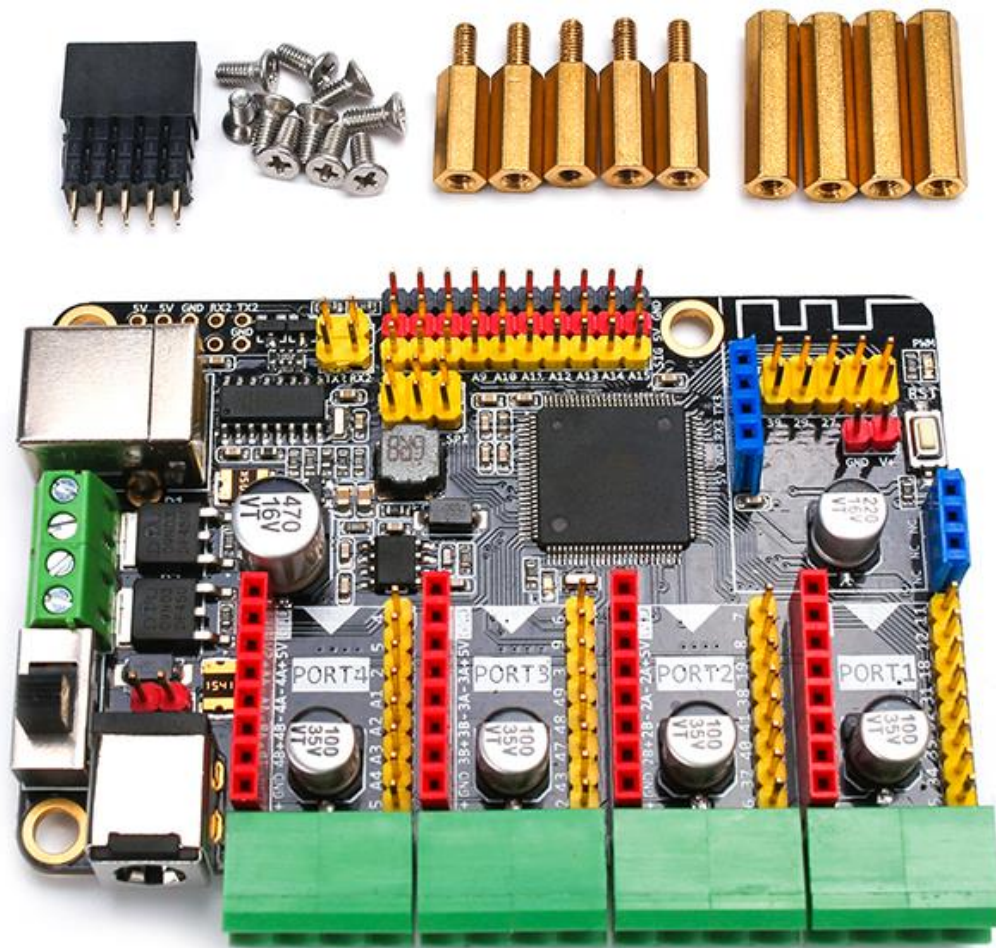




MegaPi



1. Overview

MegaPi is a main control board specially designed for makers and also an ideal option for being applied to education field and all kinds of matches. It is based on Arduino MEGA 2560 and supports programming with Arduino IDE perfectly. MegaPi can be divided into 6 function area, allowing you to connect with various plug-in modules to drive motors and sensor and to realize wireless communication. MegaPi has strong motor-driving ability which is capable of driving 10 servos or 8 DC motors simultaneously. It is the ideal option for various robotic projects, such as smart robot car and 3D printer.

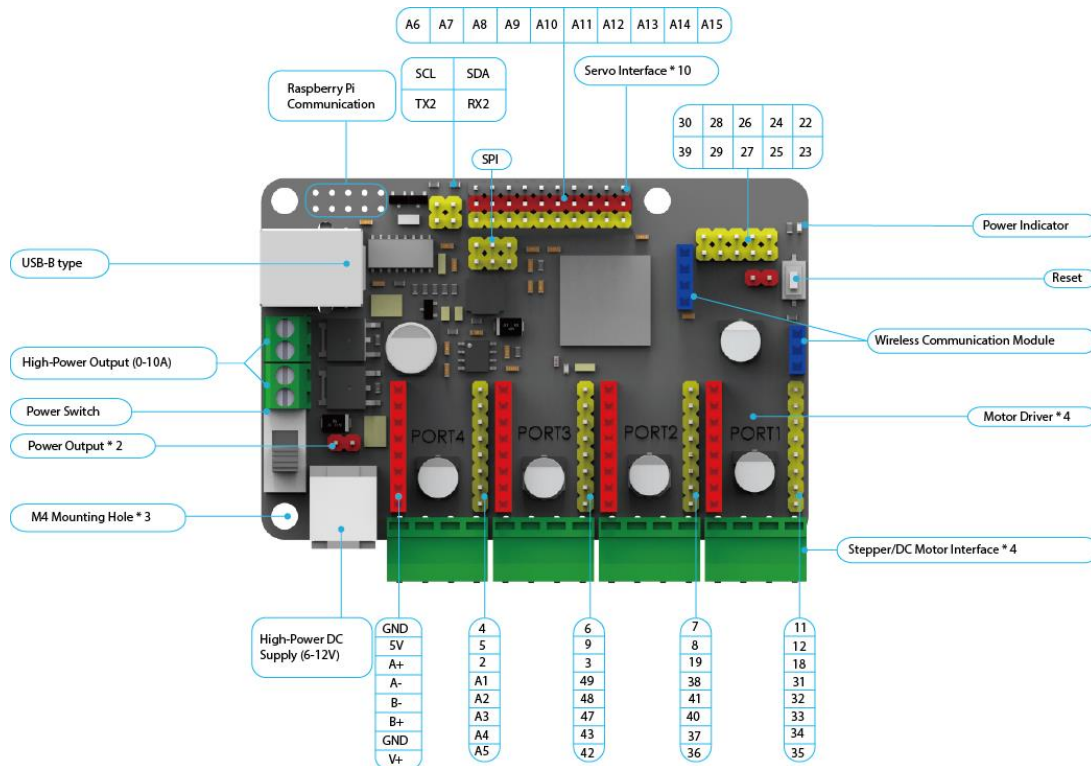
2. Features:

- Four motor driver interfaces for adding encoder motor driver and stepper motor driver, and thus to drive DC motors, encoder motors and stepper motors
- One wireless communication interface for adding Bluetooth module or 2.4G module
- Ten servo interfaces which enable the board to drive up to 10 servos at the same time
- Two high-power MOS driver interface which is able to drive devices with a maximum current of 10A. Maximum output of normal I/O ports is DC 5V 3A
- One Raspberry Pi switch interface (requires manual soldering) to realize 5V to 3.3V serial communication
- Three M4 mounting holes which allow the board to be connected with Raspberry Pi
- Slide switch for controlling the power supply
- B-type USB interface for downloading programs and communications. It uses the CH340G USB to serial chip which can realize communication between the computer and MegaPi easily and stably
- High-power DC input interface with an over-current protection of 2A and anti-reverse measurement
- One reset key, one power indicator (red) and one I/O indicator (blue)

3. Specification:

- Microcontroller: ATMEGA2560-16AU
- Input Voltage: DC 6V-12V
- Operating Voltage: DC 5V
- I/O Pins: 43
- Serial Ports: 3
- I2C Interface: 1
- SPI Interface: 1
- Analog Input Pins: 15
- DC Current per I/O Pin: 20mA
- Flash Memory: 256KB
- SRAM: 8KB
- EEPROM: 4KB
- Clock Speed: 16 MHz
- Dimension: 85*63mm

4. Introducing Interfaces of MegaPi and Other Plug-in Modules

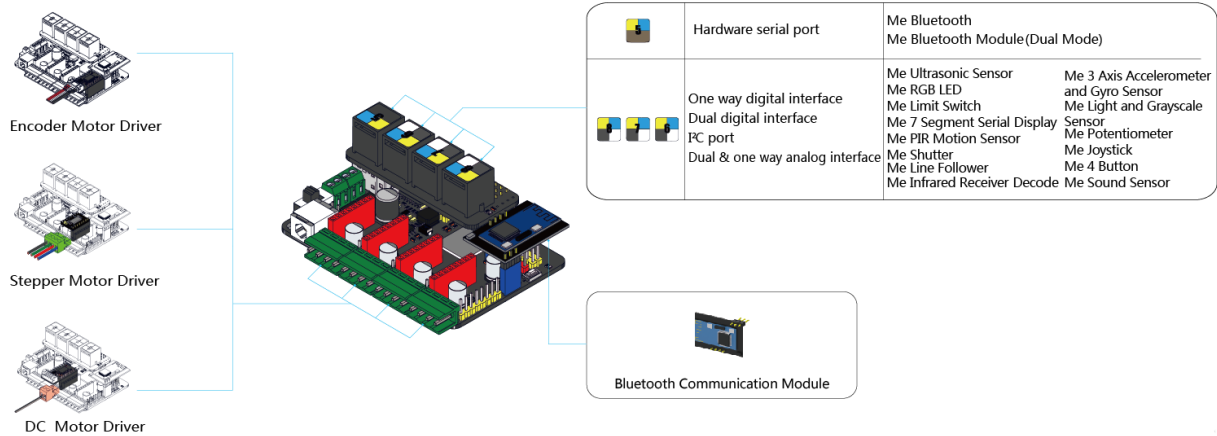


The various colors on MegaPi represents specialized functions:

- Red pin–power output/motor output
- Yellow pin–I/O pin
- Blue pin–wireless communication interface
- Black Pin–power GND
- Green Interface–power output/motor output

5. Introduction to ports

MegaPi for RJ 25 provides four RJ25 ports identified by labels of five different colors. Their colors and functions are as follows:



Wireless communication interface – for adding Bluetooth module or 2.4G module (require corresponding communication module)

Port 1 – motor driver interface for driving DC motor, stepping motor and encoder motor (require corresponding driving module)

Port2 –motor driver interface for driving DC motor, stepping motor and encoder motor (require corresponding driving module)

Port3 – motor driver interface for driving DC motor, stepping motor and encoder motor (require corresponding driving module)

Port4 – motor driver interface for driving DC motor, stepping motor and encoder motor (require corresponding driving module)

Port5 – RJ25 communication module interface for adding Bluetooth or WIFI which requires RJ25 (require keyset for MegaPi’s transferring to RJ25)

Port6 – RJ25 dual-digital/analog interface for adding sensors or input/output RJ25 modules (require keyset for MegaPi’s transferring to RJ25)

Port7– RJ25 dual-digital/analog interface for adding sensors or input/output RJ25 modules (require keyset for MegaPi’s transferring to RJ25)

Port8– RJ25 dual-digital/analog interface for adding sensors or input/output RJ25 modules (require keyset for MegaPi’s transferring to RJ25)