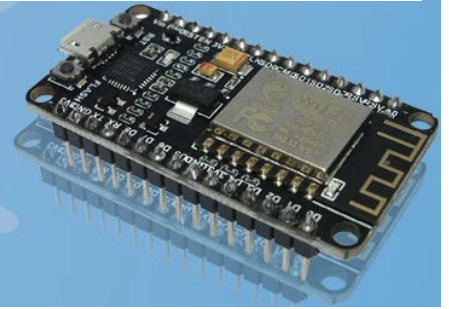


Nodemcu ESP8266 CP2102

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The module is a 12-pin display module with a 4-point common digital tube (0.36 inch) with a clock point. The driver chip is TM1637. It only needs 2 signal lines to enable the MCU to control the 4-bit 8 Segment digital tube.

The module features are as follows:

Display device is 4-digit yang red digital tube

Digital tube 8-level grayscale adjustable

Control interface level can be 5V or 3.3V

4 M2 screw positioning holes for easy installation

Project	Minimum value	Typical value	Maximum	Unit
Voltage	3.3	5	5.5	VDC
Current (@5V)	-	30	80	mA
Size	42X24X12			Mm
Weight	8			g

Control interfaceA total of 4 pins (GND, VCC, DIO, CLK), GND is ground, VCC is the power supply, DIO the data input and output pin, CLK is the clock signal pin;

Digital Tube: 4-digit common anode with a 0.36-inch digital tube with a score point, highlight in red

Positioning hole: 4 M2 screw positioning holes, the hole diameter is 2.2mm, which makes the module easy to install and position, and realize the module combination;

Overview of the library routines:

1. ClockDisplay: Use the timer 1 of the MCU on the motherboard to time and let the 4-digit display display.

2. NumberFlow: 0~9, A, b, C, d, E, F and other 16 characters flow from right to left.

3. StopWatch: Use the timer 1 of the MCU on the motherboard to time, and use the button to realize stopwatch function.

Experiment equipment:

An Ard uino compatible motherboard Cat duino (not familiar with open source hardware can be understood as the Atmega328P microcontroller development board) and a mini USB cable;

1 4-digit digital tube display module;

4 male to female DuPont lines for connecting the control interface of the module and the Cat duino development board;

Experimental procedure:

1. Use 4 male to female DuPont lines 4-digit digital display module Connected to Cat duino, as shown in the following table and figure

Cat duino	Cable	4-digit digital display module
GND	black line	GND
5V	Red line	VCC
D2	Yellow line	DIO
D3	White line	CLK

2. Connect the Catduino with mini USB. If you are using the motherboard for the first time, its USB to serial driver can find the USB Drivers from the drivers in the Ard uino IDE directory.

3. Reopen the Ard uino IDE and click the Open button on the toolbar to open the NumberFlow routine DigitalTube.

Select the serial port, board name, click the Burn button, you can burn. This routine can make 16 characters from 0~9, A, b, C, d, E, F, etc. flow from right to left.

The function of adjusting the gray scale of the digital tube is the set() function in the class TM1637, the input parameter is 0~7. The larger the number, the higher the brightness.



TM1637

4 Bits Digital LED Display Module



