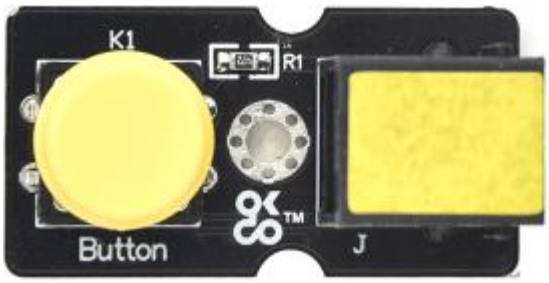
Digital Push Button Sensor (000x0000 Article Number) (TS2140)

DESIGN THE WORLD

Product Details

This is the TelePort digital button sensor with a tact switch. When the button is pressed, the low signals will be output; when the button is released, the high levels will be output. It is compatible with a large number of MCU control boards like Raspberry Pi SBC, Micro:bit boards and Arduino boards.



Features and Benefits

- Compatible with RJ11 6P6C OKdo TelePort Control boards and expansion shields.
- A tactile push button switch that outputs HIGH when pressed, LOW when released.
- Ideal for countless applications including keyboards, push button, light switch, presence sensing and more.

Technical Specifications

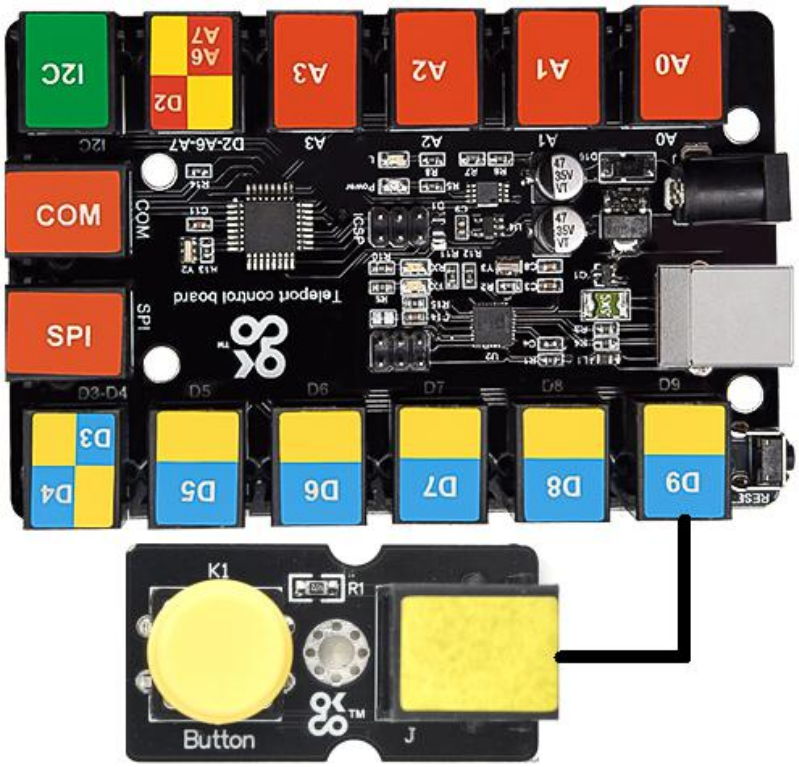
Sensor type	Digital input
Working voltage	3.3V-5V
Dimensions	44mm*20mm*18mm
Weight	5.5g

