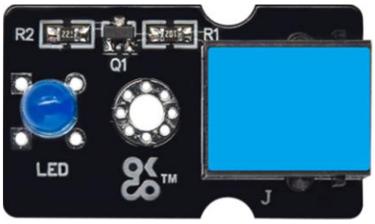
DBlue LED Module
(000x0000 Article Number)
(TS2164)

DESIGN THE WORLD

Product Details



This is the TelePort blue LED module which has a light emitting diode. Its RJ11 port integrates G, V and S(Signal). When S is at high level, the LED will light up; when at low level, LED will go off. In addition, the output high/low levels or PWM signals from IO port of the control board also can determine the state and brightness of the LED.

Features and Benefits

- Compatible with RJ11 6P6C OKdo TelePort Control boards and expansion shields.
- 5mm LED emits blue light.
- Comes with a fixing hole to make it easy to attach to projects.

Technical Specifications

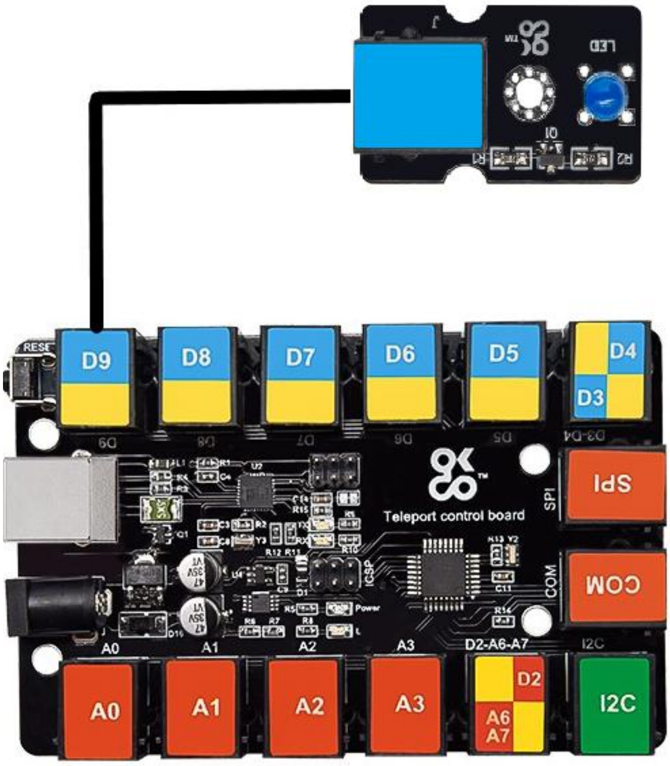
Sensor type	Digital output
Working voltage	3.3V-5V
LED color	Blue
Dimensions	34mm*20mm*18mm
Weight	3.8g

Applications

- Breathing lights
- SOS signal lights
- Festival color lights

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

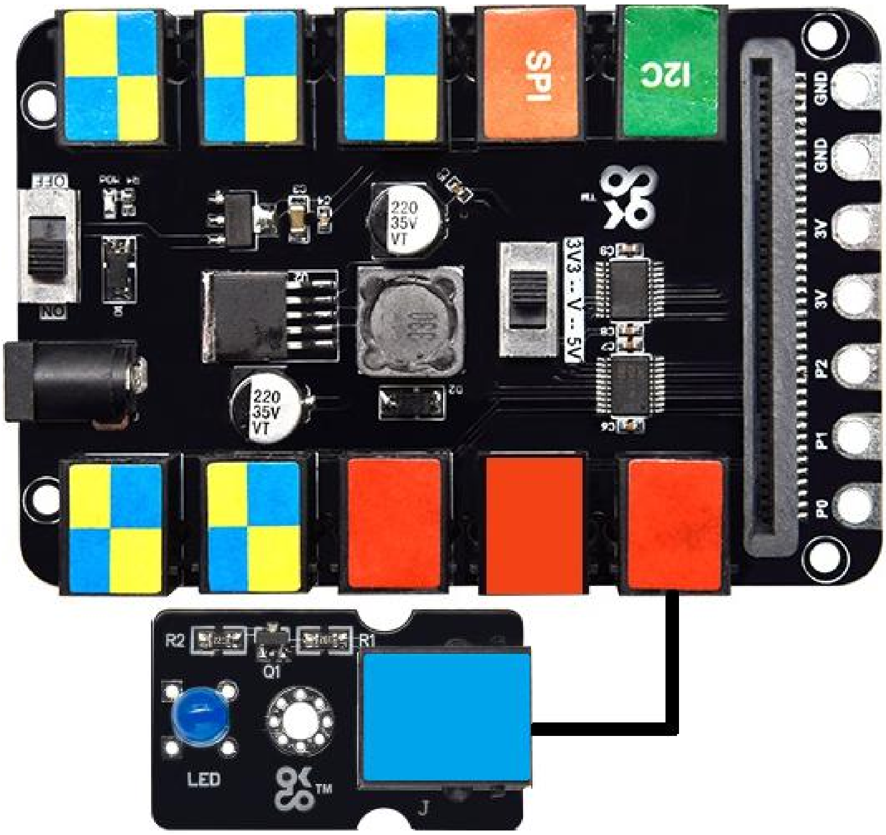
```
int led = 9;
void setup()
{
pinMode(led, OUTPUT);//Set Pin9 as output
}
void loop()
{
digitalWrite(led, HIGH);//Turn led on
delay(1000);
digitalWrite(led, LOW);//Turn led off
delay(1000);
}
```

