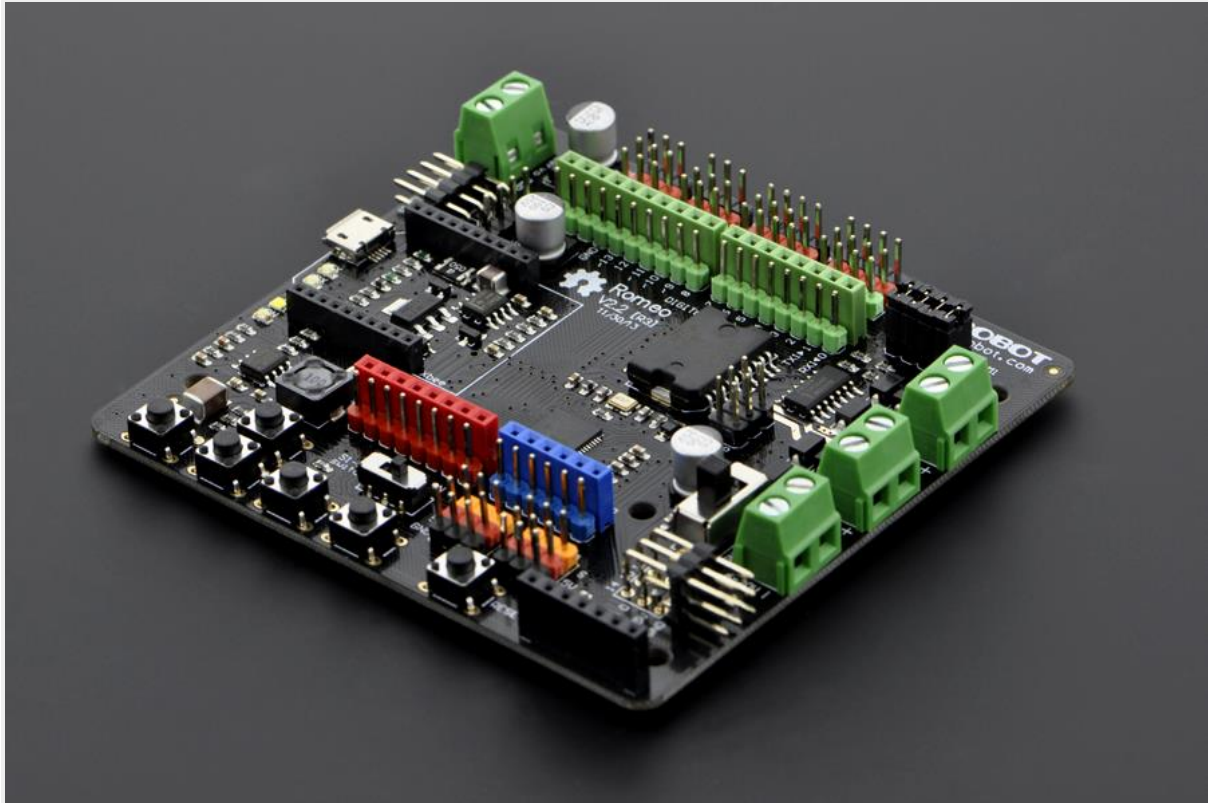




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# Romeo V2 - a Robot Control Board with Motor Driver (Compatible with Arduino)

SKU:DFR0225



## *INTRODUCTION*

Romeo V2 - a Robot Control Board with Motor Driver (Compatible with Arduino), it is especially designed for robotics applications and extended devices. [Romeo](#) benefits from the [Arduino](#) open-source platform, it is supported by thousands of open source projects, and can easily be expanded with Arduino compatible Shields. The integrated 2 way [DC motor driver](#) and Xbee socket allows you to start your project immediately without the need for an additional motor driver or wireless shield.

Another improvement of Romeo V2 is that it supports stepper motor control.

Romeo V2 - a Robot Control Board with Motor Driver (Compatible with Arduino) behaves like Arduino Leonardo based on the ATmega32u4 chip, You can program it directly from the Arduino IDE 1.0.1 or later version. Because of the ATmega32U4 as it's the sole microcontroller, Romeo V2 is simple and easy to use. The 32U4 chipset handles the USB directly, code libraries are available which allow the board to emulate a computer keyboard, mouse, and more using the very interesting USB-HID protocol! The best advantage is that ATmega32u4 has two serial ports that allow uploading sketches without removing wireless modules. Debugging is no longer a painful task.