Applications

- Desk lamp
- Robot
- Button switch

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

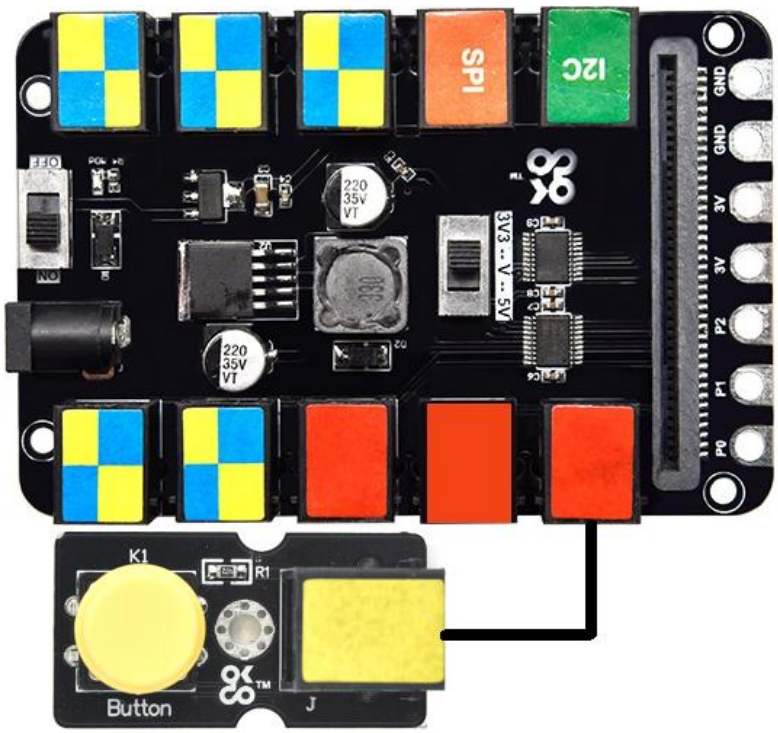
```
/* When you push the digital button, the Led 13 on the board will turn on. Otherwise,the led turns off.
*/
int ledPin = 13;// choose the pin for the LED
int inputPin = 9;// Connect sensor to input pin 9
void setup() {
pinMode(ledPin, OUTPUT);// declare LED as output
pinMode(inputPin, INPUT);// declare pushbutton as input
}
void loop(){
int val = digitalRead(inputPin);// read input value
if (val == HIGH) { // check if the input is HIGH
digitalWrite(ledPin, LOW);// turn LED OFF
} else {
digitalWrite(ledPin, HIGH);// turn LED ON
}
}
```

Test Result

Wire up, upload the test code, power it up and press the button. Then D13 of the control board will light up; if it is released, LED will go off.

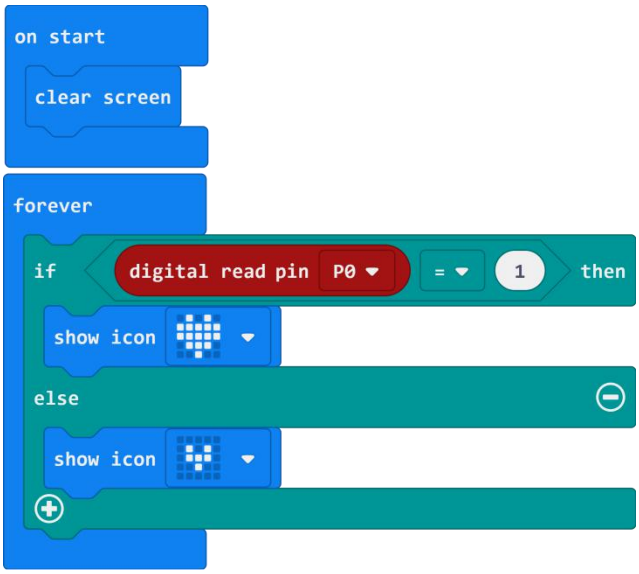
If you want to know more details about Arduino and the Teleport control board, you can refer to TS2178.

