

# ARDUINO ZERO

Code: ABX00003



**Arduino Zero** is a simple and powerful 32-bit extension of the platform established by the UNO. This board aims to provide a platform for innovative projects in smart IoT devices, wearable technology, high-tech automation, crazy robotics, and much more.



## Overview

The Zero is a simple and powerful 32-bit extension of the platform established by the UNO. The Zero board expands the family by providing increased performance, enabling a variety of project opportunities for devices, and acts as a great educational tool for learning about 32-bit application development. The Zero applications span from smart IoT devices, wearable technology, high-tech automation, to crazy robotics. The board is powered by Atmel's SAMD21 MCU, which features a 32-bit ARM Cortex® M0+ core. One of its most important features is Atmel's Embedded Debugger (EDBG), which provides a full debug interface without the need for additional hardware, significantly increasing the ease-of-use for software debugging. EDBG also supports a virtual COM port that can be used for device and bootloader programming.

**Warning: Unlike most Arduino & Genuino boards, the Zero runs at 3.3V. The maximum voltage that the I/O pins can tolerate is 3.3V. Applying voltages higher than 3.3V to any I/O pin could damage the board.**

The board contains everything needed to support the microcontroller; simply connect it to a computer with a micro-USB cable or power it with a AC-to-DC adapter or battery to get started. The Zero is compatible with all the shields that work at 3.3V and are compliant with the 1.0 Arduino pinout.

You can find your board warranty information [here](#).

## Note

Arduino and Genuino boards based on AVR microcontrollers get a reset and restart sketch execution each time the Serial Monitor of the Arduino Software (IDE) is opened. This is also the mechanism used to upload sketches to these boards. This board is different: when the Zero is connected through the Programming Port and you open the Serial Monitor, the board does not automatically reset and the sketch loaded keeps running. To restart the sketch you need to press the reset button on the board itself.

## Getting Started

In the [Getting Started](#) section, you can find all the information you need to configure your board, use the [Arduino Software \(IDE\)](#), and start to tinker with coding and electronics. To keep your Zero's Bootloader up to date, the [Update Procedure](#) explains what you should do each time there is a new Arduino SAMD Boards release.

## Tech Specs

Microcontroller	ATSAMD21G18, 32-Bit ARM Cortex M0+
Operating Voltage	3.3V
Digital I/O Pins	20
PWM Pins	All but pins 2 and 7
UART	2 (Native and Programming)
Analog Input Pins	6, 12-bit ADC channels
Analog Output Pins	1, 10-bit DAC
External Interrupts	All pins except pin 4
DC Current per I/O Pin	7 mA
Flash Memory	256 KB
SRAM	32 KB
EEPROM	None. See documentation
LED_BUILTIN	13
Clock Speed	48 MHz
Length	68 mm
Width	53 mm
Weight	12 gr.