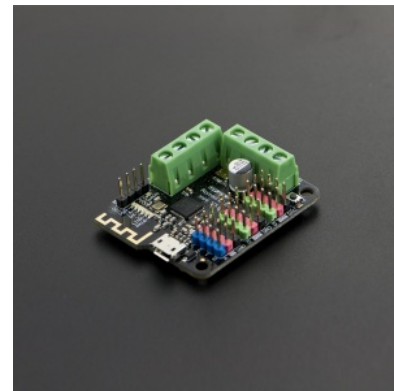


Romeo BLE mini SKU:DFR0351

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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

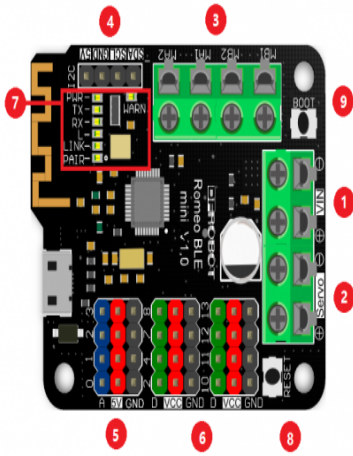
Basic

- 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



Label	Name	Description
1	+VIN—	External power input 6.5~10v
2	+Servo —	Digital port power input 5~20v
3	MA1 MA2/ MB1 MB2	motor controls A : MA1 (controlled by D3), MA2 ((controlled by D5) motor controls B : MB1 ((controlled by D9), MB2 ((controlled by D6)
4	I2C	I2C interface
5	A 5V GND	Analog Port 0,1,2,3
6	D VCC GND	Digital Port 2,4,7,8,10(pwm),11(pwm),12,13
7	LED light	PWR-power indicator; TX/RX-Data transmitting/receiving indicator; L-D13 led; 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

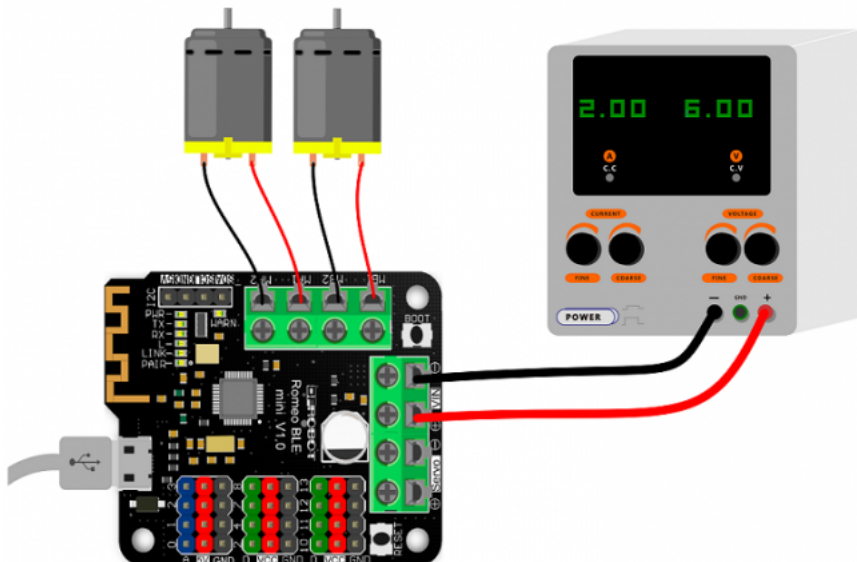
Tutorial

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>)

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).
About Library installation (<https://www.arduino.cc/en/Guide/Libraries#UxJ8mdzF9H0>)

```
#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

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

Wireless Programming via BLE

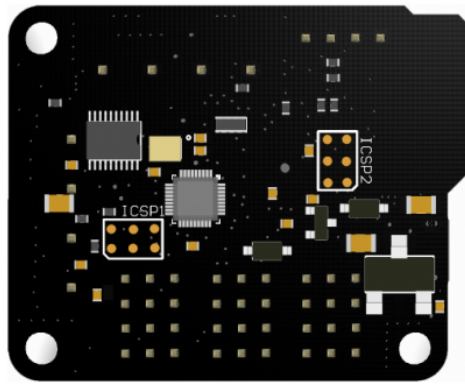
In this section, we will learn how to Upload the sketch on air via BLE. It is really amazing that you can do uploading process without a line.The Step by Step tutorial of

the Romeo BLE mini is almost the same with the Bluno.
How to Wireless Programming through BLE

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.

ICSP interface



SCK 5V MISO DC 3.3V GND



- ICSP1: Atmega 328P
- ICSP2: CC2540