➢ Micro:bit Application



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

Test Code



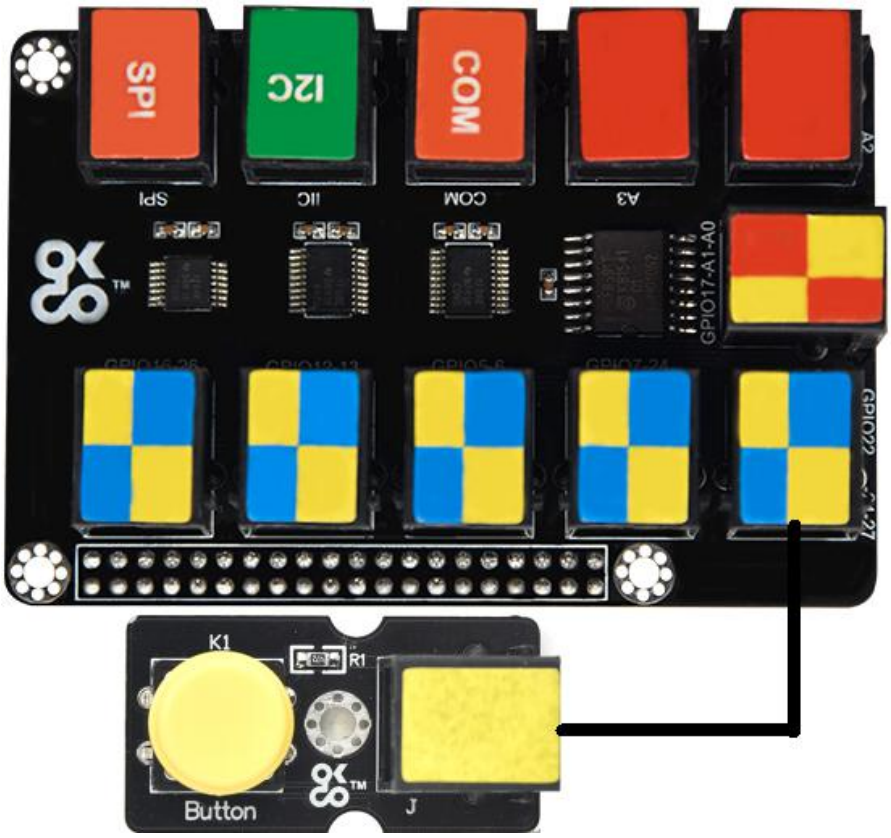
.....①Run the "on start" block to boot the program
.....②the LED matrix of the Micro:bit goes out.
.....③The program is run circularly under the command of "forever" block
.....④When P0=1, which means the button is not pressed, then execute the program under then
.....⑤Micro:bit will display "♥ "
.....⑥When P0=0, which means the button is pressed, then execute the program under else
.....⑦Micro:bit will show "  "

Test Result

Wire up, insert the Micro:bit V2.0 into the shield, turn DIP switch to 3V3, upload test code and power it up. When the button is released, the Micro:bit will show"♥ "; if not, the Micro:bit will display"  ".

