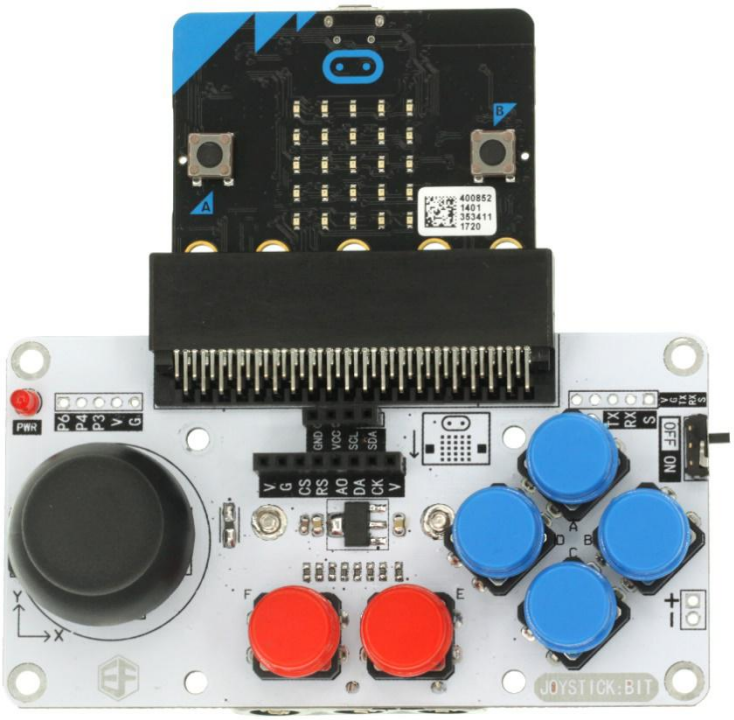
Joystick:bit

【User Guide】

www.elecfreaks.com

1. Introduction

Joystick:bit is a game joystick based on Micro:bit. On the board, it has integrated a joystick and 6 undefined keys. It is very convenient for users to extend different communication modules because it has extended connectors like GVS, IIC, SPI, UART. Besides, it has built-in power switch and outer power connector. It is very good to use.



2. Hardware

Features:

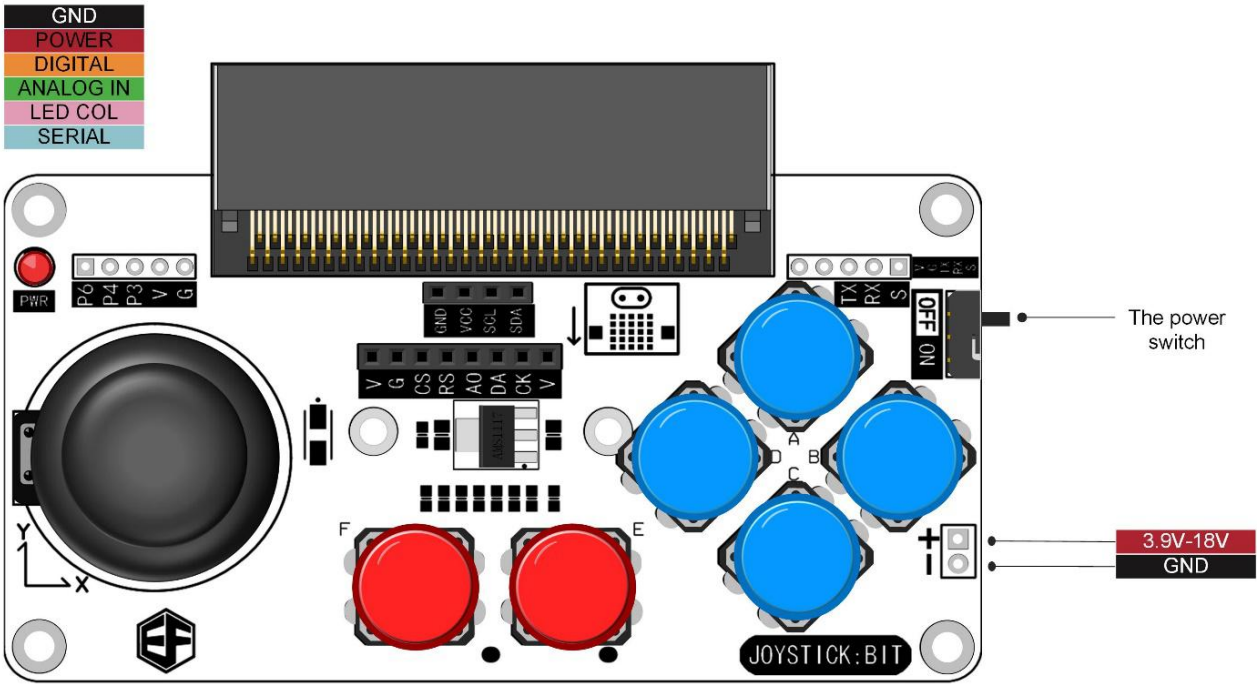
- Develop Environment: Code Kingdoms Java script, Microsoft Blocks · Microsoft Touch Develop · Python.
- Support UART serial port.
- Support GVS-Octopus electric brick.
- Carry a joystick and 6 undefined keys.
- Carry IIC connector, support extension of IIC communication module.
- Carry SPI connector, support extension of SPI communication module.
- Internal Power Input Voltage: DC 3.9V-4.5V
- External Power Input Voltage: DC 3.9V-18V
- Size: 103.00mm X 64.00mm
- Weight: 54 g

