SparkFun BlackBoard C

SPX-15098 ROH

The BlackBoard from SparkFun is everything you need in an Arduino Uno with *many* extra perks. BlackBoard has all of the hardware peripherals you know and love: 14 Digital I/O pins with 6 PWM pins, 4 Analog Inputs, UART, and SPI with a handful of external interrupt pins. BlackBoard even has an SMD ISP header to connect SPI pins to shields.

We've applied every lesson we've learned about making a better Uno and created the BlackBoard. The USB to serial is now done with a *reversible* USB C connector with through hole anchoring and the ubiquitous CH340C requiring fewer driver installs. The power portion of the BlackBoard has been reworked: we upgraded the 3.3V regulator to provide up to 600mA, with full thermal and reverse circuit protection, and added extra decoupling capacitance to increase the sensitivity of the ADC readings. We've decreased the brightness of the power LED, pin 13 LED, and the TX/RX LEDs from blinding to just perfect. We've added 3.3V voltage translation and a Qwiic connector to the edge of the board to allow for quick and seamless connection to our ever-growing line of I²C based Qwiic products. We've even added solder pads to the bottom of the board for D+/D- so you can embed your BlackBoard into a project and run an external USB connection. And finally, we've increased the height of the reset button. This doesn't sound like much, but everyone who's touched it loves the improvement.

For more advanced users we've added an I/O jumper. Cut the trace to 5V and solder a jumper to the 3.3V side and the board will run at 3.3V. This is extremely handy if you have a shield or 3.3V sensitive devices, such as an SPI interface, that needs protecting.

The SparkFun BlackBoard comes fully tested with the Optiboot bootloader and can be easily programmed with the 'Arduino/Genuino Uno' option from within Arduino. You can power the BlackBoard over USB or through the barrel jack. The on-board power regulator can handle anything from 7 to 15VDC. The barrel jack can support up to 2 amps while the USB connection is limited to 0.5A. Check out the related items below for a compatible wall-wart power supply.
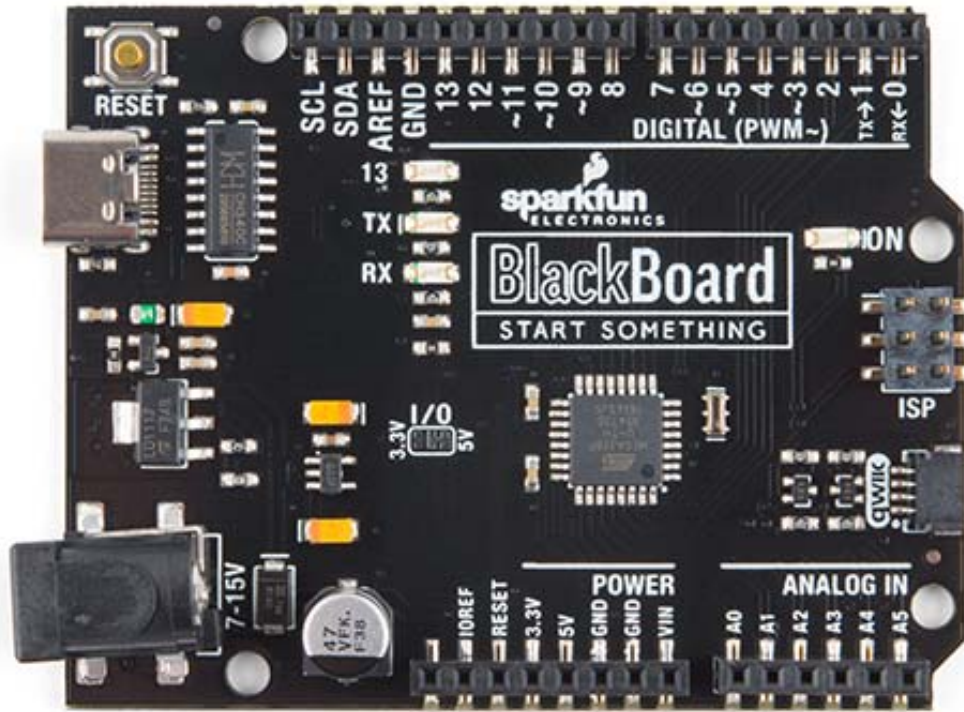
Not sure which Arduino or Arduino-compatible board is right for you? Check out our Arduino Buying Guide!

A4/A5 Pins: We recommend you don't use A4/A5 for analog to digital conversion. These pins have external 2.2k pull up resistors and will affect readings if you use them as analog to digital conversion pins. A0 through A3 still work fine as ADC pins. However, there are two jumpers on the rear of the board that can be cut to disconnect the 2.2k pull ups if you need the extra A4/A5 ADC pins.

- ## FEATURES

- ATmega328P microcontroller with Optiboot (UNO) Bootloader
- CH340C USB to Serial IC
- Reinforced and reversible USB C connector
- Built-in Qwiic connection
- Input voltage: 7-15V
- 0-5V outputs with 3.3V compatible inputs
- 14 Digital I/O Pins (6 PWM outputs)
- 6 Analog Inputs
- ISP Header
- 32k Flash Memory
- 16MHz Clock Speed
- Flat bottom, all SMD construction