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Hardware

RobotDyn SAMD21 M0-Mini a quick look

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The RobotDyn SAMD21 M0-Mini represents a powerful, 32-bit extension of the Arduino UNO platform, but to small size like Micro or Nano. The board is powered by Atmel's SAMD21 MCU, featuring a 32-bit ARM Cortex® M0 core. Compatible with Arduino Zero and Arduino M0.

The SAMD21 M0-Mini 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.

The boards are of course 3.3 volt compatible only – so be wary of this

Sparkfun have a page detailing the ARM microcontroller with a handy comparison to an ATMEGA328 – <https://learn.sparkfun.com/tutorials/samd21-minidev-breakout-hookup-guide/samd21-overview>

Install Arduino SAMD Boards

First, you need to add support for the board. These tools come packaged along with Arduino's SAMD board definitions for the Arduino Zero.

To install the Arduino SAMD board definitions, navigate to your board manager (Tools > Board > Boards Manager...), then find an entry for Arduino SAMD Boards (32-bits ARM Cortex-M0+). Select it, and install the latest version.

Installing the Arduino SAMD boards

arduino board install screen

Downloading and installing the tools may take a couple minutes depending on your network speed.

Once installed, Arduino-blue "Installed" text should appear next to the SAMD boards list entry.

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In the Arduino IDE I selected Arduino M0 and my device was on COM6

Code

Once again the blink sketch is where we go to test everything is working, this was compiled and uploaded and the on board LED flashed as expected

Source code

```
// the setup function runs once when you press reset or power up
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH);   // turn the LED on (HIGH is the positive logic)
  delay(1000);                       // wait for a second
  digitalWrite(LED_BUILTIN, LOW);    // turn the LED off by making the pin LOW
  delay(1000);                       // wait for a second
}
```

Links

Those folks at Sparkfun have a version and here are the schematics and files for making the board – https://github.com/sparkfun/SAMD21_Mini_Breakout

You can pick up the variant I bought which works perfectly for only \$12 – a nice price in my opinion for an ARM micro board



Kožené polobotky ze Zlína

Kvalitou i minimalistickým designem v 8 barvách udrží krok několik dalších sezón.



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AliExpress.com Product – SAMD21 M0-Mini. 32-bit ARM Cortex M0 core. Pins UnSoldered. Compatible with Arduino Zero, Arduino M0. Form Mini.



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