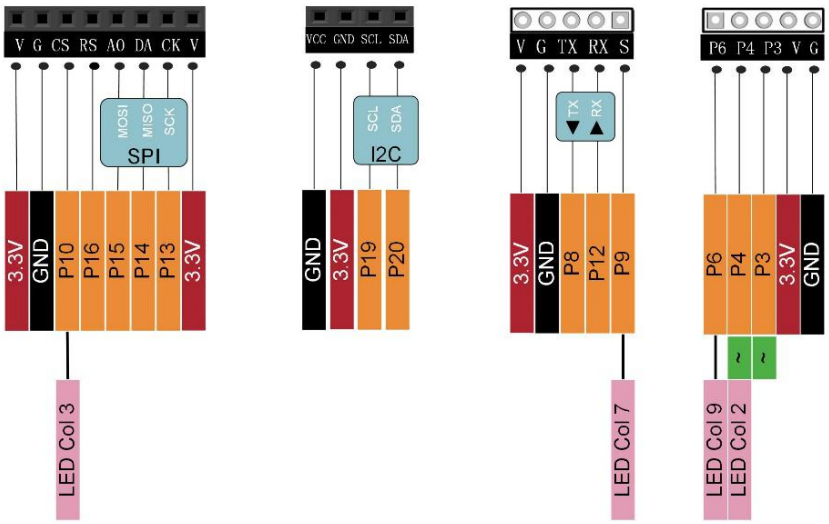
Application:

- Support Bluetoth 4.0 device（based on micro:bit）
- Support GVS connector, compatible with modules of ElecFreaks Octopus electric brick series.
- Remote control smart cars, balance cars.
- Users can use it to develop remote control robotics, robotic arms, etc..

Definition of Pins:

ELECFREAKS JOYSTICK:BIT V1.4

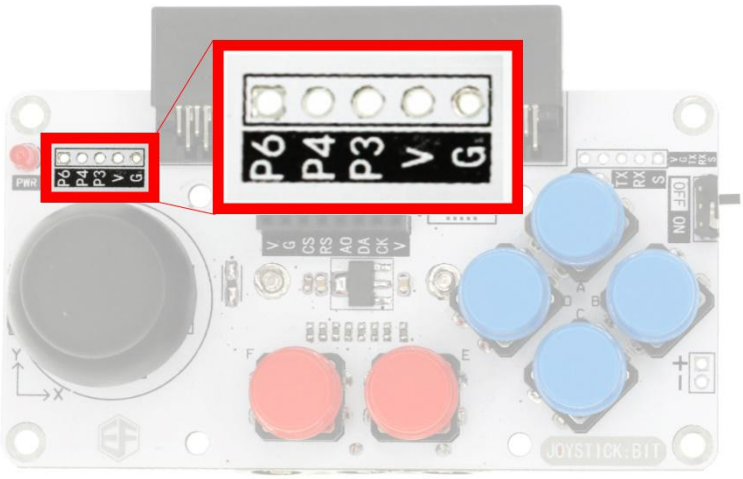




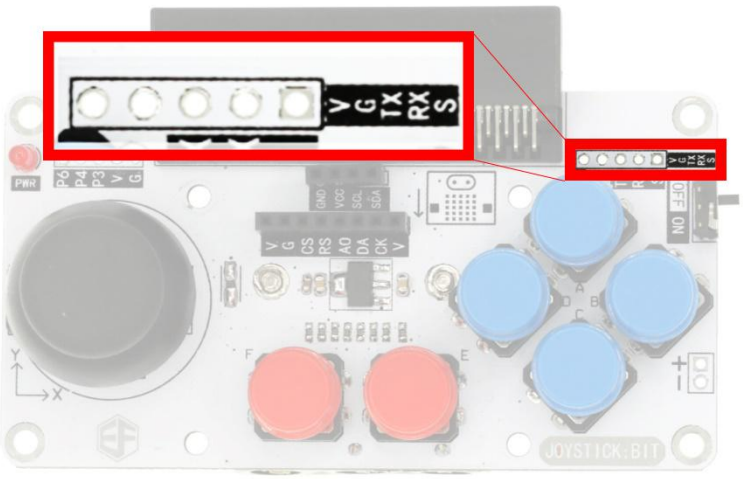
Type	Explain
LED COL	Pin controls micro:bit LED dot matrix
The Power Switch	Power Switch
Button-A-B-C-D-E-F	Undefined Key
P3,P4,P6,P8,P9,P10,P12-P16, P19,P20	Digital Connectors
P3,P4,P10	Analog Connector/PWM
SCK MISO MOSI	Hardware SPI. Pin-P13,P14,P15
SDA SCL	Hardware IIC. Pin-P19,P20
P8,P12	TX,RX UART Connector
3.9-18V GND	Outer Power Supply Connector
PWR	Power Indicator

More Details about Some Pin Connectors:

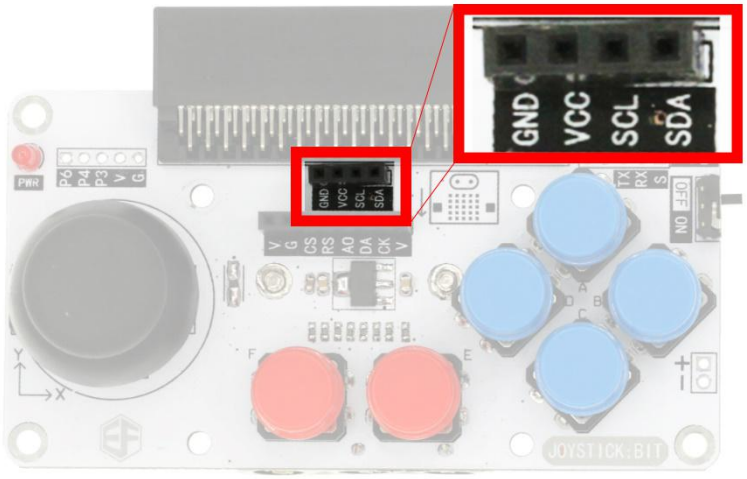
1) G / V(3.3V) / P3 / P4 / P6 are connectors for GVS electric bricks. Among it, P3 / P4 are connectors for analog / PWM / digital connectors, which can help you connect servos and various sensors conveniently.



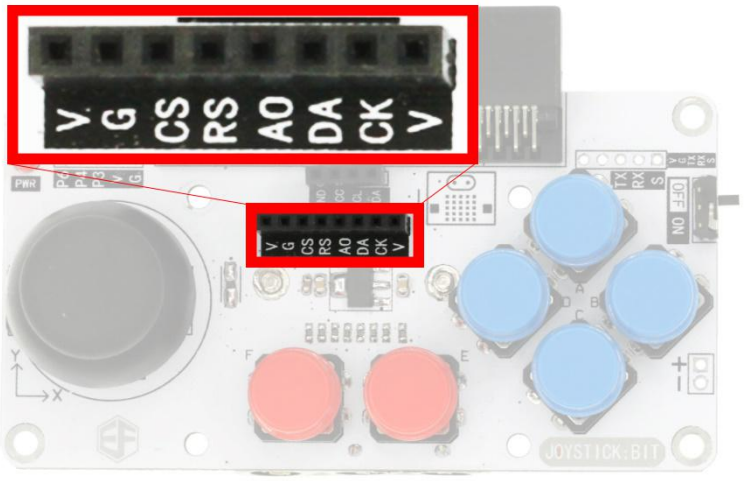
2) UARTConnector: V(3.3V) / G / TX / RX / S are serial port connectors. It is compatible with the common wireless communication modules like HC08 / HC11.



