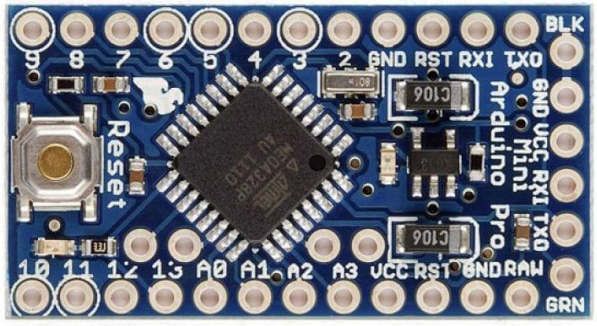
Arduino Pro Mini 3.3V 8M Compatible



The Arduino Pro Mini is a microcontroller board based on the ATmega328.

It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, an on-board resonator, a reset button, and holes for mounting pin headers. A six pin header can be connected to an FTDI cable or Sparkfun breakout board to provide USB power and communication to the board.

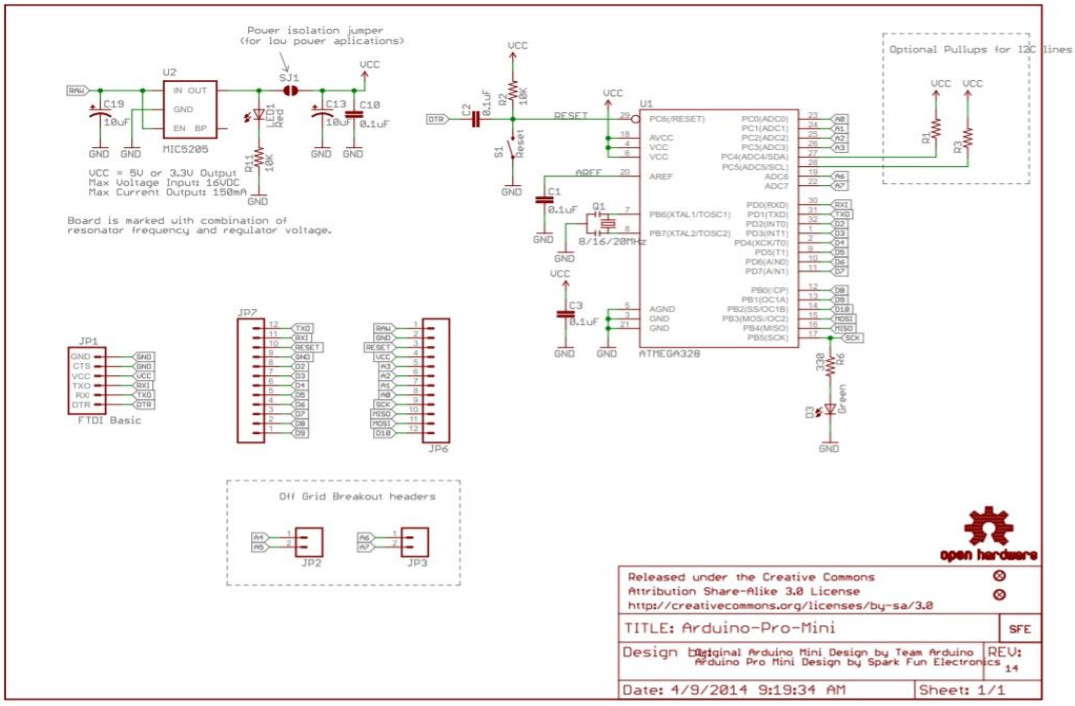
The Arduino Pro Mini is intended for semi-permanent installation in objects or exhibitions. The board comes without pre-mounted headers, allowing the use of various types of connectors or direct soldering of wires. The pin layout is compatible with the Arduino Mini.

SPECIFICATIONS:

- Microcontroller: ATmega328 *
- Board Power Supply: 3.35 -12 V (3.3V model) or 5 - 12 V (5V model)
- Circuit Operating Voltage: 3.3V or 5V (depending on model)
- Digital I/O Pins: 14
- PWM Pins: 6
- UART: 1
- SPI: 1
- I2C: 1
- Analog Input Pins: 6

- External Interrupts: 2
- DC Current per I/O Pin: 40 mA
- Flash Memory: 32KB of which 2 KB used by bootloader *
- SRAM: 2 KB *
- EEPROM: 1 KB *
- Clock Speed: 8 MHz (3.3V versions) or 16 MHz (5V versions)

SCHEMATIC DIAGRAM:



- The Arduino Pro Mini has a number of facilities for communicating with a computer, another Arduino, or other microcontrollers. The ATmega328 provides UART TTL serial communication, which is available on digital pins 0 (RX) and 1 (TX). The Arduino software includes a serial monitor which allows simple textual data to be sent to and from the Arduino board via a USB connection.
- A SoftwareSerial library allows for serial communication on any of the Pro Mini's digital pins.
- The ATmega328 also supports I2C (TWI) and SPI communication. The Arduino software includes a Wire library to simplify use of the I2C bus.
- The dimensions of the Pro Mini PCB are approximately 0.7" x 1.3".

PIN FUNCTION:

- **Power:** The Arduino Pro Mini can be powered with an FTDI cable or breakout board connected to its six pin header, or with a regulated 3.3V or 5V supply (depending on the model) on the Vcc pin. There is a voltage regulator on board so it can accept voltage up to 12VDC. If you're supplying unregulated power to the board, be sure to connect to the "RAW" pin on not VCC.

The power pins are as follows:

RAW: For supplying a raw voltage to the board.

VCC: The regulated 3.3 or 5 volt supply.

GND: Ground pins.

- **Memory:** The ATmega328 has 32 kB of flash memory for storing code (of which 0.5kB is used for the bootloader). It has 2 kB of SRAM and 1kBs of EEPROM (which can be read and written with the EEPROM library.

- **Input and Output:** Each of the 14 digital pins on the Pro Mini can be used as an input or output, using pinMode,digitalWrite, and digitalRead functions. They operate at 3.3 or 5 volts (depending on the model). Each pin can provide or receive a maximum of 40 mA and has an internal pull-up resistor (disconnected by default) of 20-50 kOhms. In addition, some pins have specialized functions:

  Serial: 0 (RX) and 1 (TX): Used to receive (RX) and transmit (TX) TTL serial data. These pins are connected to the TX-0 and RX-1 pins of the six pin header.

  External Interrupts: 2 and 3. These pins can be configured to trigger an interrupt on a low value, a rising or falling edge, or a change in value. .

  PWM: 3, 5, 6, 9, 10, and 11. Provide 8-bit PWM output with the analogWrite function.

  SPI: 10 (SS), 11 (MOSI), 12 (MISO), 13 (SCK). These pins support SPI communication, which, although provided by the underlying hardware, is not currently included in the Arduino language.

  LED: 13. There is a built-in LED connected to digital pin 13. When the pin is HIGH value, the LED is on, when the pin is LOW, it's off.

- The Pro Mini has 8 analog inputs, each of which provide 10 bits of resolution (i.e. 1024 different values). Four of them are on the headers on the edge of the board; two (inputs 4 and 5) on holes in the interior of the board. The analog inputs measure from ground to VCC. Additionally, some pins have specialized functionality:

I2C: A4 (SDA) and A5 (SCL). Support I2C (TWI) communication using the Wire library

- There is another pin on the board:

  Reset: Bring this line LOW to reset the microcontroller. Typically used to add a reset button to shields which block the one on the board