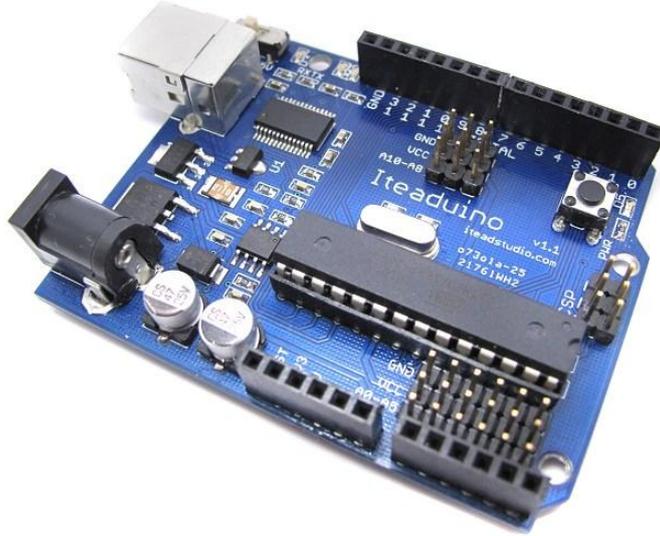
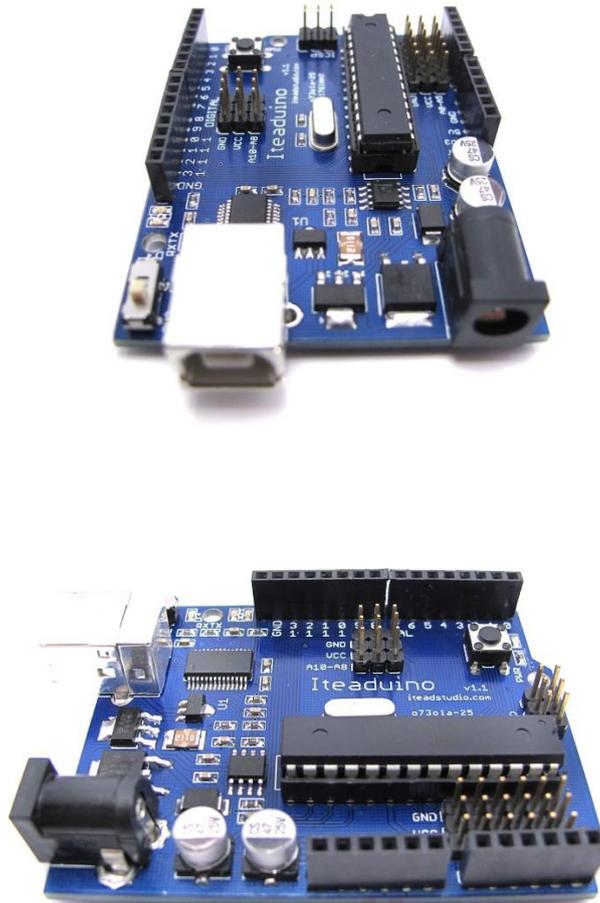


iteaduino: Hello World !



Overview

iteaduno is an Arduino compatible board. It's designed is basing on Duemilanove scheme, 100% compatible to its existing program, shield and IDE. On the hardware part, remarkable changes are taken to improve the flexibility and user experience.



Basic features

- Inherits all of Arduino Duemilanove's features.
- Compatible to Duemilanove's pin layout, screw hole and dimensions.
- 3.3V Operating Voltage selection
- More visible location of Indicator LEDs
- Pin out for Sensor and Servo