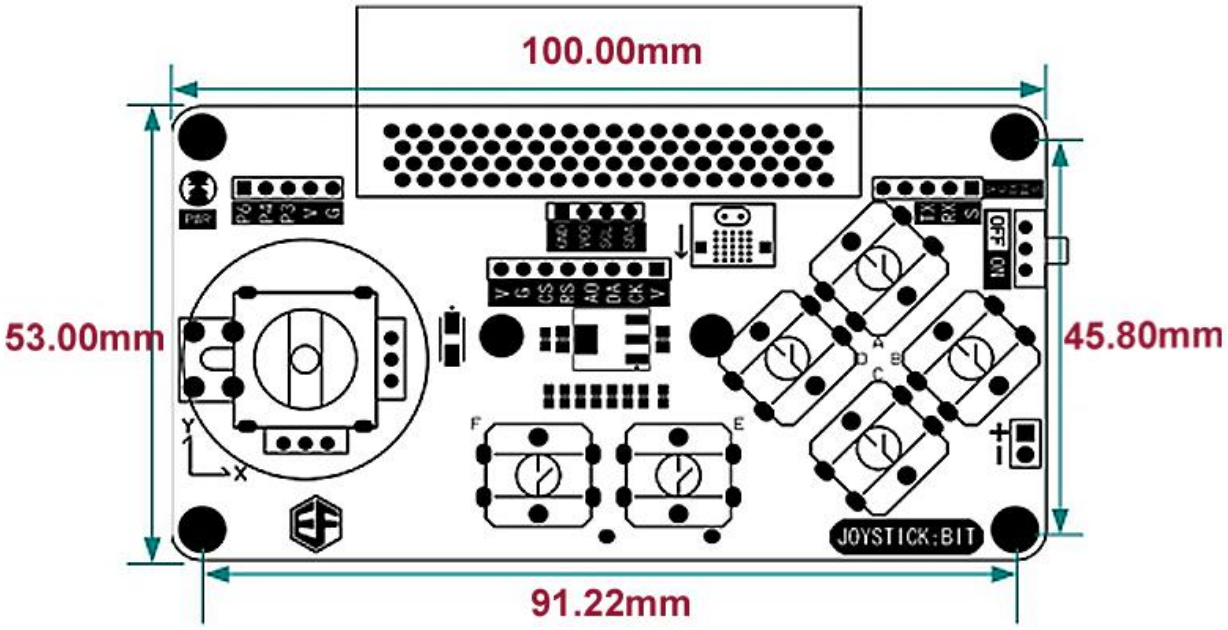
3) I2C Communication Connector: GND / VCC(3.3V) / SCL / SDA are standard I2C connector. It is compatible with 3.3V I2C sensors and devices.



4) SPI Communication Connector: V / G / CS / RS / AO / DA / CK correspond to the connector of TFT 1.8 inch LCD module. It can directly compatible with TFT 1.8 inch LCD module, including SPI communication connector on micro:bit board.



