

TMEM116 Multifunction Timer

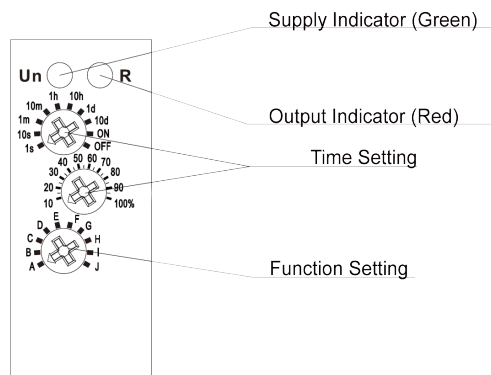
Features

- 10 Functions
 - 5 Functions controlled by supply voltage
 - 4 Functions controlled by control input
 - 1 Latching Relay Function
- Easy Setup using Rotary Switches
- Adjustable Timing from 0.1 secs - 10 Days
- 10 Time Divisions
- LED Light Status Indicator
- 35mm DIN Rail Mounting

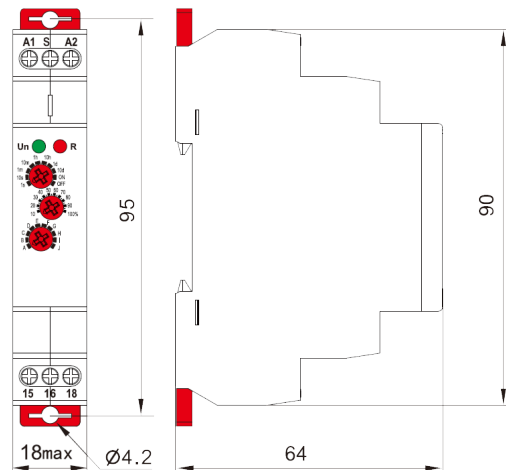
Specifications

- Supply Terminals: A1 - A2
- Voltage Range: AC/DC 12 - 240V (50-60Hz)
- Burden: AC 0.09 - 3VA / DC 0.05 - 1.7W
- Power Input: AC Max .6VA / 1.3W, AC Max .6VA / 1.9W
- Time Deviation: 10% - Mechanical Setting
- Repeat Accuracy: 0.2% - Set Value Stability
- Output: 1 x SPDT
- Current Rating: 16A / AC1
- Switching Voltage: 250V AC / 24V DC
- Min Breaking Capacity DC: 500mW
- Mechanical Life: 1×10^7
- Electrical Life (AC1): 1×10^5
- Reset Time: Max .200ms
- Operating Temperature: -20°C to +55°C
- Protection Degree: IP40 for Front Panel, IP20 Terminals
- Max Cable Size: $1 \times 2.5\text{mm}^2$
- Tightening Torque: 0.4Nm
- Standards: IEC60947-5-1
- Utilization Category: AC1:16A, AC15:8A

Panel Diagram



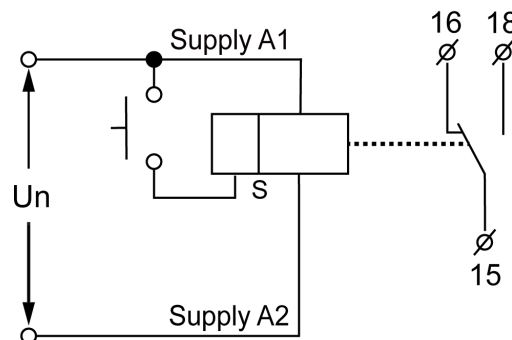
Dimensions



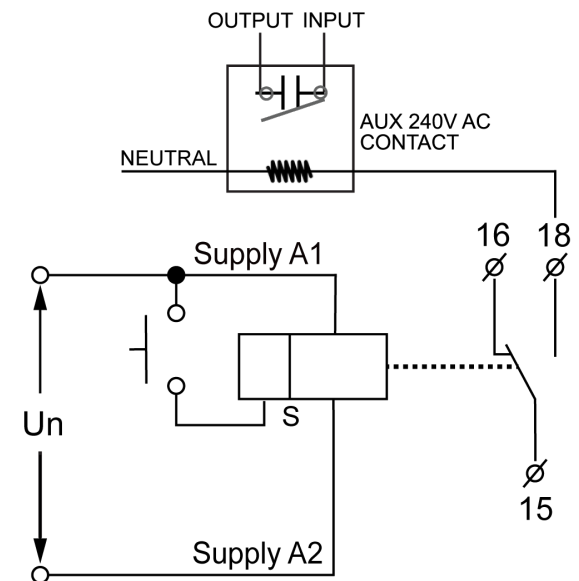
Wiring Diagram

WARNING - This device is NOT protected against the inrush current caused by capacitive charge loads of luminaries nor the startup inrush current caused by compressor or motor inductive loads. In this case, it is critical that this device be wired to operate a separate contactor of the necessary rating (not supplied) to control power to the connected load as described in the Wiring Diagram below. Failure to do so will void warranty and cause premature failure of the device. In nearly all cases, manufacturers do not advertise the inrush current of capacitive charge loads, inductive compressor or motor loads. Therefore, it is the installers responsibility to contact the manufacturer of the connected load to determine if this device is suitably rated.