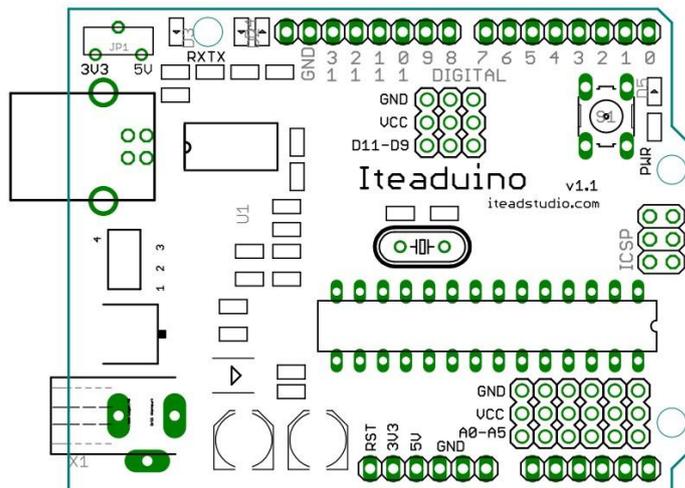
Specifications

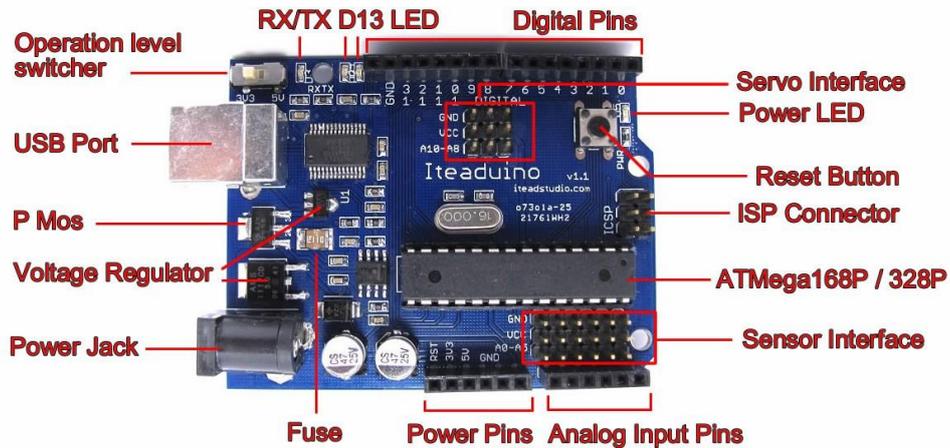
Microprocessor	ATmega168P / ATmega328P
PCB size	10mm X 82mm X 1.6mm
Indicators	Power,TX,RX,D13
Power supply(recommended)	7-12V DC
Power supply(limits)	6-20V DC
Communication Protocol	UART,SPI,IIC
Clock Speed	16M
ROSH	Yes

Electrical Characteristics

Specification	Min	Type	Max	Unit
Input voltage	5	5/6.2/9	12	VDC
Operating Voltage	-	3.3/5	-	VDC
DC Current per I/O Pin	-	40	-	mA

Hardware





Servo Interface: D11 D10 D9 pin

Sensor Interface: A0 A1 A2 A3 A4 A5 pin

Schematic: http://iteadstudio.com/Downloadfile/iteaduino_sch.pdf

Software

How to Get iteaduino Running on Windows

This part explains how to connect your iteaduino board to the computer and upload your first sketch, most of the contents are inherited from <http://arduino.cc/en/Guide/Windows> and under Creative Commons Attribution-ShareAlike 3.0 License.

1 Download the Arduino environment

To program the iteaduino board you need the Arduino environment.

Download: the latest version from the download page: <http://arduino.cc/en/Main/Software>

When the download finishes, unzip the downloaded file. Make sure to preserve the folder structure.

Double-click the folder to open it. There should be a few files and sub-folders inside.

2 Locate the USB drivers

You will need to install the drivers for the FTDI chip on the board. These can be found in the drivers/FTDI USB Drivers directory of the Arduino distribution. In the next step ("Connect the board"), you will point Window's Add New Hardware wizard to these drivers.

The latest version of the drivers can be found on the FTDI website:

<http://www.ftdichip.com/Drivers/VCP.htm>

3 Connect the board

You need a mini USB cable, and plug it in to the USB connector on iteaduino. Then the power LED should be on.

The Add New Hardware wizard will open. Tell it not to connect to Windows update and click next.

