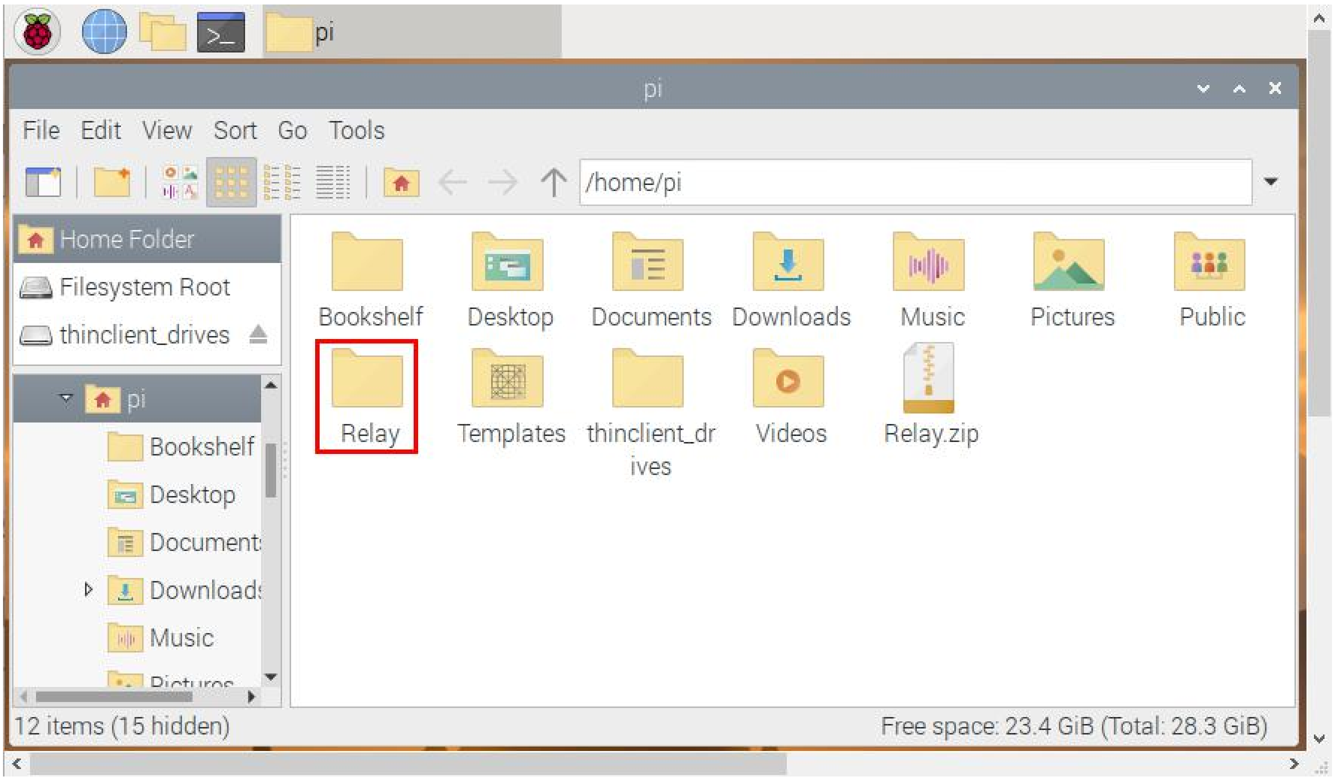
This module is compatible with the Raspberry Pi board and the TS2180 Raspberry Pi shield.

Copy the test code to Raspberry Pi system to run it

(1) Save the test code in the **pi** folder of Raspberry Pi system. Then place the Relay.zip file we provide in the **pi** folder, right-click and click **Extract Here.** As shown below:







（2）Compile and run test code：

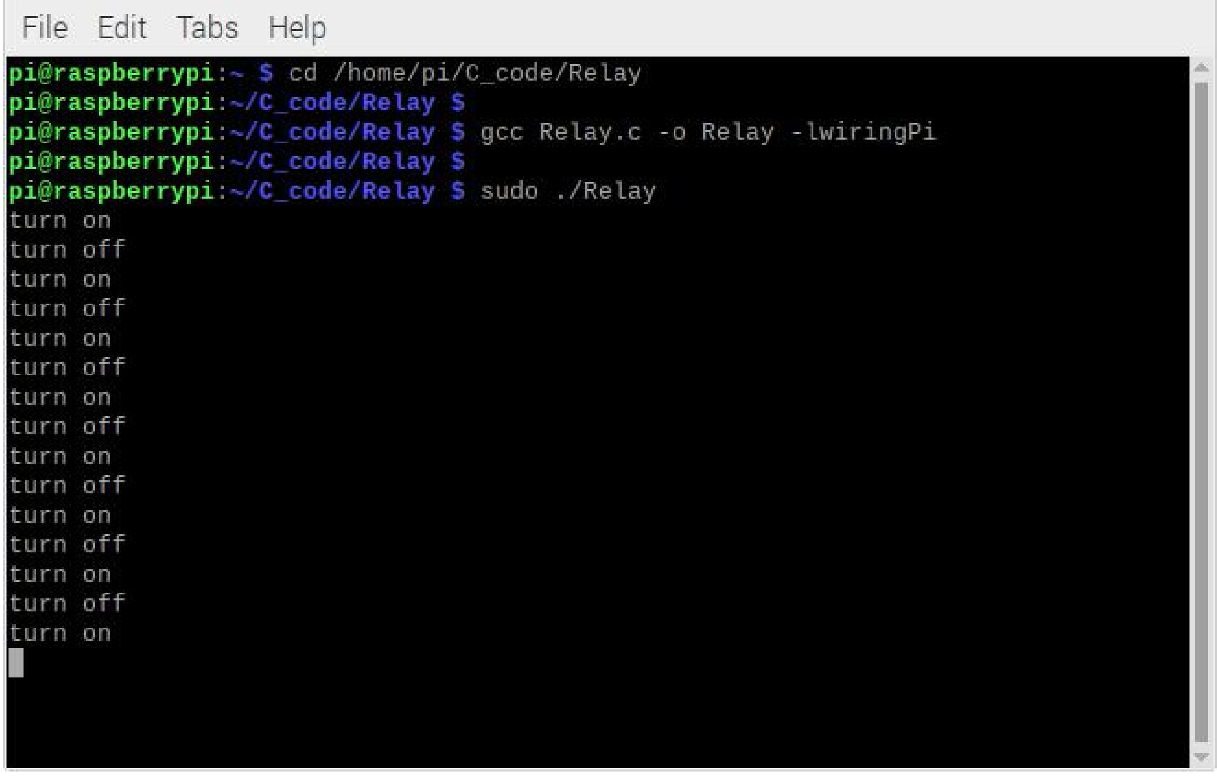
Input the following code and press“Enter”

```
cd /home/pi/Relay
gcc Relay.c -o Relay -lwiringPi
sudo ./Relay
```

(3) Test Result：

Insert the shield into the Raspberry Pi board. After programming finishes, the indicator of the relay module flashes, and the terminal prints“turn on”and“turn off”.

Note: press Ctrl + C to exit code running



```
pi@raspberrypi:~ $ cd /home/pi/C_code/Relay
pi@raspberrypi:~/C_code/Relay $
pi@raspberrypi:~/C_code/Relay $ gcc Relay.c -o Relay -lwiringPi
pi@raspberrypi:~/C_code/Relay $
pi@raspberrypi:~/C_code/Relay $ sudo ./Relay
turn on
turn off
turn on
turn off
turn on
turn off
turn on
turn off
turn on
turn off
turn on
turn off
turn on
turn off
turn on
```

Test Code

File Name: Relay.c

```
#include <wiringPi.h>
#include <stdio.h>

#define relayPin 3  //BCM GPIO 22

int main()
{
  wiringPiSetup();
  pinMode(relayPin,OUTPUT);

  while(1)
  {
       digitalWrite(relayPin,HIGH);
       printf("turn on\n");
       delay(2000);
       digitalWrite(relayPin,LOW);
       printf("turn off\n");
       delay(500);
  }
}
```

If you want to know how to utilize Raspberry Pi and the Raspberry Pi shield, you can refer to TS2180.

END