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

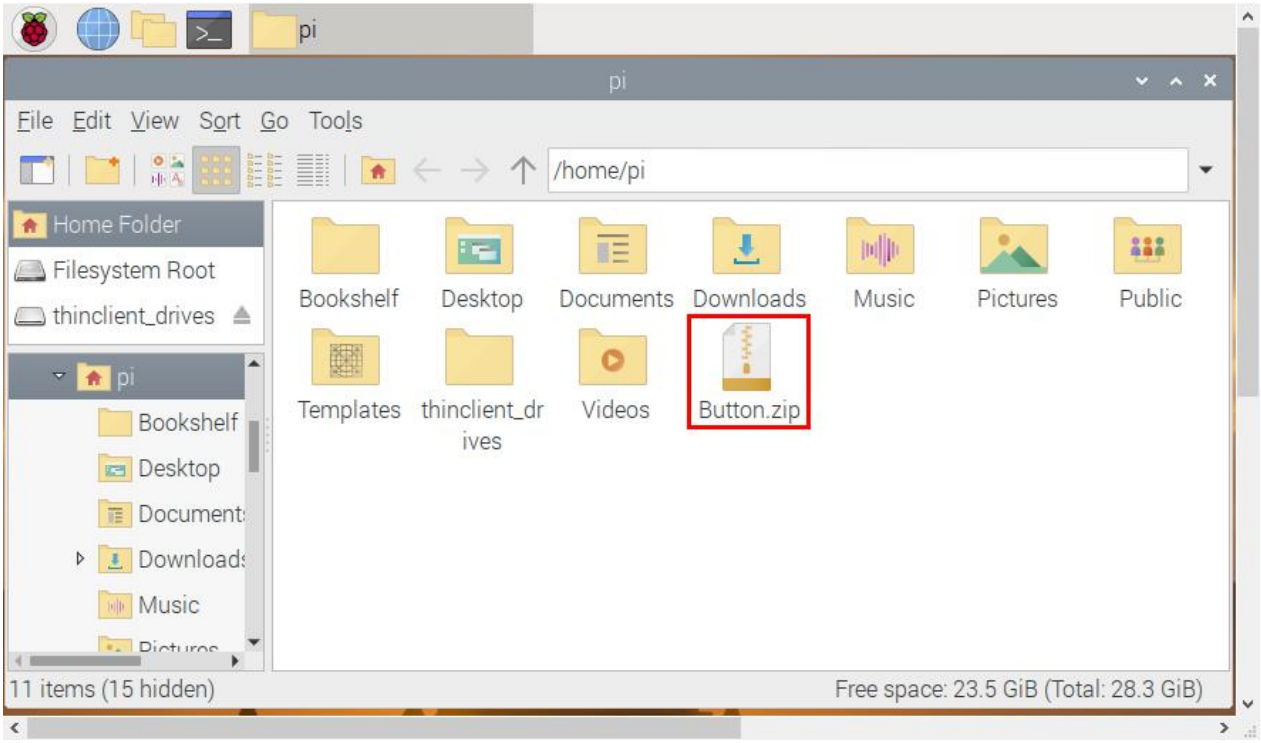
➢ **Raspberry Pi Application**

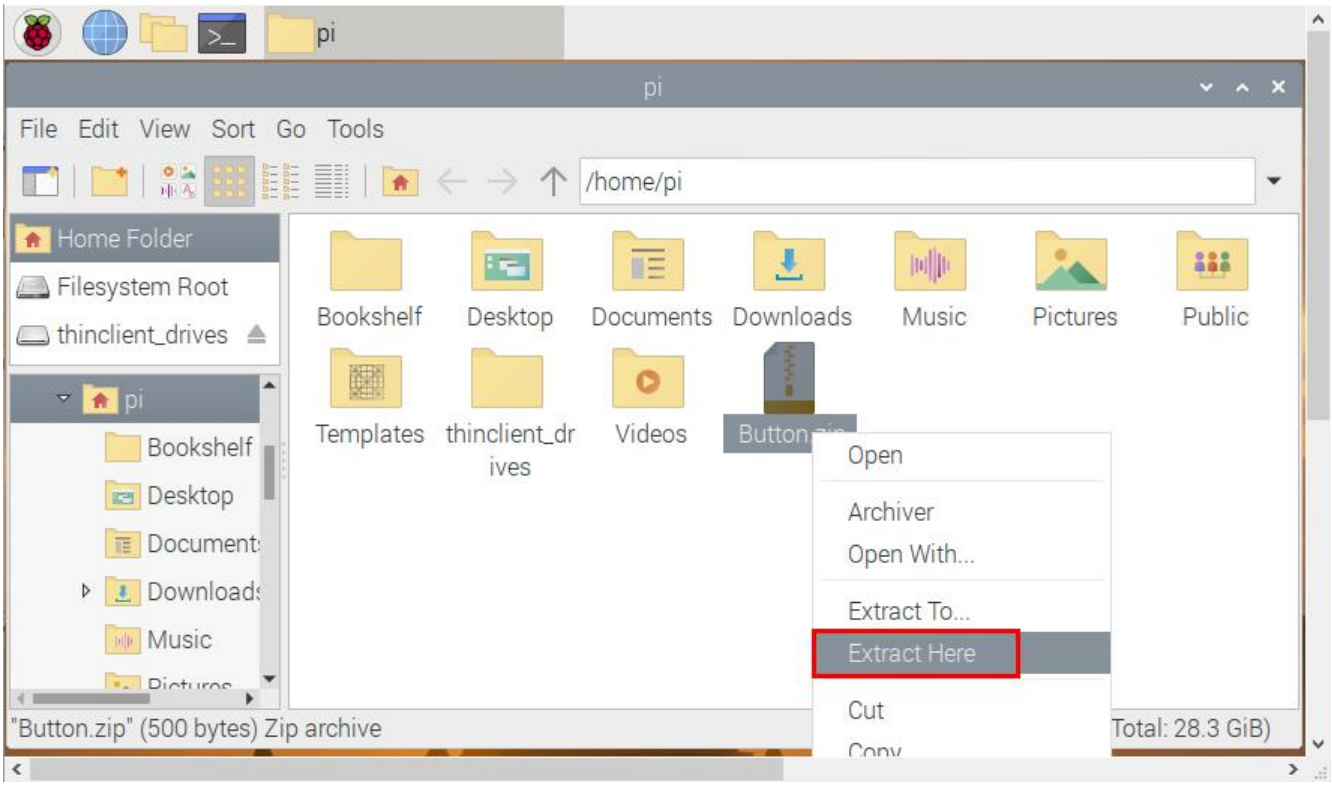


