

Item no.: 358644

Nicla Voice

from **79,82 EUR**

Item no.: 358644
shipping weight: 0.10 kg
Manufacturer: Arduino

Product Description

The 22.86 x 22.86 mm Nicla Voice allows for easy implementation of always-on speech recognition on the edge, because it integrates Syntiant's powerful NDP120 Neural Decision processor to run multiple AI algorithms, leveraging bio-inspired, advanced machine learning to automate complex tasks.

Nicla Voice comes with a comprehensive package of sensors: in addition to its microphone, it features a smart 6-axis motion sensor and a magnetometer, making it the ideal solution for predictive maintenance, gesture/voice recognition and contactless applications.

Nicla Voice offers onboard Bluetooth® Low Energy connectivity to easily interact with existing devices, and is compatible with Nicla, Portenta and MKR products. Finally, its ultra-low power consumption makes 24/7 always-on sensor data processing possible, with the option of battery-powered standalone operation.

Small enough to fit into wearables or retrofit existing machinery, enabling AI yet requiring minimal energy: Nicla Voice is the "impossible" combination that makes voice recognition on the edge possible – and easier than ever.

Key benefits include:

- Powerful processor with integrated Deep Neural Networks in a tiny form factor (22.86 x 22.86 mm)
- Integrated microphone, magnetometer and smart 6-axis IMU
- Onboard Bluetooth® Low Energy connectivity
- Add speech recognition capabilities to your projects
- Ultra-low power for 24/7 always-on sensor data processing
- Standalone when battery powered
- Compatible with Portenta and MKR products

Just say the word

Voice detection and voice recognition can change the way you interact with machines, systems and devices. With always-on sensors – courtesy of low power consumption – all you need is a wake word or trigger sound: no buttons to search for while you are driving, no interfaces to clutter your designs. And Nicla Voice not only hears everything, but understands what sounds mean: thanks to advanced neural processing, it can learn to interpret audio inputs such as passwords and commands.

Tiny but mighty

The Nicla family features Arduino Pro's smallest form factor to date. This means Nicla Voice can easily be used to upgrade or retrofit existing machines and systems, and is particularly suitable for wearable products such as helmets and smart bands – also thanks to its long, battery-powered autonomy.

More than words

Nicla Vision can handle multiple applications simultaneously to recognize different speakers, pick up on multiple wake-up words and run keyword spotting at the same time. But there's more than voice commands out there, of course. Nicla Voice can be trained to identify noisy bearings that require maintenance, glass shattering or intruders trying to enter, and more.

Peace and quiet

Nicla Voice lets you tune out in complete safety: integrated into smart headphones, it offers enhanced audio quality with echo-cancellation and noise-suppression features that allow users to focus on their job, spare their ears from loud industrial environments, yet still be warned immediately if an alarm sound is detected.

Microprocessor: Syntiant® NDP120 Neural Decision Processor™ (NDP):

- 1x Syntiant Core 2™ ultra-low-power deep neural network inference engine
- 1x HiFi 3 Audio DSP
- 1x Arm® Cortex® M0 core up to 48 MHz

Microcontroller Nordic Semiconductor nRF52832:

- 64 MHz Arm® Cortex M4

Sensors

- High performance microphone (IM69D130)
- 6-Axis IMU (BMI270)
- 3-axis magnetometer (BMM150)

I/O Castellated pins with the following features:

- 1x I2C bus (with ESLOV connector)
- 1x serial port
- 1x SPI
- 2x ADC
- Programmable I/O voltage from 1.8-3.3V

Interface

- External microphone connector (ZIF)
- USB interface with debug functionality

Memory

- 512KB Flash / 64KB SRAM
- 16MB SPI Flash for storage
- 48KB SRAM dedicated for NDP120

Dimensions and weight

- 22,86 x 22,86 mm
- 2 g

Operating temperature

- 0° C to +85° C (32° F to 185°F)

Power

- High speed USB (500mbps)
- Pin Header
- 3.7V Li-po battery with Integrated battery charger and fuel gauge (BQ25120AYFPR)

Connectivity

- Bluetooth® Low Energy (ANNA-B112)

Specifications

**Scan this QR code to
view the product**
All details, up-to-date
prices and availability

