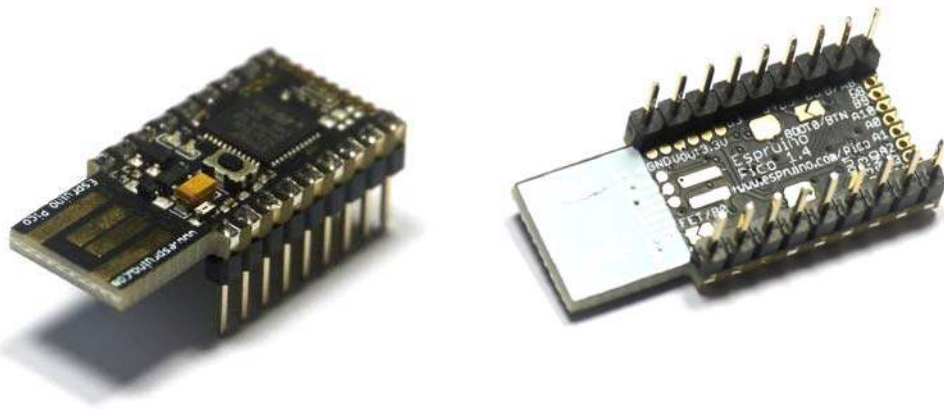


# Espruino Pico

ESP001



A tiny USB stick that runs JavaScript - control things in the real world in just seconds!

The Espruino Pico is a tiny USB stick that runs JavaScript code (it doesn't need to be plugged into a computer). You can program it with nothing but a serial terminal program, but there's also an IDE that runs in the Chrome Web browser. It's got a syntax highlighted editor as well as a graphical programming language.

The IDE is so quick and easy to install that the Pico has possibly the shortest time-to-blink that we've ever seen.

Once you've uploaded code, you can inspect and change variables (including functions!) while your program is running.

There's loads of documentation, tutorials and support for a huge range of different hardware too.

See how to get started here, or if you have any questions ask away on our forums!

Not only that, but your source code is on the board itself. If you make something with an Espruino board and need to change it a year later, your original code is still there waiting for you!

## Specifications

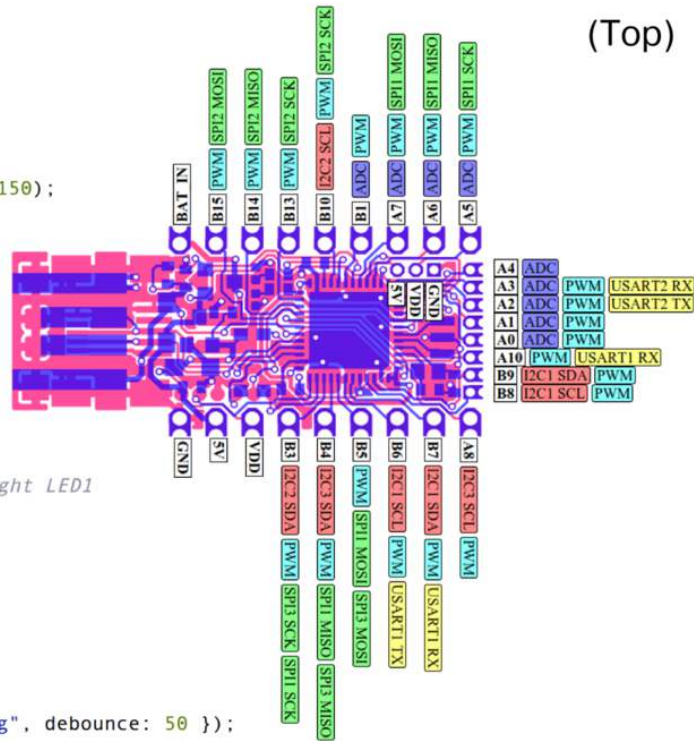
- 33mm x 15mm (1.3 x 0.6 inch)
- 22 GPIO pins : 9 Analogs inputs, 21 PWM, 2 Serial, 3 SPI, 3 I2C
- All GPIO is 5 volt tolerant (Arduino compatible)
- 2 rows of 9 0.1" pins, with a third 0.05" row of 8 pins on the end
- On-board USB Type A connector
- Two on-board LEDs and one button.
- STM32F401CDU6 CPU - ARM Cortex M4, 384kb flash, 96kb RAM
- On-board 3.3v 250mA voltage regulator, accepts voltages from 3.5v to 16v
- Current draw in sleep: < 0.05mA - over 2.5 years on a 2500mAh battery
- On-board FET can be used to drive high-current outputs

## Pinned or Unpinned?

This is the pinned version of the board, which fits perfectly into breadboard

## Quick Reference

```
// Light LED1
digitalWrite(LED1, 1);
// Blink LED2 for 150ms
digitalPulse(LED2, 1 /*polarity */, 150);
// Turn LED1 off after 1 sec
setTimeout(function() {
  digitalWrite(LED1, 0);
}, 1000 /* millisecs */);
// 40% duty cycle, 300Hz square wave
analogWrite(A8, 0.4, {freq:300});
// Internal pullup, read value
pinMode(B15, "input_pullup");
console.log(digitalRead(B15));
// Read analog value every 100ms, light LED1
setInterval(function() {
  var a = analogRead(A5);
  digitalWrite(LED1, a>0.5);
}, 100);
// When button is pressed
setWatch(function(e) {
  console.log("Press at "+e.time);
}, BTN, { repeat: true, edge: "rising", debounce: 50 });
```



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## Quick Reference

```
digitalWrite(LED1, 1);
// Turn LED1 on for 100ms
digitalPulse(LED2, 1, 150);
// Turn LED2 off after 1 sec
setTimeout(function() {
  digitalWrite(LED1, 0);
}, 1000); // milliseconds
// 50% duty cycle, 300Hz square wave
analogWrite(A8, 0.4, {freq:300});
// (0-255) pullup, read value
pinMode(B15, "input_pullup");
console.log(digitalRead(B15));
// Reading value every 100ms, light LED1
setInterval(function() {
  var a = analogRead(A5);
  digitalWrite(LED1, a>0.5);
}, 100);
// Example 2: debounce
setWatch(function() {
  console.log("Press at "+e.time);
}, BTN, {repeat: true, edge: "rising", debounce: 50 });
```