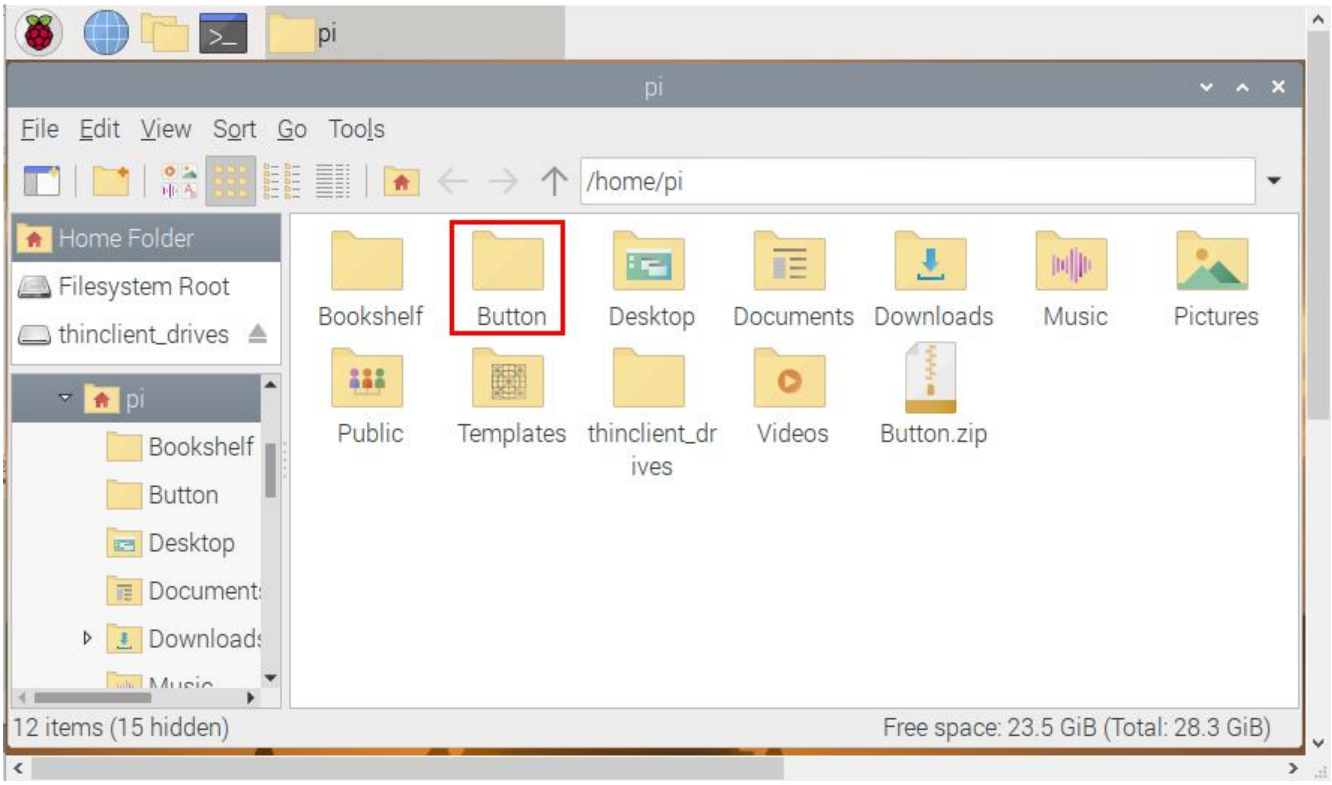
This module is compatible with the Raspberry Pi board and the TS2180 Raspberry Pi shield.