Test Result

Wire up, upload test code and power it up. LED will flash, on for 1s and off for 1s; circularly.

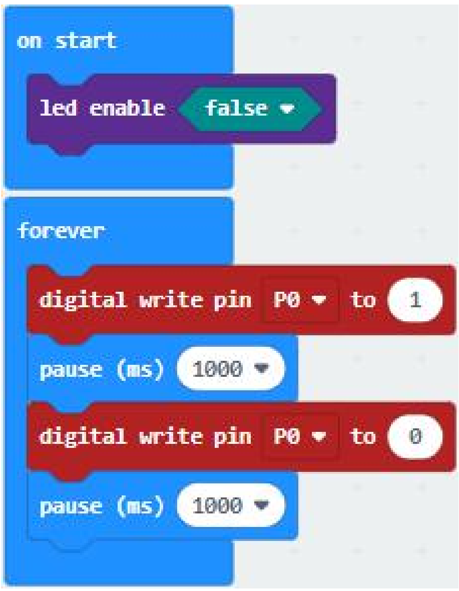
If you want to know more details about Arduino and the TelePort control board, you can refer to TS2178.

➢ Micro:bit Application



This module 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

....................②turn off the LED matrix of the Micro:bit

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

....................④set P0 to high level(1) to turn on LED

....................⑤delay in 1000ms

....................⑥set P0 to low level(0) to turn off LED

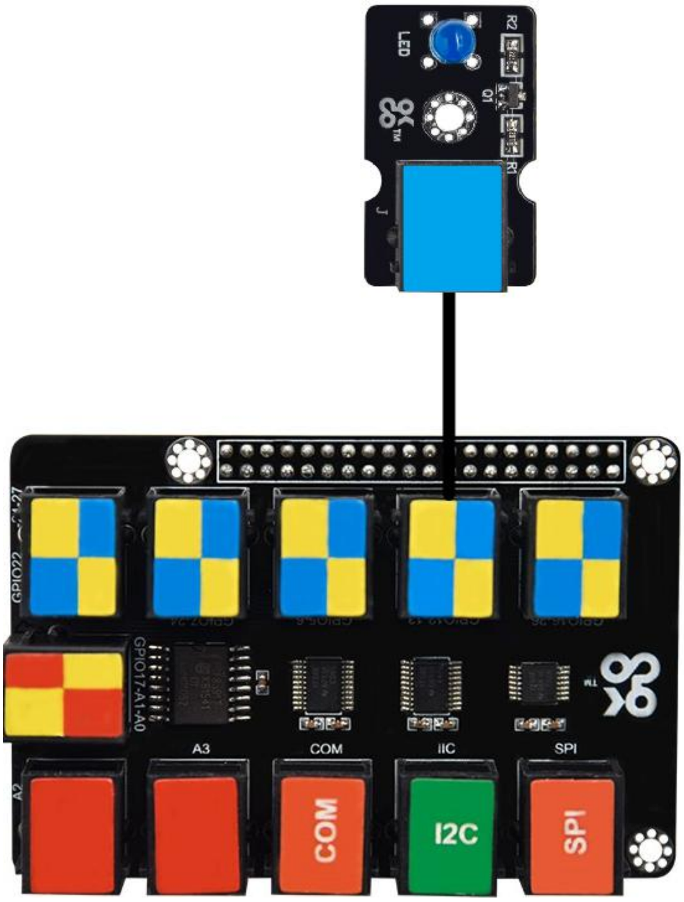
....................⑦delay in 1000ms

Test Result

Wire up, upload test code and power it up. LED will flash, on for 1s and off for 1s; circularly.

