PWM Signal Generator XY-PWM1

Main Features
1. Dual adjusting mode,0.1% duty cycle step in fine mode.
2. LCD screen clearly displays frequency and duty cycle.
3. Using encoder potentiometer to set the frequency and duty cycle separately.
3. With locking function to prevent wrong operation;
4. Wide frequency range, high precision;
5. Support for serial communication, TTL level.

Technical Parameters
1. Working voltage: 3.3 ~ 30V;
2. Frequency range: Normal Mode:1Hz ~ 150KHz Fine Mode:1Hz~15KHz
3. Frequency accuracy: the accuracy in each range is about 2%;
4. Signal load capacity: the output current can be about 5 ~ 30ma;
5. Output amplitude: PWM amplitude equal to the supply voltage;
6. Ambient temperature: -20 ~ +70 ℃.

Typical Application:
1. Used as a square wave signal generator, generate square wave signal for experimental development and use;
2. Used to generate a square wave signal that controls the motor driver;
3. Output adjustable pulse for MCU use;
4. Output adjustable pulse, control the relevant circuit (PWM dimming speed and other applications).

Adjusting Mode
PWM output, set the frequency and duty cycle independently.
Normal adjusting mode:
Frequency range:1Hz~150KHz Duty cycle:000~100%, duty cycle adjusting step 1%;
Fine adjusting mode:
Frequency range:1Hz~15khz Duty cycle:00.0~100%, duty cycle adjusting step 0.1%;

Frequency output has four ranges, automatic switching:
1. XXX (no decimal point): min. unit is 1Hz, the value range of 1Hz ~ 999Hz;
2. X.XX (decimal point in the hundred) min. unit is 0.01Khz, the range of 1.00Khz ~ 9.99Khz;
3. XX.X (decimal point in ten): min. unit is 0.1Khz; value range of 10.0KHz ~ 99.9KHz
4. X.X.X (decimal point in ten and hundred): min. unit is 1Khz; value range 1KHz ~ 150KHz
Example of frequency display:
100 indicates PWM output 100Hz pulse;
1.01 indicates PWM output 1.01K pulse;
54.1 indicates that the PWM output has a pulse of 54.1 kHz;
1.2.4 indicates that the PWM output is 124 kHz pulse;
Duty cycle range: 0 ~ 100%;
All setting parameters are automatically saved in case of power off.

Rotation Knob Operation
That PWM signal generator output and duty cycle are adjusted through Rotary Encoder. Its output changes along with the knob rotation speed.
The default setting is duty cycle adjustment, short press the knob, user can adjust frequency output.
Long press for 2 seconds, it can lock the pwm generator meter.
Long press for 5 seconds, user can switch adjusting mode between normal adjusting mode and fine adjusting mode. Very convenient operation, automatic save parameters, no data loss.

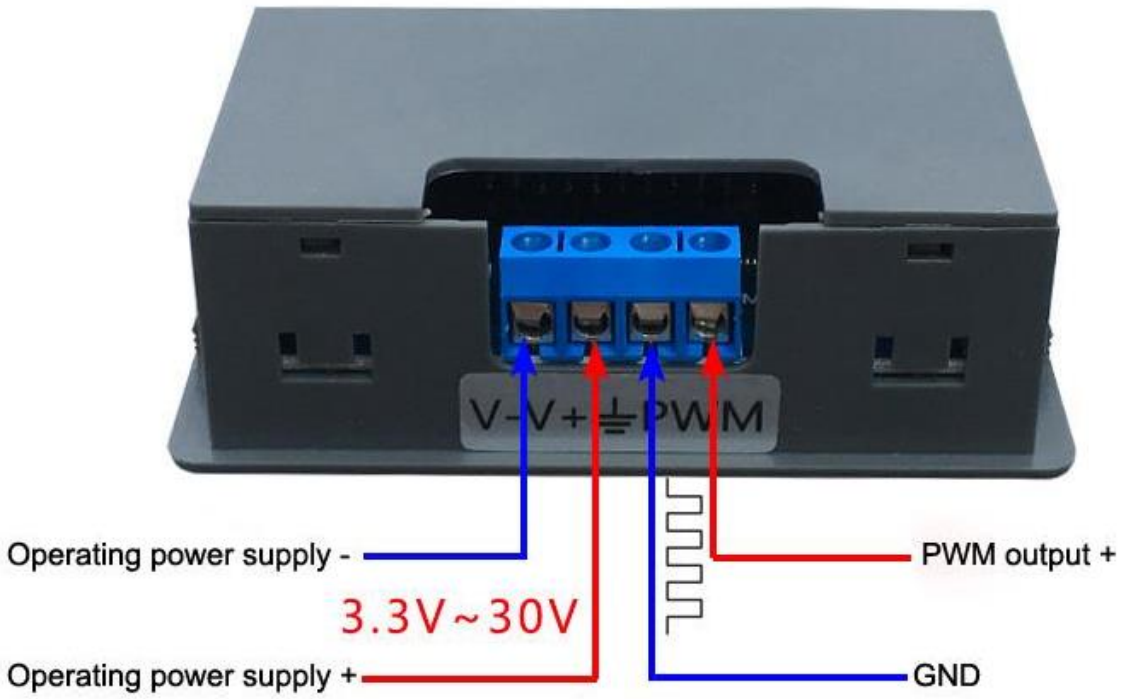
Five seconds later, the code potentiometer is locked, and the interface shows the lock symbol. After locking, the frequency and duty cycle can not be adjusted to prevent misoperation and unlock by five seconds.

When adjusting duty cycle:

it displays SET and duty cycle lock symbol is flashing.

When adjsuting frequency：

it displays SET and frequency lock symbol is flashing.



Serial Port Communication:

Communication standards: 9600 bps

Data bits: 8

Stop bit: 1

Check digit: none

Flow control: none

1. Set PWM frequency value

"F101": set the frequency to 101 HZ (001 to 999)

"F1.05": set the frequency to 1.05 KHZ (1.00 ~ 9.99)

"F10.5": set the frequency to 10.5KHZ (10.0 ~ 99.9)

"F1.0.5": set the frequency to 105KHZ (1.0.0 ~ 1.5.0)

Note: In fine adjusting mode, the maximum frequency is 15.0KHz

2. Set PWM duty cycle

Normal adjusting mode:

"DXXX": set the PWM duty cycle to XXX; (001 ~ 100)

Such as D050, set the PWM duty cycle is 50%

Fine adjusting mode:

"DXX.X": set the PWM duty cycle to XX.X; (0.1 ~ 100)

Such as D20.8, set the PWM duty cycle is 20.8%

3. Read the set parameters

Send a "read" string to read the set parameters.

4. Modify Adjusting Mode

"MODE0": Normal adjusting mode

"MODE1": Fine adjusting mode

Set successfully return: DOWN;

Setup failed to return: FALL.