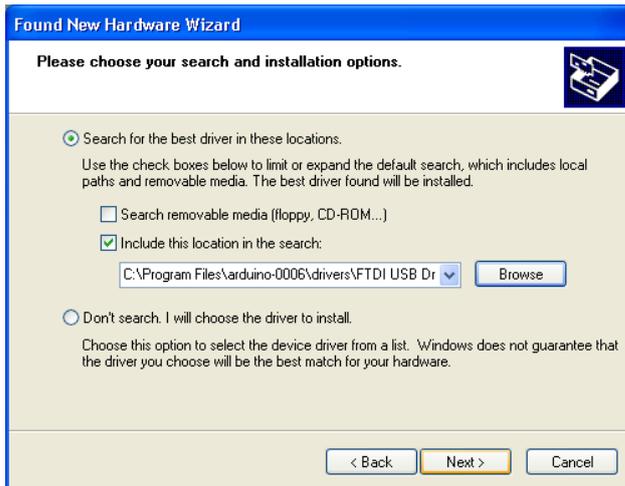


Then select "Install from a list or specified location (Advanced)" and click next.

Make



Make sure that "Search for the best driver in these locations is checked"; uncheck "Search removable media"; check "Include this location in the search" and browse to the location you unzipped the USB drivers to in the previous step. Click next.



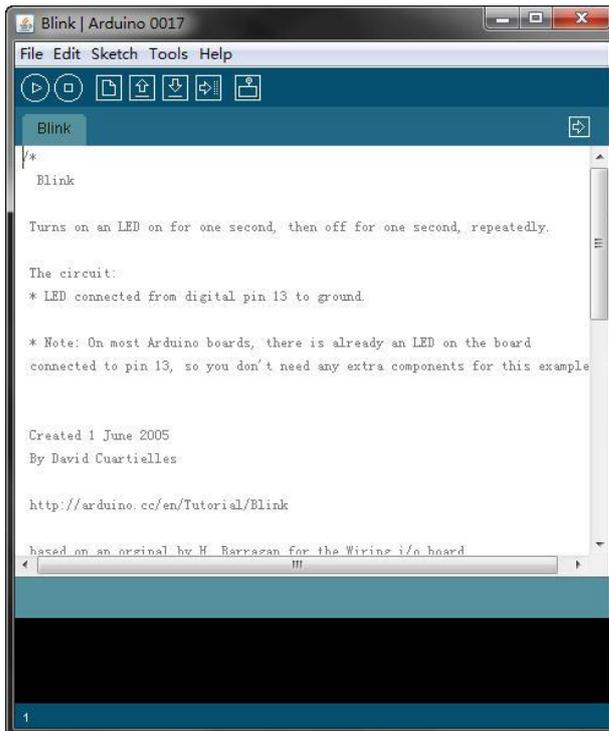
The wizard will search for the driver and then tell you that a "USB Serial Converter" was found. Click finish.



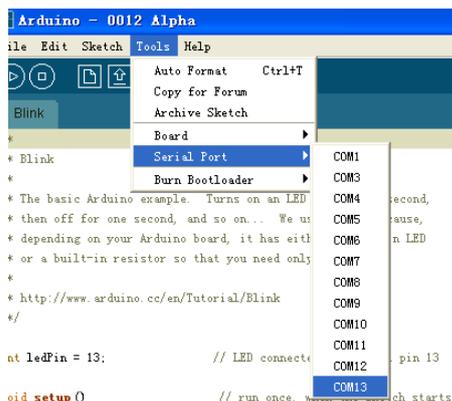
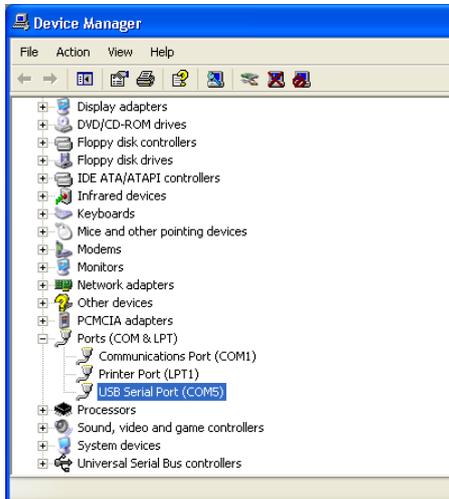
The new hardware wizard will appear again. Go through the same steps. This time, a "USB Serial Port" will be found.