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

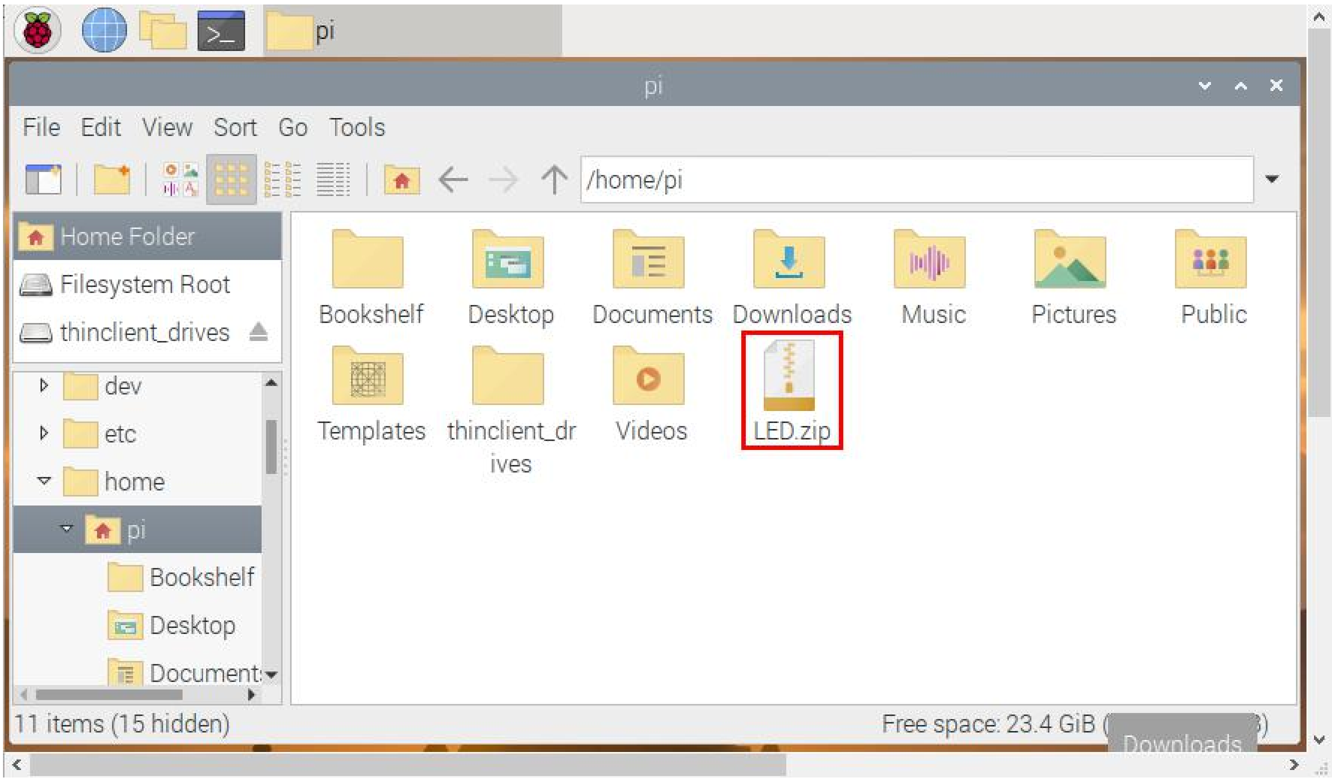
➢ Raspberry Pi Application

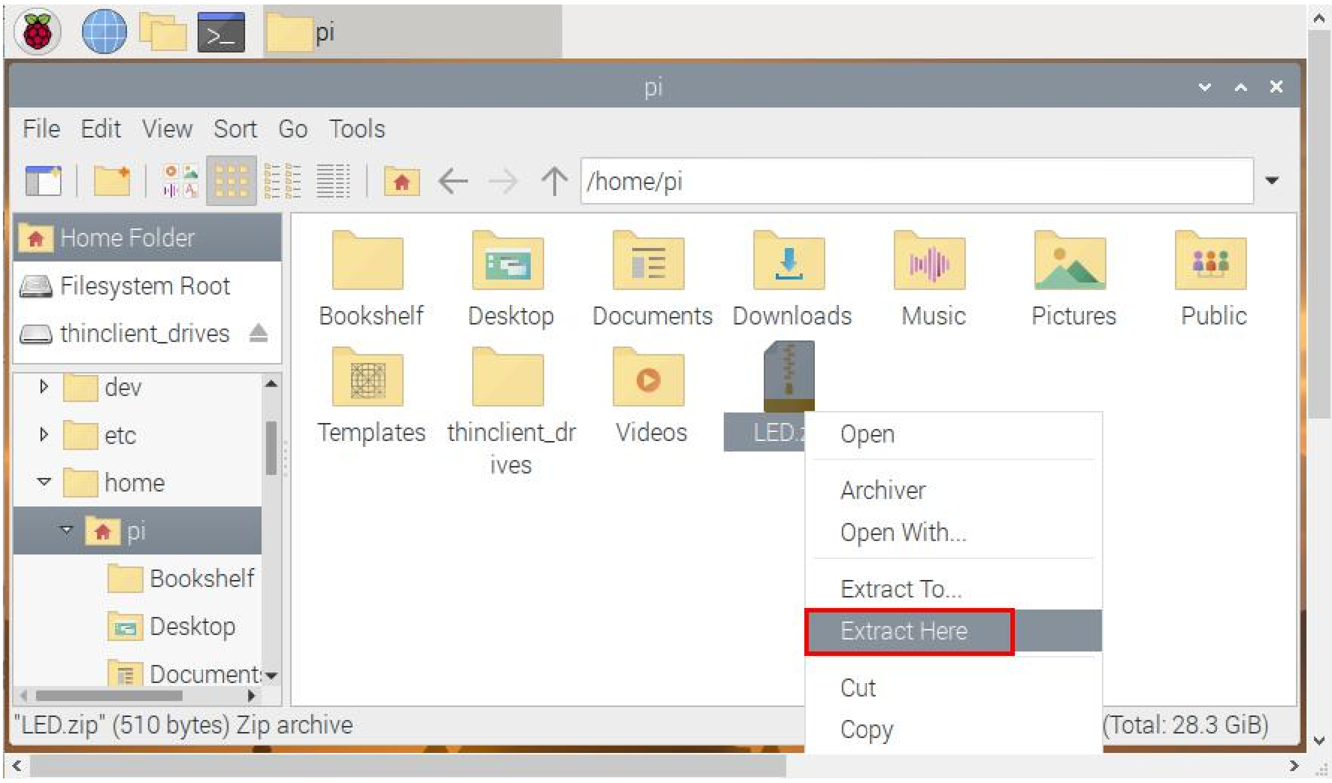


