

35238-MP

Multi-Function Timer

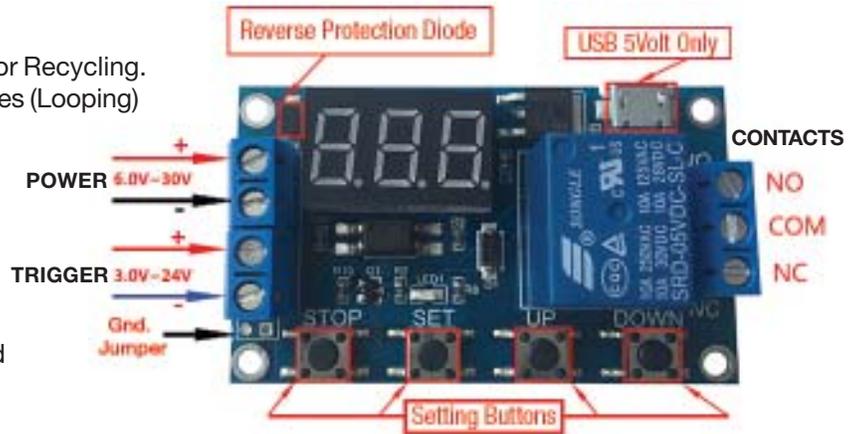
Microprocessor based, programmable, triggered timing module.
 Opto-isolated trigger input starts timing.

Programming requires patience and practice.
 Programmable as a Delay on Start, Delay on Stop or Recycling.
 Programmable ON/OFF Times & Number of Recycles (Looping)
 Time Ranges: 3

Range: 0.1sec. to 999min.
 0-999 Minutes 1 Minute Resolution
 0-999 Seconds 1 Second Resolution
 0-99.9 Seconds .1 Second Resolution
 Power: 6-30VDC

5V Only on the USB input
 Current: Standby: <20mA <60mA Relay energized
 Trigger Voltage; 3-24VDC
 Relay: SPDT Isolated Contacts
 Contacts: 10A 125/250VAC/30VDC
 Terminal Strip for Relay Contacts
 Terminal Strip for Power & Trigger
 USB Micro B for 5V only Power.

L: 2-1/2" **W:** 1-1/2" **H:** 3/4" **WT:** .06



RANGE INDICATION



▲ Tens ▲ Units

- 88.8. Decimal point in "Units" place, range: 1 second ~ 999 seconds
- 88.8. Decimal point in "Tens", range: 0.1 seconds ~ 99.9 seconds
- 8.8.8. 3 decimal points, range: 1 minute to 999 minutes

GETTING STARTED

It is recommended that before you install the module:
 Set up module with only Power and a Trigger Source
 connected.

This makes learning how to program the unit easier.

NOTE ON ISOLATION

COMPLETE ISOLATION: Factory Default, Jumper Missing
 Power and Signal (Trigger) Ground are NOT Connected

COMMON GROUND:

Install Ground Jumper
 Power and Signal (Trigger) Grounds are then Connected

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GETTING STARTED Cont.

BASICS

The relay time module has several modes, but the relay can only work in one of the modes at a time. To change the mode, it is necessary to hold down the SET button for 1 second and release, then use the UP and DOWN buttons to select the desired mode and confirm the selection with a short press of the SET button.

DISPLAY TERMS

OP - the time the relay is ON

CL - time of the relay OFF

LOP - the number of ON/OFF repetitions (Loops) 1 to Continuous (1-999 where --- is Continuous)

CP - Sleep Mode (Timer Operates but Display Off (More on This Later)

Od - Display Always On (More on This Later)

LIST OF MODES AND THEIR PURPOSE:

P1.1 - In this mode the relay is open (OFF) by default (Upon Powering Up). When a Trigger (3V to 24V) is applied to the input, the relay immediately turns ON and the time set in the **OP** parameter starts decreasing, after the countdown, the relay is switched OFF.

P1.2 - In this mode, the relay is also open by default, when a signal is applied to the Trigger Input, the relay closes and the count specified in the **OP** parameter starts, after the countdown, the relay is switched OFF as in the P1.1 mode, but if another Trigger is received before the time expires; the Timer will restart counting down.

P1.3 - In this mode the relay is open by default, when a signal is applied to the Trigger Input, the relay closes and the count specified in the **OP** parameter starts, after the countdown, the relay is switched Off as in the P1.1 mode, but if another Trigger is received before the time expires; the the relay will open immediately.

