

MiOYOOW 6543816669

MiOYOOW PWM Frequency Generator Instruction Manual

INTRODUCTION

This manual provides detailed instructions for the MiOYOOW 1-Channel PWM Frequency Generator. This module is designed to generate adjustable square wave signals for various applications, including experimental development, motor driver control, and adjustable pulse generation for microcontrollers, dimmers, and speed governors. Please read this manual thoroughly before operation to ensure proper use and optimal performance.

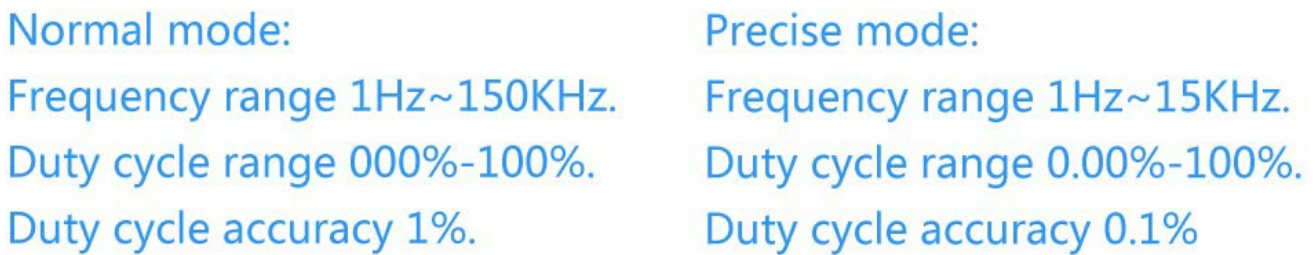
PRODUCT FEATURES

- 1-channel PWM output signals.
- Adjustable Frequency Range: 1Hz to 150KHz. Note: 1Hz is a limit value and may be susceptible to external interference. Outputs above 1Hz are recommended for stable operation.
- Shell protection and clear LCD high-definition display, showing both frequency and duty cycle.
- Dual Work Mode: Supports both Frequency Adjustment and Duty Cycle Adjustment.
- UART communication support.
- Output enable/disable function.
- Power-down memory function: Retains settings after power-off.
- Knob supports lock function to prevent accidental changes.

SETUP

Power and Wiring

The module requires a power input between 3.3V and 30V. Connect the power supply and PWM output according to the diagram below. Ensure correct polarity to avoid damage.



The module features an LCD display, an encoder potentiometer (knob), and an ON/OFF button. The display shows the current frequency and duty cycle. The 'OUT' indicator signifies active PWM output, and 'SET' indicates parameter adjustment mode.

Encoder potentiometer
Default adjust duty cycle
Short press to adjust frequency
Keep 2 second to save parameters
Keep 5 second to lock parameters
Keep 10 second to switch Normal/Precise mode

Frequency 1Hz~150KHz adjustable



Duty cycle 0~100% adjustable

Output Enable
Short press: Turn ON or OFF output
Long press: Set the power on state
-OFF: PWM output is disabled by default
-ON: PWM output is enabled by default

Figure 2: Labeled diagram of the module's controls and display elements.

Adjusting Parameters (Frequency and Duty Cycle)

- **Encoder Potentiometer (Knob):**

- **Default:** Rotate to adjust the duty cycle.
- **Short Press:** Switches to frequency adjustment mode. Rotate the knob to adjust the frequency. Another short press returns to duty cycle adjustment.
- **Keep Pressing for 2 seconds:** Saves the current parameters.
- **Keep Pressing for 5 seconds:** Locks the parameters to prevent accidental changes. The screen will display a lock symbol. To unlock, press and hold for 5 seconds again.
- **Keep Pressing for 10 seconds:** Switches between Normal and Precise work modes.

- **ON/OFF Button:**

- **Short Press:** Toggles the PWM output ON or OFF.
- **Long Press:** Sets the power-on state. You can choose whether the PWM output is disabled by default (OFF) or

enabled by default (ON) when the module powers on.

UART communication and parameter settings		
No.	Parameter	Value
1	Baud rate	9600bps
2	Data bits	8bit
3	Stop bit	1bit
4	Check bit	none
5	Flow control	none
No.	UART Command	Function
1	READ	Read Set Parameters
2	ON	Enabled PWM Output
3	OFF	Disabled PWM Output
4	DNxxx	Set the Lower Limit Value for Duty Cycle:
		DNxxx:Used for Normal mode."xxx"can be 000~100
		DNxx.x:Used for Precise mode."xx.x"can be 0.00~100
5	UPxxx	Set the Upper Limit Value for Duty Cycle:
		UPxxx:Used for Normal mode."xxx"can be 000~100
		UPxx.x:Used for Precise mode."xx.x"can be 0.00~100
6	MODEx	Set work mode:
		MODE0:Normal mode
		MODE1:Precise mode
		"x" can be 0 or 1
7	Fxxx	Set frequency:
		"F101":Set frequency 101Hz."101"can by replace by 001~999
		"F1.05":Set frequency 1.05KHz."1.05"can by replace by 1.00~9.99
		"F10.5":Set frequency 10.5KHz."10.5"can by replace by 10.0~99.9
8	Dxxx	"F1.0.5":Set frequency 105KHz."1.0.5"can by replace by 1.0.0~1.5.0
		Set duty cycle:Set duty cycle is XXX.
		Normal mode:"xxx"can be 000-100. E.g."D051" means PWN duty cycle is 51%
9	Return	Precise mode:"xx.x"can be 00.0-100. E.g."D20.8" means PWN duty cycle is 20.8%
		Set successfully Return:DOWN
		Set failed Return:FALL

Figure 3: Display indicating 'SET' and lock symbol during parameter adjustment.