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







(2) Compile and run test code:

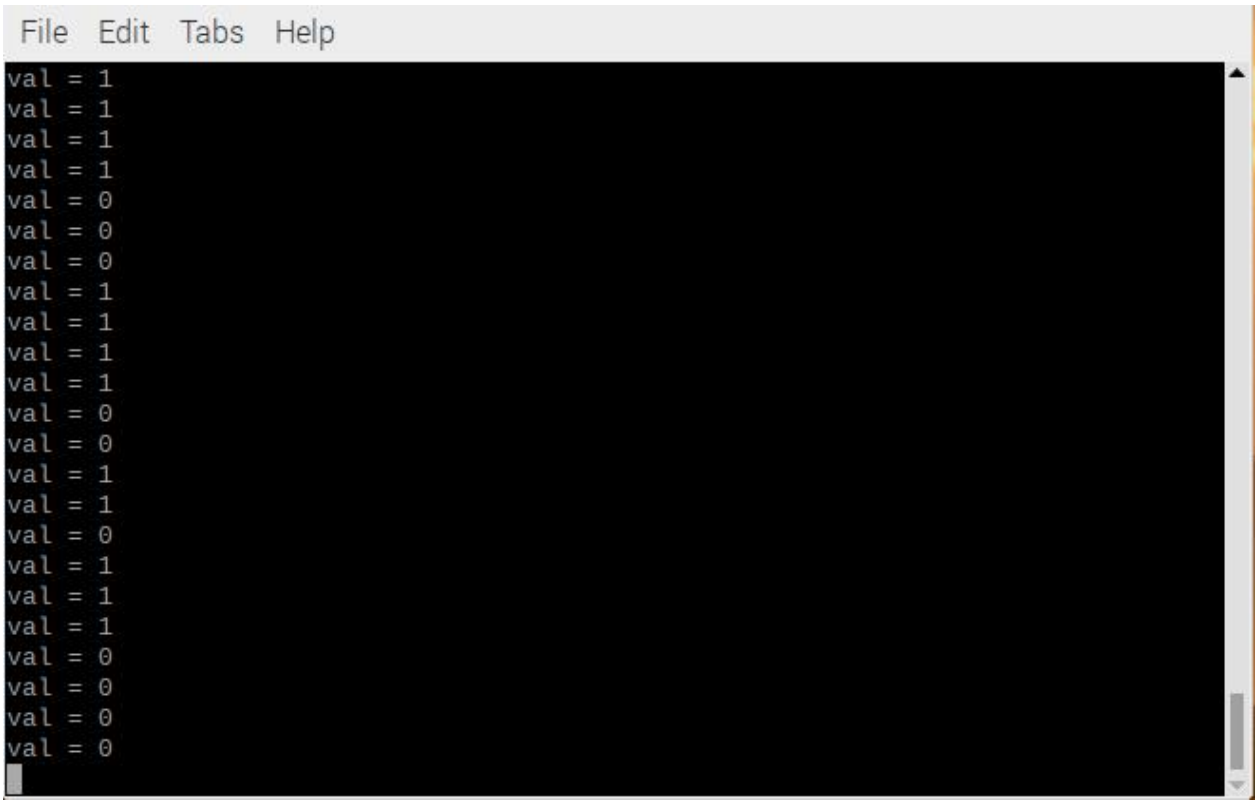
Input the following code and press"Enter"

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

(3) Test Result:

Insert the shield into the Raspberry Pi board. After programming finishes, if the button is pressed, the terminal will print 0; if not, the terminal will show 1.

Note: press Ctrl + C to exit code running



Test Code

File name: Button.c

```
#include <wiringPi.h>
#include <stdio.h>
#define button 3   //button pin BCM GPIO 22
int main()
{
 wiringPiSetup();
 char val;
 {
  pinMode(button,INPUT);  //set the button pin INPUT mode
 }

 while(1)
 {
  val=digitalRead(button);  // digital read
  printf("val = %d\n", val);
  delay(50);
 }
}
```

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