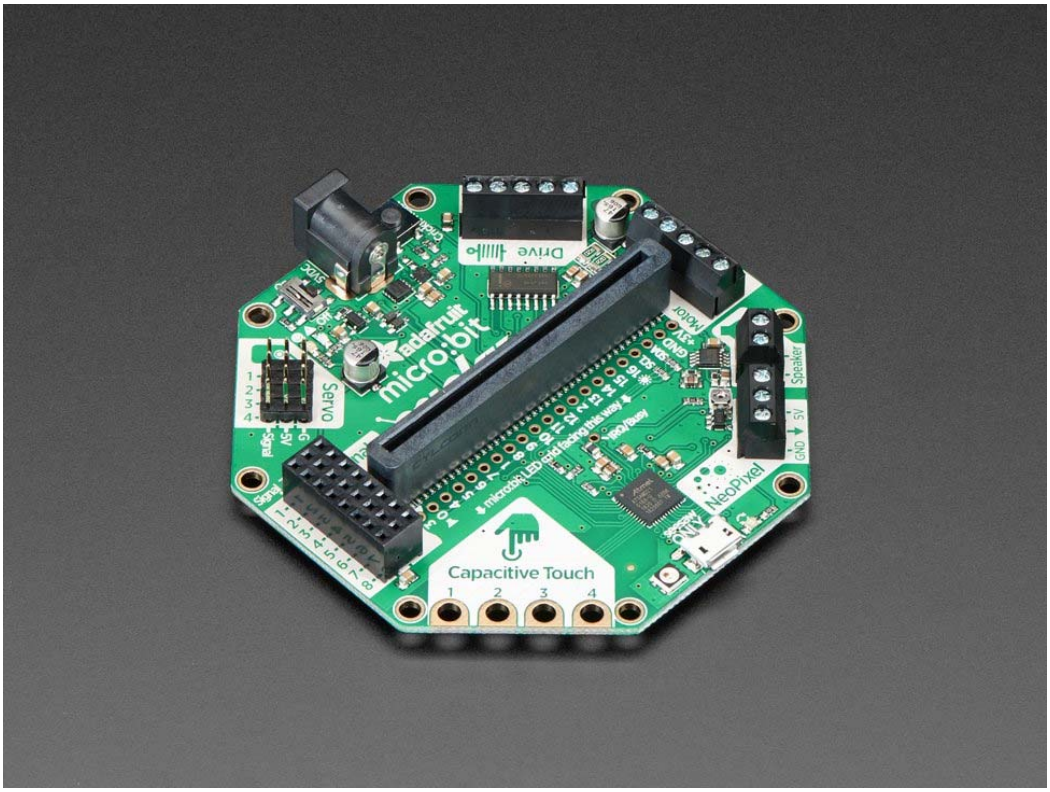

Adafruit CRICKIT for micro:bit

PRODUCT ID: 3928

Sometimes we wonder if robotics engineers ever watch movies. If they did, they'd know that making robots into slaves always ends up in a robot rebellion. Why even go down that path? Here at Adafruit, we believe in making robots our friends!

So if you find yourself wanting a companion, consider the robot. They're fun to program, and you can get creative with decorations.

With that in mind, we designed Crickit - That's our Creative Robotics & Interactive Construction Kit. It's an add-on to the BBC's micro:bit that lets you #MakeRobotFriend using MakeCode or Arduino.

Plug your :bit into the 40 pin edge connector and start controlling motors, servos, solenoids. You also get signal pins, capacitive touch sensors, a NeoPixel driver and amplified speaker output. It complements & extends micro:bit so you can still use all the goodies on the :bit, but now you have a robotics playground as well.

Please note at this time that MicroPython is not supported yet, just MakeCode & Arduino!

The Crickit is powered by seesaw, our I2C-to-whatever bridge firmware. So you only need to use two data pins to control the huge number of inputs and outputs on the Crickit. All those timers, PWMs, sensors are offloaded to the co-processor.

You get:

- 4 x Analog or Digital Servo control, with precision 16-bit timers
- 2 x Bi-directional brushed DC motor control, 1 Amp current limited each, with 8-bit PWM speed control (or one stepper)
- 4 x High current "Darlington" 500mA drive outputs with kick-back diode protection. For solenoids, relays, large LEDs, or one uni-polar stepper
- 4 x Capacitive touch input sensors with alligator-pads
- 8 x Signal pins, can be used as digital in/out or analog inputs
- 1 x NeoPixel driver with 5V level shifter - this is connected to micro:bit pin #16 so you can use MakeCode's built-in NeoPixel control
- 1 x Class D, 4-8 ohm speaker, 3W-max audio amplifier - this is connected to micro:bit pin #1 which is the default audio output

All are powered via 5V DC, so you can use any 5V-powered servos, DC motors, steppers, solenoids, relays etc. To keep things simple and safe, we don't support mixing voltages, so only 5V, not for use with 9V or 12V robotic components.

Please note this robot board does not require any soldering but you will need a power supply and a micro:bit to go along with the Crickit, and these are not included! We recommend also purchasing:

- BBC micro:bit
- 5V 2A power supply

- If you're going to be running more than 2 large motors or servos at a time, we recommend a 5V 4A power supply

And of course we have a huge collection of all compatible motors, servos, solenoids, speakers and more in our Crickit category

Since you'll be working with high-current devices, we wanted to have a good solid power supply system that minimizes risk of damage. The power supply has an 'eFuse' management chip that will automatically turn off if the voltage goes above 5.5V or below 3V and has over-current protection at 4A. Every motor driver has kick-back protection. We think this is a nice and durable board for robotics!

Lots more details, schematics, specifications, and code examples in the Adafruit Learn guide.