

Micro Mate- A Mini Expansion Board for micro bit SKU DFR0518

Introduction

 (<https://www.dfrobot.com/product-1699.html>)

Micro: Mate is a tiny micro: bit I/O expansion board for learning electronics and building DIY projects.

Micro: Mate expands the micro: bit to 6 sets of 3-pin I/O interfaces, which is capable of connecting DFRobot Gravity series modules, servo motors, sensors and jumper wires. Additionally, Pin 8, 12, 16 support voltage switch between 3V-5V, allowing up to 5V 2A digital (PWM) output.

Micro: Mate is in the same dimension of micro: bit. It connects to micro: bit through contact pins (spring loaded), ensuring easy, compact and secure connection. The rubber bumpers and the 3.5mm audio jack on the back side keep the expansion installed stably on the board, with creating a reversed connection.

NOTE The mounting screws should be well tightened to ensure a secure connection. Micro: Mate only supports 3V (3.3V) analog input from Pin 0, 1, 2. The Micro USB Power port on Micro: Mate cannot be used for data transmission. Components with large power consumption should be connected to Pin 8, 12, 16, with 5V power supply. |

Specification

- Interface: 6 x Gravity 3Pin
- Operating Voltage: 5V/3.3V

- Input Power: <10W
- Measuring Range: 0-3.3V (Analog), 0-5V (Digital):
- Dimension: 68.5 * 53.3mm
- Weight: 22.8g

Board Overview

 Front side  Back side

Number	Name	Description
1	Audio Jack	3.5mm Audio Jack
2	I/O Pin	Gravity series compatible (3V only)
3	External USB power port	External power supply, does not support program uploading
4	I/O Pin	Gravity series compatible (3V and 5V)
5	Voltage switch	Switch between 3V, 5V(Pin 8,12,16 only) and OFF

Micro:Mate Layout

Servo Control Tutorial

Requirements

- Hardware
 - micro:bit (<https://www.dfrobot.com/product-1587.html>) x 1
 - Servo x 1


- MicroUSB power supply
- **Software**
 - MakeCode Block Editor/ JavaScript Editor / BXY Python Editor

Connection Diagram

 Connection Diagram

Sample Code

Microsoft MakeCode Editor (<https://makecode.microbit.org>)

 MakeCode

Microsoft MakeCode JavaScript Editor (<https://makecode.microbit.org>)

```
basic.forever(() => {  
  basic.pause(1000)  
  pins.servoWritePin(AnalogPin.P8, 0)  
  basic.pause(1000)  
  pins.servoWritePin(AnalogPin.P8, 90)  
  basic.pause(1000)  
  pins.servoWritePin(AnalogPin.P8, 180)  
  basic.pause(1000)  
  pins.servoWritePin(AnalogPin.P8, 90)  
})
```

BXY micro:bit Python editor (<http://docs.dfrobot.com.cn/bxy/examples/servo.html>)

```
#http://docs.dfrobot.com.cn/bxy/examples/servo.html
from microbit import *
import Servo
sv=Servo(pin8)
while True:
    sv.angle(0)
    sleep(1000)
    sv.angle(90)
    sleep(1000)
    sv.angle(180)
    sleep(1000)
    sv.angle(90)
    sleep(1000)
```

Expected Results


The Servo turns back and forth from 0-180 degrees every 4 seconds

FAQ

Q&A	Some general Arduino Problems/FAQ/Tips
A	For any questions, advice or cool ideas to share, please visit the DFRobot Forum (https://www.dfrobot.com/forum/).

More Documents

- [Schematic & Layout](https://github.com/Arduinolib/DFRobot_Micro_Mate/raw/master/MicroMateExpansionShield.pdf) (https://github.com/Arduinolib/DFRobot_Micro_Mate/raw/master/MicroMate) Expansion Shield.pdf

 Get **Micro: Mate - A Mini Expansion Board for micro:bit (Gravity Compatible)** (https://www.dfrobot.com/product-1699.html) from DFRobot Store or **DFRobot Distributor**. (https://www.dfrobot.com/index.php?route=information/distributorslogo)

Turn to the Top