

INDUSTRIAL PRODUCT DATASHEET

Arduino Nano RP2040 Connect with Headers - U- blox Wifi/6-axis IMU

The Arduino Nano RP2040 Connect with Headers offers native WiFi, Bluetooth, a 6-axis IMU with ML core, and hardware security on the RP2040 platform in the compact Arduino Nano form factor.

SKU

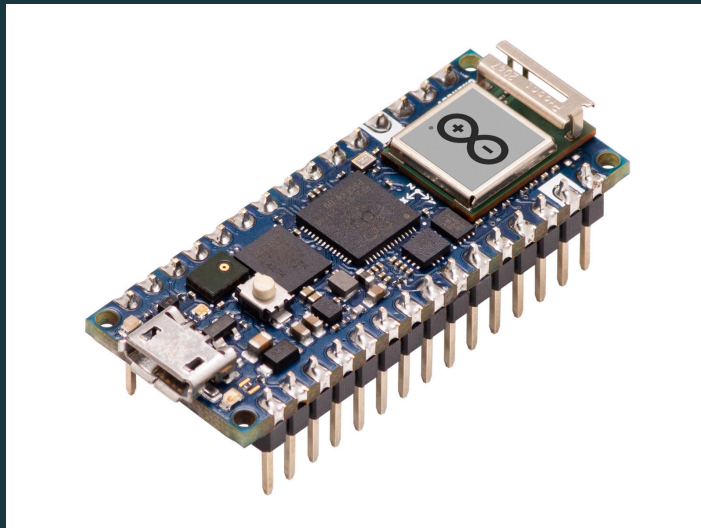
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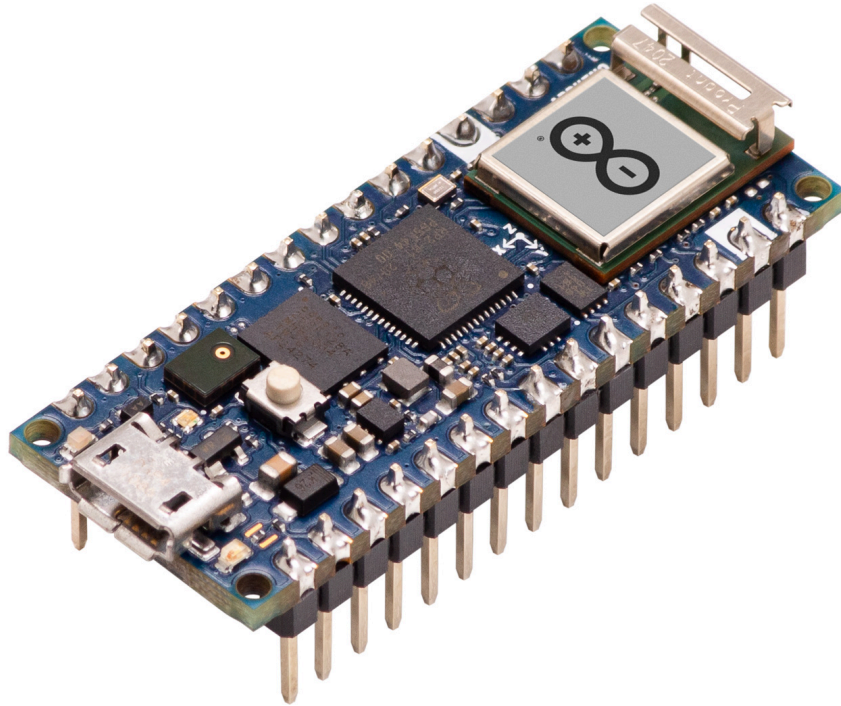
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PRICE

\$38.00(Excl. VAT)



Overview

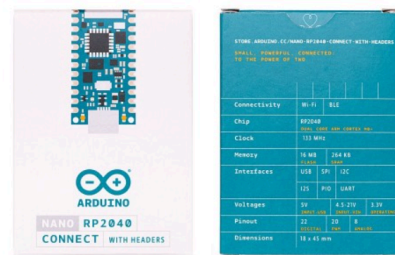
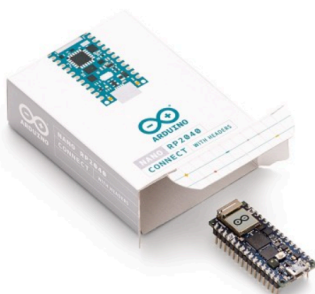
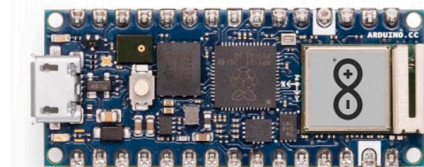


