

Overview

DFRduino Uno V3.0 from DFRobot is a physical world computing board of small size for academics or development . It is a simple microcontroller board fully compatible with Arduino UNO R3 and Arduino IDE open-source development environment. This environment implements the Processing / Wiring language. Arduino can be used to develop stand-alone interactive objects or can be connected to software on your computer (e.g. Flash, Processing, MaxMSP). The open-source IDE can be downloaded for free (currently for Mac OS X, Windows, and Linux).

This board features the ATmega16U2 programmed as a USB-to-serial converter. An added bonus is that our DFRduino is still using the DIP package AVR Chip. You could remove it to update or reprogram the chip's firmware, or even to place it on a finished, more compact project. The cool thing about our new DFRduino microcontroller is that the headers use different colors to feature I/O ports of different types:

Red for Power Section.

Blue for Analog I/O.

Green for Digital I/O.

These colors match our sensor cables. This makes it really easy to figure out where to connect sensors, or to identify which side is Analog (blue) or Digital (green).



Order Code

Order Code	Brand	Description
E00018-001	DFRobot	DFRduino UNO R3

Overview

"Arduino Uno" is a microcontroller board based on the ATmega328. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

This board added SDA and SCL pins that are near to the AREF pin and two other new pins placed near to the RESET pin, the IOREF that allow the shields to adapt to the voltage provided from the board. In future, shields will be compatible both with the board that use the AVR, which operate with 5V and with the "Arduino Due" that operate with 3.3V. The second one is a not connected pin, that is reserved for future purposes.

Specification

- Microcontroller: ATmega328 (DIP package)
- Operating voltage: 5V
- Input voltage: No external power supply needed when connected to USB or external 7V~12V DC input
- Output voltage: 5V DC output and 3.3V DC output
- Clock speed: 16 MHz
- Bootloader: Arduino Uno
- Supports USB interface protocol and power supply (no external power source needed)
- Supports ISP download function
- Digital I/O pins: 14 (6 are PWM outputs)
- Analog input pins: 6
- DC current per I/O Pin: 40mA
- DC current for 3.3V Pin: 50mA
- Flash memory: 32 KB (ATmega328)
- SRAM: 2 KB (ATmega328)
- EEPROM: 1 KB (ATmega328)
- Dimensions: 75 x 54 x 15 mm (2.95 x 2.13 x 0.59 inches)
- Environmental Friendly: Complies with Rohs standards

Documents

- [ATMega328P datasheet](#)

Revision History

Date	Revision	Change description
30/10/2025	1.0	Initial release