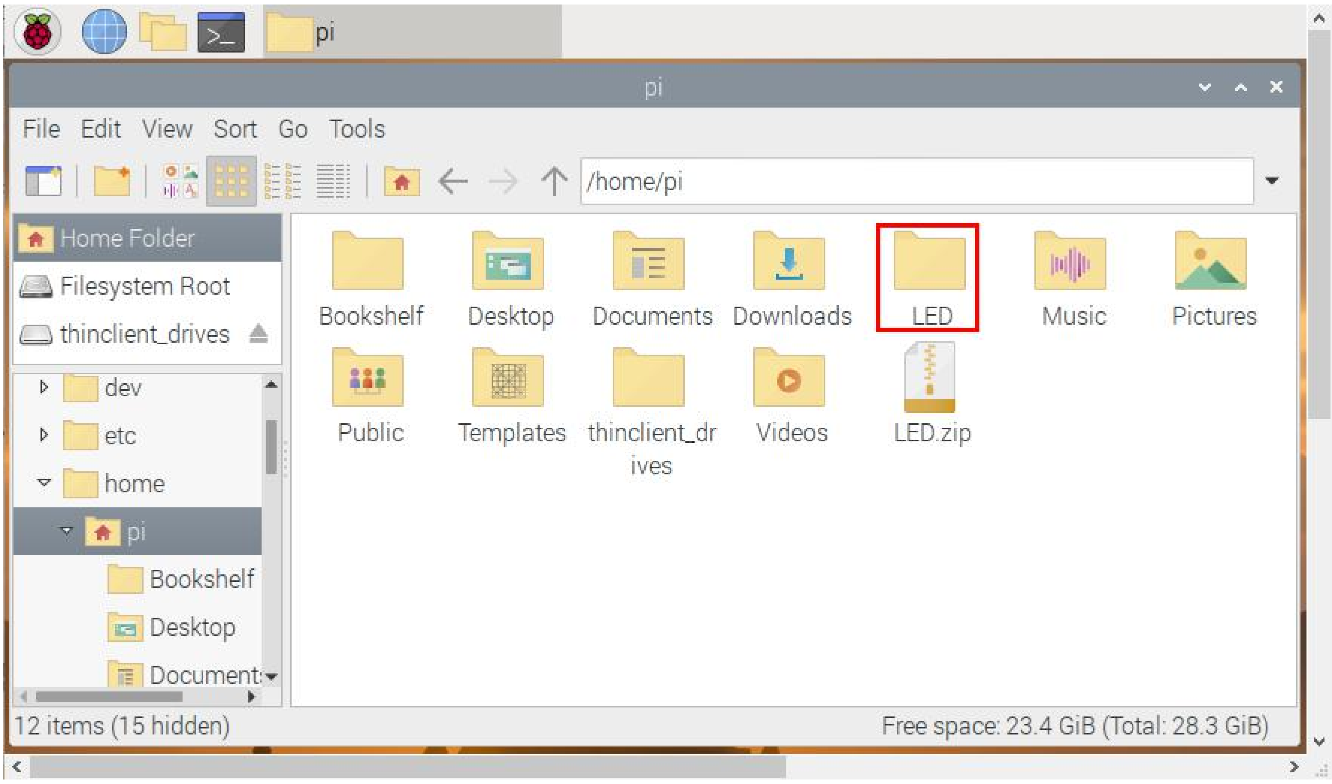
This module is compatible with the Raspberry Pi board and the TS2180 Raspberry Pi shield.