The Arduino Nano RP2040 Connect with Headers is built on the Raspberry Pi RP2040 microcontroller, featuring a dual-core 32-bit Arm® Cortex®-M0+ running at 133 MHz, and provides native WiFi and Bluetooth connectivity via the U-blox® Nina W102 module. It includes an ST LSM6DSOX 6-axis IMU with a dedicated machine learning core, a Microchip ATECC608A cryptographic co-processor for security, a high-efficiency step-down converter, and maintains the classic Arduino Nano form factor for easy prototyping and integration.

Key Features

- **Raspberry Pi RP2040 Microcontroller:** The all-new low-cost Raspberry Pi silicon is the first microcontroller developed by the Raspberry Pi Foundation.
- **Dual-Core 32-bit Arm® Cortex®-M0+:** Get started with machine learning with TinyML, TensorFlow Lite or Edge Impulse thanks to the high-performance energy-efficient microprocessor clocked at 133 MHz.
- **U-blox® Nina W102:** The first and only RP2040 board with native Bluetooth and WiFi connectivity.
- **ST LSM6DSOX 6-axis IMU:** Combined accelerometer and gyroscope with a dedicated machine learning core.
- **Microchip ATECC608A Cryptographic Co-processor:** The powerful, low-power processor that is used in all MKR Family boards.
- **Step down converter:** Achieve high efficiency and low noise over a wide input voltage range with the built-in switch mode power supply
- **Arduino Nano Form Factor:** Solder headers to start prototyping with a breadboard, then solder directly into your final product. The familiar Nano form factor gives you the choice to use the board according to your needs, backed by the vibrant Arduino community.

Product Gallery



Specification

Board	Name	Arduino® Nano RP2040 Connect
	SKU	ABX00053
Microcontroller	Raspberry Pi RP2040	
USB connector	Micro USB	
Pins	Built-in LED Pin	13
	Digital I/O Pins	20
	Analog input pins	8
	PWM pins	20 (except A6, A7)
	External interrupts	20 (except A6, A7)
Connectivity	Wi-Fi	Nina W102 uBlox module
	Bluetooth	Nina W102 uBlox module
	Secure element	ATECC608A-MAHDA-T Crypto IC
Sensors	IMU	LSM6DSOXTR (6-axis)
	Microphone	MP34DT05
Communication	UART	Yes
	I2C	Yes
	SPI	Yes
Power	Circuit operating voltage	3.3V
	Input voltage (VIN)	5-21V
	DC Current per I/O Pin	4 mA
Clock speed	Processor	133 MHz
Memory	AT25SF128A-MHB-T	16MB Flash IC
	Nina W102 uBlox module	448 KB ROM, 520KB SRAM, 16MB Flash
Dimensions	Weight	6 g
	Width	18 mm
	Length	45 mm

Compliance & Logistics



HSCODE	8517180050
USHSCODE	8517180050
UPC	
EUHSCODE	8543709099
COO	Italy

Resource Links

- <https://www.seeedstudio.com/ARDUINO-NANO-RP2040-CONNECT-WITH-HEADERS-p-4941.html>
- [Accessing IMU data on Nano RP2040 Connect](#)
- [Web Server AP mode with Arduino Nano RP2040 Connect](#)
- [Setting up Nano RP2040 Connect with Arduino IoT Cloud](#)
- [BLE device to device with Nano RP2040 Connect](#)
- [Reading microphone data on Nano RP2040 Connect](#)
- [Using the IMU Machine Learning Core Features](#)
- [Control built-in RGB LED over Wi-Fi with Nano RP2040 Connect](#)
- [Datasheet](#)
- [Fritzing Files](#)
- [Full Pinout](#)
- [Schematics](#)
- [STL Files](#)

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