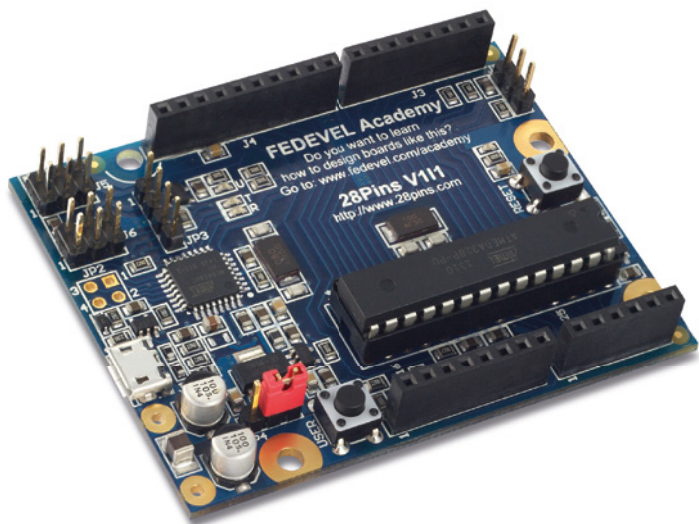


28Pins

Open Source Hardware and Software project

This microcontroller board is an amazing tool for hobbyists, robotics fans, and professional programmers allowing building devices that can sense inputs from switches or sensors and then control motors, lights or any other output. 28Pins is an open-source electronics platform based on easy-to-understand hardware and software.



The 28Pins **open source board** is based on Arduino project and was developed by FEDEVEL Academy to help people learn how to design their own boards.

It is **compatible with Arduino UNO Rev. 3** microcontroller board, including couple of useful improvements:

- Both RESET pins (16U2 and 328P) are driven through an open drain buffer. This adds an option to debug the microcontrollers through dWire interface.
- ATMEGA16U2 can be used as a universal AVRISP MKII programmer. Once you change the firmware, you can use it to program the onboard ATMEGA328P or any other board.
- Micro USB (use any mobile phone or tablet charger to power the board), User Button added, DFU Disable jumper, dWire debugger (if correct firmware is used, 16U2 can work as a dWire debugger).

This board is **inexpensive, simple to understand**, and completely open-source thus empowering users to **build incredible devices** satisfying their particular needs.

Hardware Specification

ATMEGA328P microcontroller

FLASH: 32kB / EEPROM: 1kB / RAM: 2kB
Clock: 16MHz (for +5V) / 10MHz (for +3.3V)
Up to 20 input / output pins from which:
20x digital input/output
6x PWM output
6x Analog input (10bit AD)
1x Serial port, 1x SPI, 1x I2C
1x User LED
1x User Buton, 1x Reset Button

ATMEGA16U2 microcontroller

FLASH: 16kB / EEPROM: 512B / RAM: 512B
Clock: 16MHz (for +5V) / 8MHz (for +3.3V)
4x Digital input / output
2x User LED
1x USB
1x SPI
1x Serial port (shared with 328P)
DFU programming support
AVRISP MKII firmware available

Further Features

ATMEGA328P can be programmed from ATMEGA16U2
SPI programming support
dWire debugging support
On board +3.3V / 1.5A regulator
Dimensions: 68.6 x 53.4 mm
Power input: micro USB or soldered wires
Power voltage: +3V3/+5V IO voltage configuration
E-Fuses preprogrammed
Temperature range: Commercial 0°C to +70°C
 Extended -20°C to +70°C
 Industrial -40°C to +85°C
Lead free / RoHS compliant

