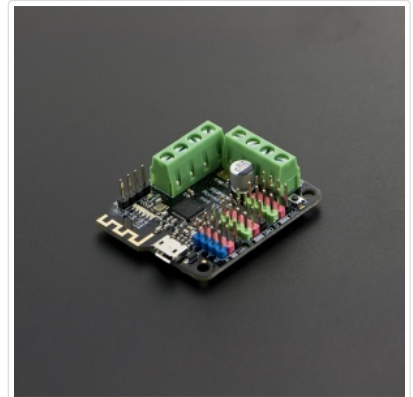


# Romeo BLE mini SKU:DFR0351

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(/wiki/index.php/File:Romeo\_BLE\_mi  
DFR0351.jpg)

Romeo BLE mini SKU:DFR0351

## Introduction

Romeo BLE mini is a simplified version of Romeo board. It inherits all functions of Romeo BLE. Moreover, IT GOT A SMALLER SIZE! Yes, you got it all. It has 8 Digital pins, 4 analog pins and integrates Bluetooth 4.0 wireless communication function. And it can easy to drive the mobile platform using two 1.5A H-bridged Motor Driver to meet the needs of most small scale robots. We hope Romeo BLE mini will be a good assistant to Makers.

## Specification

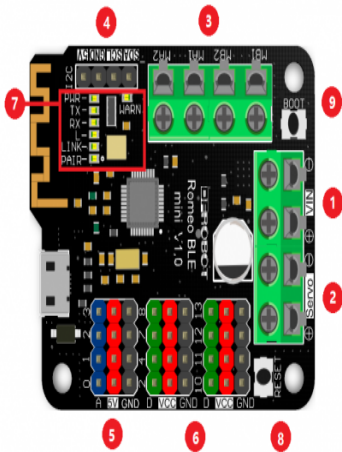
### Basic

- Microcontroller: Atmega328P
- Bootloader: Arduino UNO
- 8 Digital I/O ports with 2 PWM Outputs(Pin11,Pin10)
- 4 10-bit analog input ports
- TTL I2C ICSP interfaces
- On-board BLE chip: TI CC2540
- Transmission range: more than 50m
- Size: 45x38.5mm

### Feature

- Easy to use BLE firmware updating
- Transparent communication through Serial
- Wireless Programming Via BLE
- Support AT command to config the BLE
- Support Bluetooth HID
- Support the master-slave machine switch
- Auto sensing/switching external power input
- Two way H-bridged Motor Driver with 1.5A maximum current

## Board Overview



(/wiki/index.php/File:400px-Romeo\_BLE\_mini\_1\_with\_lab-new.png)

Label Name	Description
1	+VIN—External power input 6.5~10v
2	+Servo — Digital port power input 5~20v
	MA1
3	MA2/ motor controls A/B : MA1(PIN3) MA2(PIN5)
	MB1 MB1(PIN9) MB2(PIN6)
	MB2
4	I2C I2C interface
5	A 5V Analog Port 0,1,2,3
	GND
6	D VCC Digital Port 2,4,7,8,10(pwm),11(pwm),12,13
	GND
	PWR-power indicator;
	TX/RX-Data transmitting/receiving indicator;
	L-D13 led;
7	LED light
	LINK-Bluetooth link indicator;
	PAIR-Bluetooth pair indicator;
	WARN-Motor driver warning indicator(lighting when temperature is too high or current too large)
8	RESET Reset button
9	BOOT Used for update BLE Firmware