P2 - In this mode the relay is open (OFF). When a Trigger signal is applied to the Input, the relay counts down the time specified in the OFF state **CL**, after this time the relay Closes (ON) and counts down for the time set for the closed state **OP**. After that, the relay opens and waits for the next Trigger signal. Looping is Not available in this mode. Cycles once and stops

P3.1 - In this mode the relay is open (OFF). When a Trigger signal is applied to the Input. The relay immediately closes (ON) and counts down for the time set for the closed state (ON) **OP**.

In this mode you can specify the number of **LOP** repetitions(Loops).

If after triggering the relay, but before all the Loops specified **LOP** are completed, another Trigger signal is received; the relay will reset and Stop all timing cycles.

P3.2 - In this mode the relay closes (ON) immediately upon power on, counts down the time specified for the closed mode **OP** at which the relay opens and the time of the indicated for the open mode (OFF) **CL** starts. This cycle is repeated the number of times specified by **LOP**, if continuous is specified (---), then the relay will repeat these actions indefinitely.

P4 - In this mode the relay is open (OFF) by default, when a Trigger signal is applied to the Input, the relay immediately closes (ON). The relay will remain closed (ON) as long as the Trigger signal is applied.

Upon removal of the Trigger signal, counts down begins for the time set for the closed state (ON) **OP**, as soon as the countdown ends the relay is opens (OFF).

Immediately after the power is connected to the relay, the current operating mode is displayed.

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HOW TO SET PARAMETERS

All settings are saved with power removed

Upon Power Up, the display will flash the current Mode and then enter the normal display

To check existing values: Short press of **SET** button will display the values in turn then return to normal operation.

1. Decide what Mode You Need

2. Press and hold the **SET** button for ~3 seconds then Release to enter Mode selection.

Present Mode will be displayed

3. Select the mode to be set (P1.1-P4) by pressing the **UP** and **DOWN** keys

4. Now, after selecting the desired Mode with a short press of the **SET** button, you will automatically switch to the relay time settings. In these settings, you can change these three values: **OP**, **CL**, **LOP**.

The existing value will flash, and then you can set the value with the **UP/DOWN** buttons.

These parameters are independent of each other, but each Mode shares these parameter values.

For example, when P1.1 ON time **OP** is set to 5 seconds, Switching Mode to P1.2, **OP** It will still be 5 seconds

To set another function, just press the **SET** button again.

The **SET** button is used to scroll through these 3 functions.

5.1 **OP** Function (Closed state ON):

This is the operating time of the relay. It is necessary to set the time during which the relay will be closed (ON).

To only change this value: Press and Hold the **SET** button for ~3 seconds then Release to enter Mode selection.

Present Mode will be displayed

Press **SET** and the existing value of **OP** will flash, and then you can set the value with the **UP/DOWN** buttons.

5.2 RANGE In addition to the 3 digits, there are 3 decimal points on the LED display, these represent the timing range. If the point is after the third digit (Units), then the time is in seconds. If the point is after the second digit (10's), the time is in 0.1 seconds (tenths of seconds/100milliseconds). If we have all 3 decimal points, then the set time is in minutes.

To set the timing range: While **OP** or **CL** is Flashing, Short press of **STOP** button will scroll through the decimal Points

This is done independently for **OP & CL**

To Exit when finished: Press and Hold the **SET** button for 3 seconds then Release, display will flash the present Mode Three times & return to normal display.

5.3 **CL** Function (Open state OFF):

This is the non-operating time of the relay. It is configured in exactly the same way as the **OP** function. Only here we set the time during which the relay will be in the open state (OFF).

Use **SET** to select **CL** Follow instructions for **OP**

THIS IS NOT USED IN SOME MODES

5.4 **LOP** Function (Looping/Number of Repetitions):

Responsible for the number of repetitions of open and closed relay cycles.

Use **SET** to select **LOP**

Specify the number of repetitions from 1 to 999 or continuous using the **UP** and **DOWN** buttons.

For continuous cycles, set the value to 0, the display will show --- (3 dashes)

THIS IS NOT AVAILABLE IN SOME MODES

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ADDITIONAL FUNCTIONS

Sleep:

Turns off the LED Display after 5 minutes of inaction
Does NOT affect timing functions
Any button will turn on display
Press and Hold the **STOP** button for ~5 Sec. then release
Display will Display **C-L** or **O-d**
What is shown is what will happen
C-L Sleep Mode Off after 5 min.
O-d Normal Display Always On
This is an alternate action
Each Press-Hold-Release will change mode

Over-ride: (Emergency Stop)

Turns OFF Relay immediately regardless of Timing cycle
Does NOT affect timing functions
Short Press of STOP button
Display will show **ON or OFF**
This is an alternate action
Each Press will change mode
ON: The relay is allowed to turn on during OP on time;
OFF: The relay is disabled and always closed.