*Version History*



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- *Romeo V2 also improves the power supply, it has now a switch to select power source either from USB or external power. Romeo V2.2 redesigns the power supply system to improve the stability of the ADC circuit.*

## FEATURES

### Wide operating input voltage

- Directly support Xbee and XBee form factor wifi, Bluetooth, and RF modules
- ON/ OFF switch to control the system power from external motor power
- 3 Digital I/O extensions (D14-D16)
- S1 - S5 switch replace jump cap, allows free use for the GPIO.
- Micro USB instead of A-B USB connector
- Analog sensor extension port: Orange for Signal, Red for Vcc, Black for GND

**Note: The analog sensor port pin mapping on Romeo v2 is different from the old version. Please select the "Arduino Leonardo" when using "Arduino IDE".**









## SPECIFICATION

- DC Supply: USB Powered or External 6V ~ 23V DC
- DC Output: 5V(2A) / 3.3V DC
- Motor driver Continuous Output Current: 2A
- Microcontroller: ATmega32u4
- Bootloader: Arduino Leonardo
- Compatible with the Arduino R3 pin mapping
- Analog Inputs: A0-A5, A6 - A11 (on digital pins 4, 6, 8, 9, 10, and 12)
- PWM: 3, 5, 6, 9, 10, 11, and 13. Provide 8-bit PWM output
- 5 key inputs for testing
- Auto-sensing/switching external power input
- Serial Interface
  - TTL Level
  - USB
- Support Male and Female Pin Header
- Built-in Xbee socket
- Integrated sockets for APC220 RF Module and DF-Bluetooth Module
- Three I2C/TWI Interface Pin Sets (two 90° pin headers)
- Two-way Motor Driver with 2A maximum current
- One Stepper Motor Drive with 2A maximum current Size: 89 x 84 x 14mm (3.50 x 3.31 x 0.55")



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DFRobot Microcontroller Selection Guide

DFRobot Microcontroller Selection Guide								
Picture								
Model	DFRduino UNO	DFRduino Leonardo	DFRduino Mega2560	DFRduino Mega1280	Romeo V1	Romeo V2	Bluno	Wido
SKU	DFR0216	DFR0221	DFR0191	DFR0003	DFR0004	DFR0225	DFR0267	DFR0321
Processor	ATmega328	ATmega32u4	ATmega2560	ATmega1280	ATmega328	ATmega32u4	ATmega328	ATmega32u4
Board Type	Arduino UNO	Arduino Leonardo	Arduino Mega 2560	Arduino Mega	Arduino UNO	Arduino Leonardo	Arduino UNO	Arduino Leonardo
Operating Voltage (Voltage / Input Voltage)	5 V/7-12 V	5 V/7-12 V	5 V/7-12 V	5 V/7-12 V	5 V/7-12 V	5 V/7-20 V	5 V/7-12 V	5 V/7-12 V
CPU Frequency	16MHz	16MHz	16MHz	16MHz	16MHz	16MHz	16MHz	16MHz
Analog Ports (Input / Output)	6 / 0	12 / 0	16 / 0	16 / 0	6 / 0	12 / 0	6 / 0	12 / 0
Digital Ports (IO/PWM)	14 / 6	20 / 7	54 / 15	54 / 15	14 / 6	20 / 7	14 / 6	20 / 7
EEPROM[KB]	1	1	4	4	1	1	1	1
SRAM[KB]	2	2.5	8	8	2	2.5	2	2.5
Flash[KB]	32	32	256	128	32	32	32	32
USB Interface	A-B	Micro	A-B	A-B	A-B	Micro	Micro	Micro



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<b>UART</b>	1	2	4	4	1	2	1	2
<b>Dimension</b>	75 × 55mm	75 × 55mm	108 × 54mm	108 × 54mm	100 × 80mm	89 × 85mm	75 × 55mm	75 × 55mm
<b>Features</b>	<p>*Designed for domestic Arduino fans. Full compatible with Arduino UNO R3.</p> <p>*Suitable for Arduino Beginners.</p>	<p>*Low-cost main controller board. The main difference from the official one is that this board offers XBee socket and SPI directly-plugged interface, making the best of UART ports.</p> <p>*For low-cost project, and Arduino communication module development.</p>	<p>*DFRduino Mega 2560 comes with plenty of IO ports, 54 digital ports, 16 analog ports, and 4 UARTs.</p> <p>*Applicable to large projects that require many sensors.</p>	<p>*Mega1280 has as many IO ports as Mega256 but comes with a smaller Flash. Besides, its price is lower than Mega2560.</p> <p>*Suitable for low-cost projects requiring many sensors.</p>	<p>*Romeo V1 is specially designed for robot fans. It integrates motor driver, all sorts of communication ports, IO expansion port, and so on.</p> <p>*Extremely suitable for robot fans.</p>	<p>*The only difference between V1 and V2 is that Romeo V2 adopts ATmega32u4 chip, which provides 2 UARTs, convenient for wireless communication.</p> <p>*For robot fans to build up projects with wireless communication.</p>	<p>*The first Arduino compatible controller board that integrates Bluetooth 4.0, brings much more flexibility and possibility for Android and IOS mobile development.</p> <p>*For Android and IOS mobile App BLE developers.</p>	<p>*Integrated CC3000 wifi core and SD card function. Can store a large number of collected data. Compared with Wifi shield, wido is more lightweight and low-cost.</p> <p>*For IoT developers.</p>