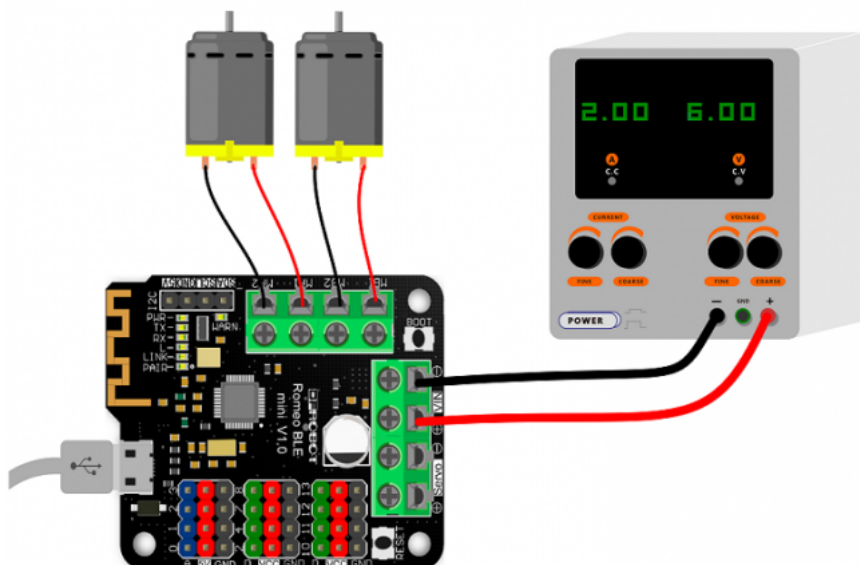
## Tutorial

In this tutorial, you can control two motors by enter("a","b","c","d","e") in Serial Monitor on PC.

## Requirements

- **Hardware**
  - Romeo BLE mini x1
  - 6v Motro x2
- **Software**
  - Arduino IDE V1.6.5 [Click to Download Arduino IDE \(https://www.arduino.cc/en/Main/Software\)](https://www.arduino.cc/en/Main/Software)

## Connection Diagram



(/wiki/index.php/File:DFR0351%2BMotor.png)

## Sample Code

Download related Library ([https://github.com/CainZ/Romeo-BLE-mini/blob/master/ROMEO\\_M.zip?raw=true](https://github.com/CainZ/Romeo-BLE-mini/blob/master/ROMEO_M.zip?raw=true)).

About Library installation (<https://www.arduino.cc/en/Guide/Libraries#.UxU8mdzF9H0>)

```
#include <Romeo_m.h>
void setup(void)
{
  Romeo_m.Initialise();
  Serial.begin(115200); //Set Serial Baud
}
void loop(void)
{
  char val;
  if(Serial.available()>0)
  {
    val = Serial.read();
  }
  switch(val){
    case 'a'://Go forward
      Romeo_m.motorControl(Forward,200,Forward,200);
      break;
    case 'b'://Go back
      Romeo_m.motorControl(Reverse,100,Reverse,100);
      break;
    case 'c'://Turn Left
      Romeo_m.motorControl(Forward,100,Reverse,100);
      break;
    case 'd'://Turn right
      Romeo_m.motorControl(Reverse,200,Forward,100);
      break;
    case 'e'://Stop
      Romeo_m.motorStop();
      break;
    default: break;
  }
}
```

## Configure the BLE through AT command

There are three revolutionary BLE firmware versions now, maybe it will be more. For the reason of unified management, we will put all BLE AT command on the BLUNO wiki page

Configure the BLE through AT command

([http://www.dfrobot.com/wiki/index.php/Bluno\\_SKU:DFR0267#Configure\\_the\\_BLE\\_through\\_AT\\_command](http://www.dfrobot.com/wiki/index.php/Bluno_SKU:DFR0267#Configure_the_BLE_through_AT_command)).

## Bluno Beetle Basic Demo

In this section, you can use the Romeo BLE mini to connect with the Android phone or iPhone .The Step by Step tutorial of the Romeo BLE mini is almost the same with the Bluno.

Bluno Basic Demo ([http://www.dfrobot.com/wiki/index.php/Bluno\\_SKU:DFR0267#Bluno\\_Basic\\_Demo](http://www.dfrobot.com/wiki/index.php/Bluno_SKU:DFR0267#Bluno_Basic_Demo))

## Wireless Programming via BLE

In this section, we will learn how to Upload the sketch on air via BLE. It is really amazing that you can do uploading process without a line.The Step by Step tutorial of

the Romeo BLE mini is almost the same with the Bluno.

