



Arduino UNO R4 Minima Development Board

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* Model: Uno R3 | Leonardo | Mega 2560 | DUE | UNO R4 WiFi | UNO R4 Minima

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INTRODUCTION

The new Arduino UNO R4 comes in two versions: the UNO R4 WiFi and the UNO R4 Minima. It runs on the Renesas RA4M1 (Arm Cortex®-M4) processor, with a clock speed of 48MHz, which provides a 3x increase over the UNO R3. In addition to that, the SRAM has been upgraded from 2kB to 32kB and the flash memory has been increased from 32kB to 256kB to accommodate to more complex projects. Furthermore, in response to requests from the Arduino community, the USB port has been upgraded to USB-C and the maximum power supply voltage has been increased to 24V. The board provides a CAN bus, allowing users to minimize wiring and perform different tasks by connecting multiple extension boards. Finally, the new board also includes a 12-bit analog DAC.

UNO R4 Minima provides a cost-effective option for those seeking the new microcontroller without additional features.

Based on the success of UNO R3, the UNO R4 board is the ideal prototype and learning tool for anyone. While retaining the well-known features of the UNO series, such as standard form factor, shield compatibility, 5V voltage, and robustness, new features have been added.

Thanks to its powerful design and reliable performance, the UNO R4 is a valuable addition to the Arduino ecosystem, suitable for beginners and experienced electronics enthusiasts alike to deploy their own projects.

Board Overview of Arduino UNO R4 Minima Development Board

Figure: Board Overview

FEATURES

- **Hardware compatibility with UNO form factor**
The UNO R4 Minima maintains the same form factor, pinout, and 5 V operating voltage as its predecessor, the UNO R3. This ensures a seamless transition for existing shields and projects, leveraging the extensive and unique ecosystem already established for the Arduino UNO.
- **Expanded memory and faster clock**
Prepare for more precise calculations and the ability to handle complex projects with ease. The UNO R4 Minima boasts increased memory and a faster clock speed, empowering you to tackle demanding tasks effortlessly.
- **Extra on-board peripherals**
The UNO R4 Minima introduces a range of on-board peripherals, including a 12-bit DAC, CAN BUS, and OP AMP. These additional components provide you with expanded capabilities and flexibility in your designs.
- **Extended 24 V tolerance**
The UNO R4 Minima now supports a wider input voltage range, allowing power supplies up to 24 V. This enables seamless integration with motors, LED strips, and other actuators, simplifying your projects by utilizing a single power source.
- **SWD connector**
Debugging is a critical aspect of any project. Simply connect an external debugger to the UNO R4 Minima and effortlessly monitor the inner workings of your system. Stay in control and gain valuable insights.
- **HID support**
The UNO R4 Minima comes with built-in HID (Human Interface Device) support, enabling it to simulate a mouse or keyboard when connected to a computer via a USB cable. This convenient feature makes it a breeze to send keystrokes and mouse movements to a computer, enhancing usability and functionality.

SPECIFICATION

- MCU: Arm cortex M4
- Memory: 256 KB Flash/32KB SRAM
- Operating voltage:5V
- Input voltage:6-24V
- Clock speed:48MHz
- Programming port: USB-C
- Digital pins:14
- PWM:6
- ADC:6
- DAC:1(12bit)
- SPI:1
- I2C:1
- CAN:1

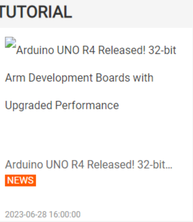
DOCUMENTS

- Arduino UNO R4 Minima Datasheet

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