Low Current Diagram



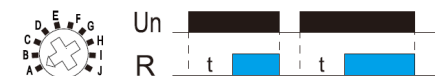
High Current Diagram



Functions

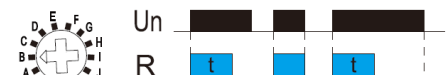
A. On Delay (Power On)

When the input voltage (U) is applied, timing delay (t) begins. Relay contacts (R) change state after time delay is complete. Contacts (R) return to their shelf state when input voltage (U) is removed. Trigger switch is not used in this function.



B. Interval (Power On)

When the input voltage (U) is applied, relay contacts (R) change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage (U) is removed, contacts will return to their shelf state. Trigger switch is not used in this function.



C. Repeat Cycle (Starting Off)

When the input voltage (U) is applied, time delay (t) begins. When time delay (t) is complete, relay contacts (R) change state for time delay (t). This cycle will repeat until input voltage (U) is removed. Trigger switch is not used in this function.



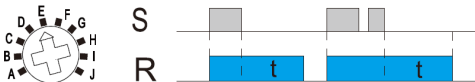
D. Repeat Cycle (Starting On)

When the input voltage (U) is applied, relay contacts (R) change state immediately and time delay (t) begins. When time delay (t) is complete, contacts return to their shelf state for time delay (t). This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.



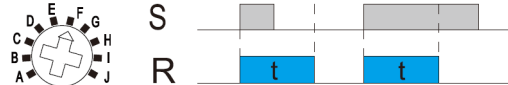
E. Off Delay (S Break)

The input voltage (U) is applied continuously. When trigger switch (S) is closed, relay contacts (R) change state. When trigger switch (S) is opened, time delay (t) begins. When time delay (t) is complete, contacts (R) return to their shelf state. If trigger switch (S) is closed before time delay (t) is complete, then time is reset. When trigger switch (S) is opened, the delay begins again, and relay contacts (R) remain in their energized state. If input voltage (U) is removed, relay contacts (R) return to their shelf state.



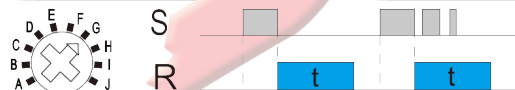
F. Single Shot

Upon application of input voltage (U), the relay is ready to accept trigger signal (S). Upon application of the trigger signal (S), the relay contacts (R) transfer and the preset time (t) begins. During time out, the trigger signal (S) is ignored. The relay resets by applying the trigger switch (S) when the relay is not energized.



G. Single Shot Trailing Edge (Non-Retriggerable)

Upon application of input voltage (U), the relay is ready to accept trigger signal (S). Upon application of the trigger signal (S), the relay contacts (R) transfer and the preset time (t) begins. At the end of the preset time (t) the relay contacts (R) return to their normal condition unless the trigger switch (S) is opened and closed prior to time out (t) (before preset time elapses). Continuous cycling of the trigger switch (S) at a rate faster than the preset time will cause the relay contacts (R) to remain closed. If input voltage (U) is removed, relay contacts (R) return to their shelf state.



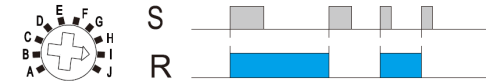
H. ON/OFF Delay

Input voltage (U) must be applied continuously. When trigger switch (S) is closed, time delay (t) is complete, relay contacts (R) change state and remain transferred until trigger switch (S) is opened. If input voltage (U) is removed, relay contacts (R) return to their shelf state.



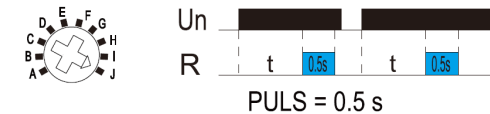
I. Latching Relay

Input voltage (U) must be applied continuously. Output changes state with every trigger switch (S) closure. If input voltage (U) is removed, relay contacts (R) return to their shelf state.



J. Pulse Generator

Upon application of input voltage (U), a single output pulse of 0.5 seconds is delivered to relay after time delay (t). Power must be removed and reapplied to repeat pulse. Trigger switch is not used in this function.



Time Setting Instructions

	Knob 1: Delay gear setting 's' = second, 'm' = minute, 'h' = hour, 'd' = day 'ON' for relay action (15-18 closed) 'OFF' for relay open (15-18 open)
	Knob 2: Fine adjustment of delay time 10% ~ 100% adjustable
Delay Time = Knob 1 x Knob 2 Example 1: Time setting required is 5 seconds. Set Knob 1 to 10 seconds and Knob 2 to 50%. Delay time = 10s x 50% = 5s. Example 2: Time setting required is 8 minutes. Set Knob 1 to 10 minutes and Knob 2 to 80%. Delay time = 10m x 80% = 8m.	