How to Wireless Programming through BLE

([http://www.dfrobot.com/wiki/index.php/Bluno\\_SKU:DFR0267#Wireless\\_Programming\\_via\\_BLE](http://www.dfrobot.com/wiki/index.php/Bluno_SKU:DFR0267#Wireless_Programming_via_BLE)).

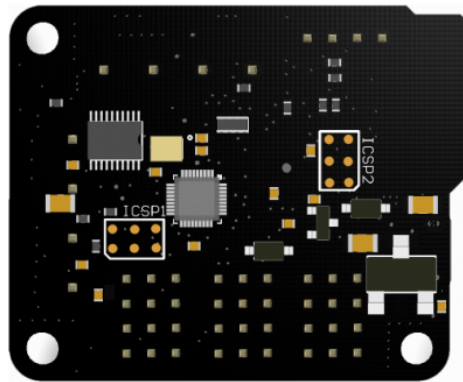
## Update BLE Firmware

It is better to update the newest firmware for the better experience. As Romeo BLE mini is using CC2540 chip, the method of the updating is very close to BLUNO. Please choose "Bluno" firmware. Or it won't work.

How to update the BLE firmware

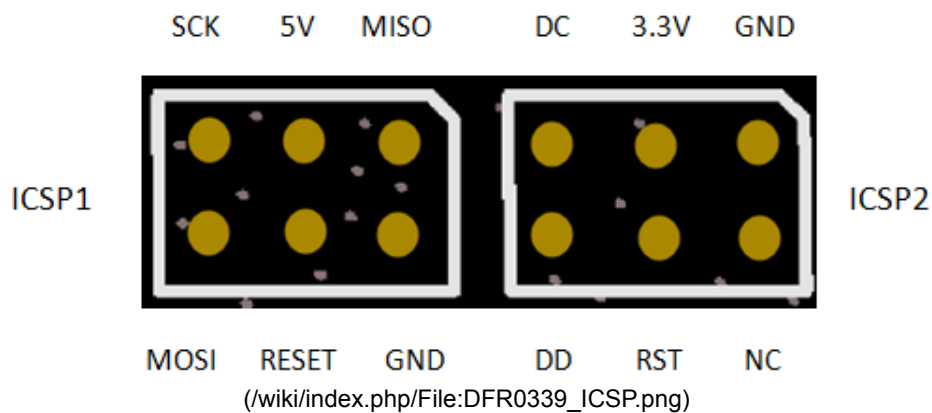
([http://www.dfrobot.com/wiki/index.php/Bluno\\_SKU:DFR0267#Update\\_BLE\\_Firmware\\_on\\_Bluno.EF.BC.88AT.2BVERSION\\_to\\_c](http://www.dfrobot.com/wiki/index.php/Bluno_SKU:DFR0267#Update_BLE_Firmware_on_Bluno.EF.BC.88AT.2BVERSION_to_c))

## ICSP interface



([/wiki/index.php/File:Romeo\\_BLE\\_mini2.png](http://wiki/index.php/File:Romeo_BLE_mini2.png))

1



([/wiki/index.php/File:DFR0339\\_ICSP.png](http://wiki/index.php/File:DFR0339_ICSP.png))


2

- ICSP1: Atmega 328P
- ICSP2: CC2540

## More

Romeo BLE mini Libraries ([https://github.com/CainZ/Romeo-BLE-mini/blob/master/ROMEO\\_M.zip?raw=true](https://github.com/CainZ/Romeo-BLE-mini/blob/master/ROMEO_M.zip?raw=true))

Romeo BLE mini Schematics (<https://github.com/CainZ/Romeo-BLE-mini/blob/master/Romeo%20BLE%20mini%20V1.1%20Schematics%20.pdf>)

 (<http://www.dfrobot.com/>) BUY from **DFRobot Store** ([http://www.dfrobot.com/index.php?route=product/product&product\\_id=1367&search=DFR0351&description=true#.VqtPUhV96Uk](http://www.dfrobot.com/index.php?route=product/product&product_id=1367&search=DFR0351&description=true#.VqtPUhV96Uk)) or **DFRobot Distributor List** (<http://www.dfrobot.com/index.php?route=information/distributorslogo>)

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