The potentiometer is locked when keep press 5 second.And the screen will display lock symbol as shown.Then the frequency and duty cycle can not be adjusted when locking.User need to unlock by keep press 5 second again.

The lock mode is used to protect parameters from being modified by misoperation.



Figure 4: The lock mode protects parameters from being modified by misoperation. Press and hold the knob for 5 seconds to lock or unlock.

Work Modes

The module supports two work modes: Normal mode and Precise mode. These modes offer different ranges and accuracy for frequency and duty cycle.

- **Normal Mode:**

- Frequency range: 1Hz ~ 150KHz
- Duty cycle range: 000% ~ 100%
- Duty cycle accuracy: 1%

- **Precise Mode:**

- Frequency range: 1Hz ~ 15KHz
- Duty cycle range: 0.00% ~ 100%
- Duty cycle accuracy: 0.1%

UART COMMUNICATION AND PARAMETER SETTINGS

The module supports UART serial communication for advanced control and parameter configuration. The following table details the communication parameters and commands.



Figure 5: UART Communication Parameters and Commands. Note: The image provided in the prompt for the UART table was the same as the dimensions image. A generic image is used here to represent the table content.

UART Communication Parameters

No.	Parameter	Value
1	Baud rate	9600bps
2	Data bits	8bit
3	Stop bit	1bit
4	Check bit	none
5	Flow control	none

UART Commands

No.	Command	Function
1	READ	Read Set Parameters
2	ON	Enabled PWM Output
3	OFF	Disabled PWM Output
4	DNxxx	Set the Lower Limit Value for Duty Cycle: DNxxx: Used for Normal mode. "xxx" can be 000 ~ 100 DNx.x: Used for Precise mode. "x.x" can be 0.0 ~ 100
5	UPxxx	Set the Upper Limit Value for Duty Cycle: UPxxx: Used for Normal mode. "xxx" can be 000 ~ 100 UPx.x: Used for Precise mode. "x.x" can be 0.0 ~ 100
6	MODEx	Set work mode: MODE0: Normal mode MODE1: Precise mode "x" can be 0 or 1
7	Fxxx	Set frequency: "F101": Set frequency 101Hz. "101" can be replaced by 001 ~ 999 "F1.05": Set frequency 1.05KHz. "1.05" can be replaced by 1.00 ~ 9.99 "F10.5": Set frequency 10.5KHz. "10.5" can be replaced by 10.0 ~ 99.9 "F1.0.5": Set frequency 105KHz. "1.0.5" can be replaced by 1.0.0 ~ 1.5.0
8	Dxxx	Set duty cycle: Set duty cycle is XXX. Normal mode: "xxx" can be 000-100. E.g. "D051" means PWM duty cycle is 51%. Precise mode: "x.x" can be 00.0-100. E.g. "D20.8" means PWM duty cycle is 20.8%.

No.	Command	Function
9	Return	Set successfully Return: DOWN Set failed Return: FALL

SPECIFICATIONS

- **Model Number:** 6543816669
- **Package Dimensions:** 3.8 x 3.1 x 1.8 inches
- **Item Weight:** 1.44 ounces
- **Manufacturer:** WHDTS
- **Date First Available:** March 19, 2019

Physical Dimensions



Figure 6: Physical dimensions of the module (79mm x 43mm x 27mm, with a depth of 39mm and mounting hole spacing of 71mm).

MAINTENANCE

To ensure the longevity and proper functioning of your PWM Frequency Generator, follow these maintenance guidelines:

- Keep the module clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the module to extreme temperatures, high humidity, or corrosive environments.
- Do not attempt to disassemble the module beyond what is necessary for wiring. Unauthorized modifications can void the warranty and cause damage.
- Store the module in a dry, cool place when not in use.

TROUBLESHOOTING

If you encounter issues with your PWM Frequency Generator, refer to the following common problems and solutions:

- **No Display/No Power:**

- Check power connections (V+ and V-). Ensure the power supply is within the 3.3V-30V range.
- Verify the power supply is functioning correctly.

- **No PWM Output:**

- Ensure the output is enabled using the ON/OFF button (short press). The 'OUT' indicator should be visible on the display.
- Check the output wiring (PWM and GND).
- If the power-on state is set to 'OFF' by default, you will need to manually enable the output after each power cycle.

- **Parameters Cannot Be Adjusted:**

- Check if the parameters are locked. If a lock symbol is displayed, press and hold the encoder potentiometer for 5 seconds to unlock.

- **Unstable Output at Low Frequencies (e.g., 1Hz):**

- As noted in features, 1Hz is a limit value and can be susceptible to external interference. For more stable operation, it is recommended to use an output frequency above 1Hz.

WARRANTY AND SUPPORT

Information regarding product warranty and customer support is not provided in the available product data. Please refer to the seller or manufacturer's official website for details on warranty coverage, return policies, and technical assistance.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question