4 Upload a program

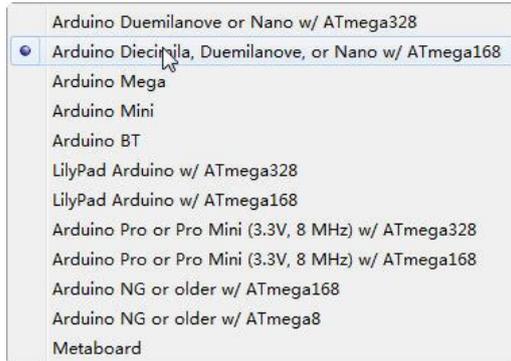
Run the Arduino environment, open the LED blink example sketch: File > Examples > Digital > Blink. Here's what the code for the LED blink example looks like.



Select the serial device of the iteaduino board from the Tools | Serial Port menu. On Windows, this should be COM3, COM4, or bigger # for a USB board. To find out, open the Windows Device Manager (in the Hardware tab of System control panel). Look for a "USB Serial Port" in the ports section; that's the iteaduino board.



Make sure that "Arduino Diecimila, Duemilanove, or Nano w/ ATmega168" is selected in the Tools > Board menu.



Now, simply click the "Upload" button in the environment. Wait a few seconds - you should see the RX and TX LEDs on the board flashing. If the upload is successful, the message "Done uploading." will appear in the status bar.



5 Look for the blinking LED

A few seconds after the upload finishes, you should see the amber (yellow) LED on the board start to blink. If it does, congratulations! You've gotten Arduino up-and-running.

If you have problems, please see the troubleshooting suggestions.

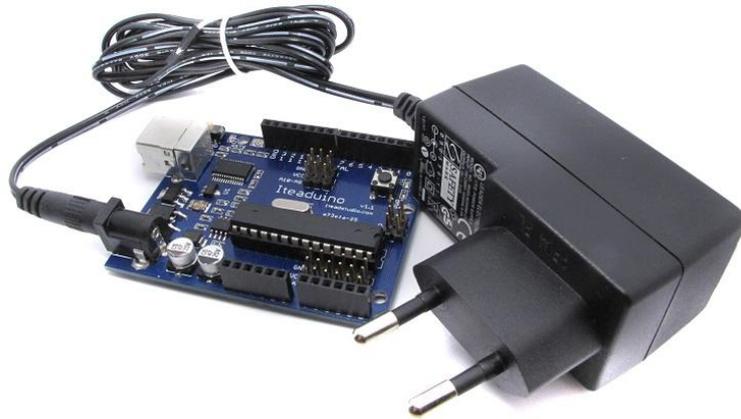
6 More about Arduino/iteaduno

- <http://arduino.cc/en/Tutorial/HomePage> : try these example programs.
- <http://arduino.cc/en/Reference/HomePage> : read the reference for the Arduino language.