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 **LED.zip** file we provide in the **pi** folder, right-click and click **Extract Here.** As shown below:







(2) Compile and run test code：

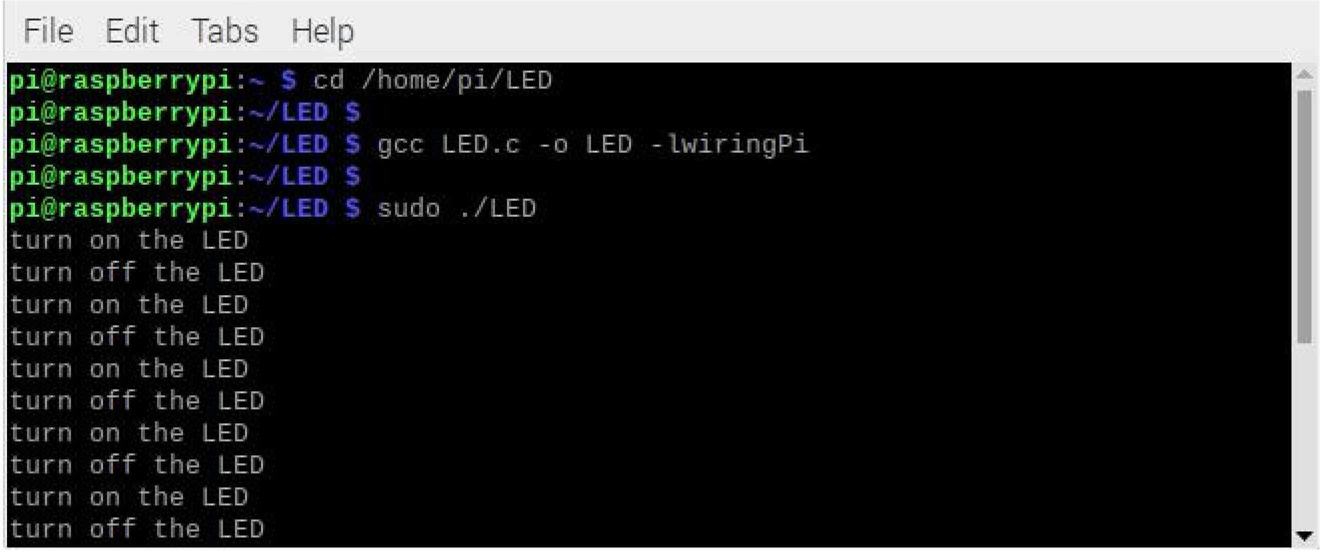
Input the following code and press“Enter”

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

(3) Test Result：

Insert the shield into the Raspberry Pi board. After programming finishes, LED will flash, on for 1s and off for 1s; circularly.

Note: press Ctrl + C to exit code running



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

Test Code

File Name: LED.c

```
#include <wiringPi.h>
#include <stdio.h>
#include <stdlib.h>
#include <stdint.h>
#define LEDPIN 23    //BCM  GPIO 13

int main(){
        wiringPiSetup();   //Initialize wiringPi
        pinMode(LEDPIN,OUTPUT);

        while(1){
                digitalWrite(LEDPIN,HIGH);  //turn on led
     printf("turn on the LED\n");
     delay(500);       //delay 500ms
     digitalWrite(LEDPIN,LOW);   //turn off led
     printf("turn off the LED\n");
     delay(500);
 }
}
```

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

END