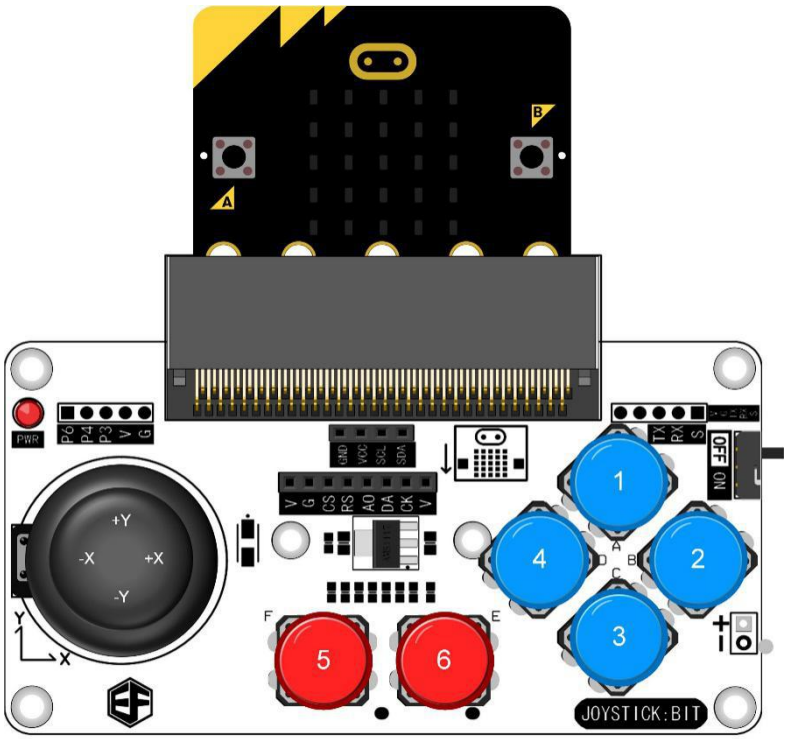
3. Dimensions



4. Software

Code Example:

```
function button
    set buttonVal to analog read pin P2
    if buttonVal < 256
    then set buttonNum to 1
    else if buttonVal < 597
    then set buttonNum to 2
    else if buttonVal < 725
    then set buttonNum to 3
    else if buttonVal < 793
    then set buttonNum to 4
    else if buttonVal < 836
    then set buttonNum to 5
    else if buttonVal < 938
    then set buttonNum to 6
    else set buttonNum to 0
on start
    set buttonNum to 0
forever
    call function button
    if buttonNum
    then show number buttonNum
    else if analog read pin P0 < 400
    then show string "-X"
    else if analog read pin P0 > 600
    then show string "+X"
    else if analog read pin P1 < 400
    then show string "-Y"
    else if analog read pin P1 > 600
    then show string "+Y"
    else clear screen
```

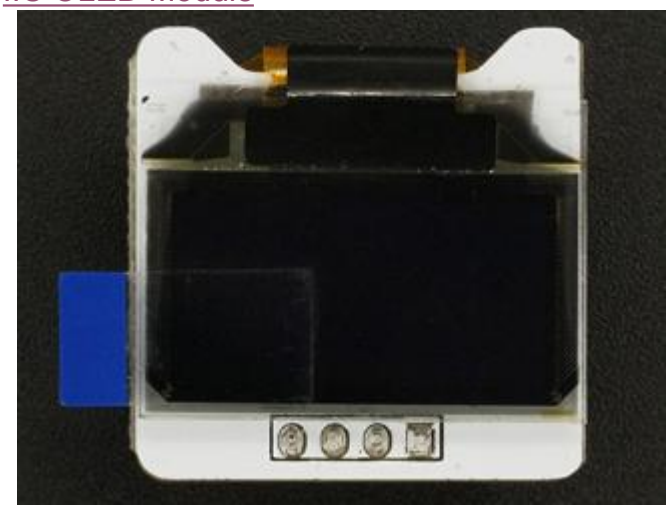


Press button “1”, OLED displays “1”.
Press button “2”, OLED displays “2”.
Press button “3”, OLED displays “3”.

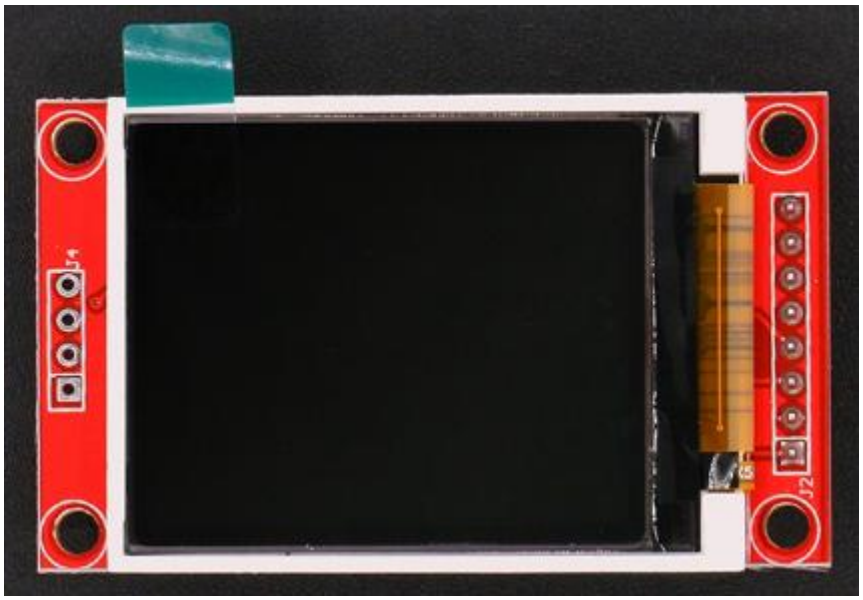
Press button “4”, OLED displays “4”.
Press button “5”, OLED displays “5”.
Press button “6”, OLED displays “6”.
Push joystick upward along “Y” axle, OLED displays “+Y”.
Push joystick downward along “Y” axle, OLED displays “-Y”.
Push joystick to the left along “X” axle, OLED displays “+X”.
Push joystick to the right along “X” axle, OLED displays“-X”.

5. Compatible With

1) IIC OLED Module



2) 1.8 TFT LCD: TFT01-1.8SP



6. Revision

Version	Explain	Public Date
V1.0	Initial Version	2017.12.22

7. Contact Information

For more details, please log on: http://www.elecfreaks.com .