

## KE0004 keyes LEONARDO for arduino

### Overview:

#### ARDUINO LEONARDO

The ARDUINO LEONARDO development board is our latest easy-to-use open source controller. It has 23 digital input and output ports, 7 PWM ports and 12 analog input ports. Compared with other versions of Arduino using independent USB-Serial conversion chips, it only uses one Atmega32u4 to achieve USB communication and control. The original ecology of Atmega32u4 supports the USB feature and also allows Leonardo to simulate a mouse and keyboard.

### Specification:

Controller: ATmega32u4  
Operating frequency: 16 MHz  
Working voltage: 5V  
Input voltage (recommended): 7-12V  
Digital IO port: 23  
PWM channel: 7  
Analog input: 12  
Maximum allowable current of 5V digital/analog port: 20 mA  
Maximum allowable current of 3.3V digital/analog port: 30 mA  
Flash Memory: 32 KB (ATmega32u4) of which 4 KB used by bootloader  
SRAM: 2.5 KB (ATmega32u4)  
EEPROM: 1 KB (ATmega32u4)

### Other related introduction:

Digital IO  
Analog input: 12 (A0-A5, D4-A6, D6-A7, D8-A8, D9-A9, D10-A10, D12-A11)  
Serial communication: D0 (RX) and D1 (TX)  
IIC communication: D2 (SDA) and D3 (SCL)  
External interrupts: D3 (Interrupt 0), D2 (Interrupt 1), D0 (Interrupt 2), D1 (Interrupt 3) and D7 (Interrupt 4)  
PWM port: D3, D5, D6, D9, D10, D11 and D13  
SPI: ICSP pin. Can support SPI communication by using SPI library. It should be noted that the SPI pins are not connected to any digital I/O pins like UNO, they can only work on the ICSP port. This means that if your expansion board is not connected to the 6-pin ICSP pin, it will not work.  
LED: 13. There is a built-in LED on the digital pin 13, when the pin is high, the LED is on, and when the pin is low, the LED is not on.