iteaduno tour

How would it be powered up

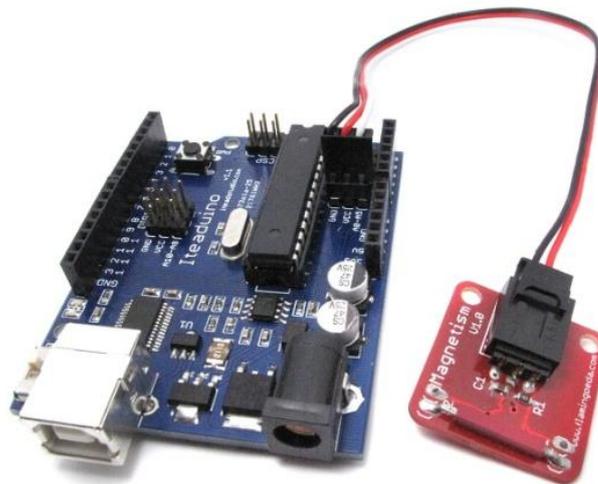
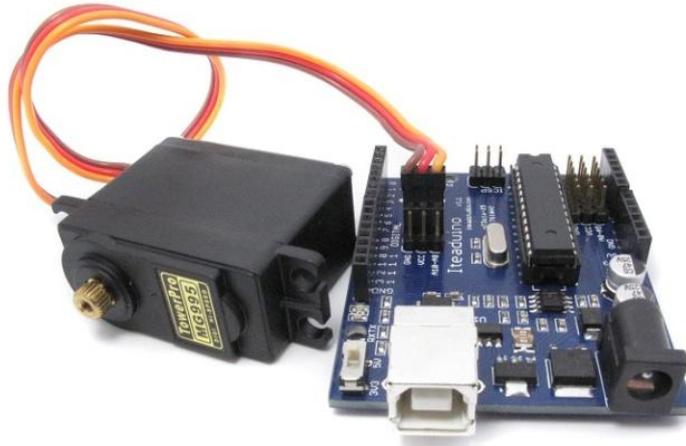
The iteaduno use the P MOS for auto power selection, and it support External adaptor power supply or USB power supply.



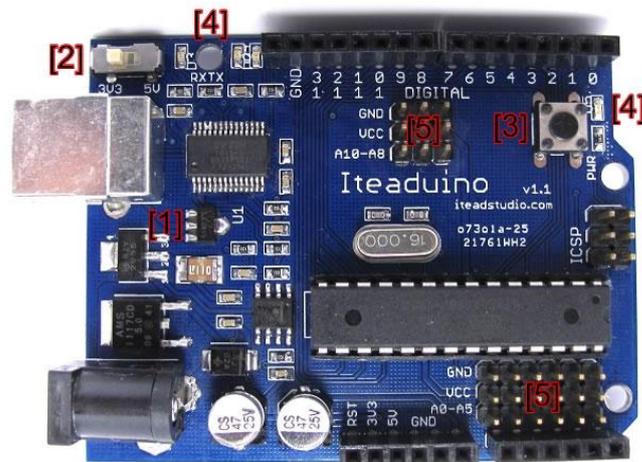
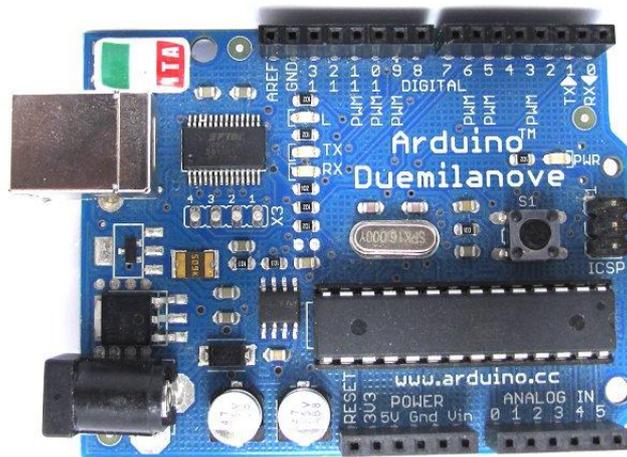
Sensor and Servo interface

There are many sensors are made as an Electronic brick mode and they use the same 3pin interface like servo.

On iteaduino there are 8 interfaces out; default 5 of them is for analog sensor. The other 3 are PWM pins and compatible with servo library, so they are for servo, also all the interface can be used for digital sensor and digital control.



What are the changes from Arduino to iteaduino



1. More powerful 3.3V power supply
2. 3.3V Operating Voltage selection
3. Easier access to reset button
4. More visible location for LEDs
5. Sensor and Servo interface break out
6. Re-route PCB

License



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Links and References

- ITead Studio Site: iteadstudio.com
- Arduino site: arduino.cc
- Getting started with Arduino: arduino.cc/en/Guide/Windows

Revision History

Rev.	Description	Release date
v1.0	Initial version	07/01/2010