TMEDM116 Digital Multifunction Timer

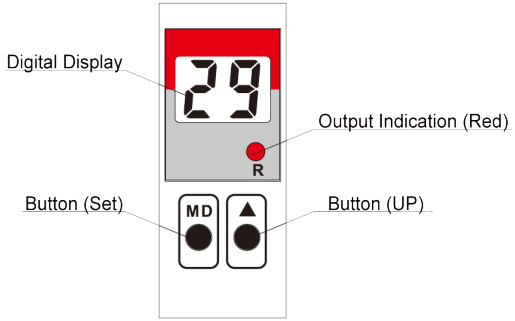
Features

- 20 Delay Function Modes
  - 5 Delay Modes controlled by supply voltage
  - 13 Delay Modes controlled by signal
  - ON / OFF Mode
- Adjustable Time Range 0.1 secs - 99 Days
- LED Light Status Display
- 1 Pole DIN Rail Mounting

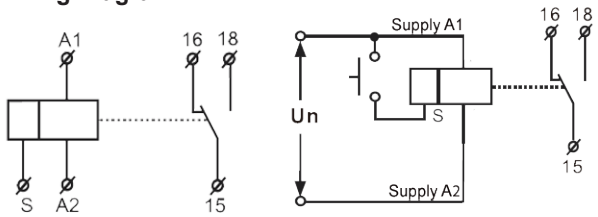
Specifications

- Function Modes: 20
- Supply Terminals: A1 - A2
- Voltage Range: AC/DC 12 - 240V (50-60Hz)
- Standby Current: AC 0.09 - 3VA / DC 0.05 - 1.7W
- Power Input: AC Max .6VA / 1.3W, AC Max .6VA / 1.9W
- Time Ranges: 0.1 Secs - 99 Days, ON, OFF
- Time Deviation: ≤1%
- Output: 1 x SPDT
- Current Rating: 1 x 16A (AC1), 2 x 16A (AC1)
- Switching Voltage: 250V AC / 24V DC
- Min Breaking Capacity DC: 500mW
- Mechanical Life: 1 x 10^7
- Electrical Life (AC1): 1 x 10^5
- Reset Time: Max .200ms
- Operating Temperature: -20°C to +55°C
- Mounting: DIN Rail
- Protection Degree: IP40 for Front Panel, IP20 Terminals
- Max Cable Size: 1 x 2.5mm²
- Standards: IEC60947-5-1

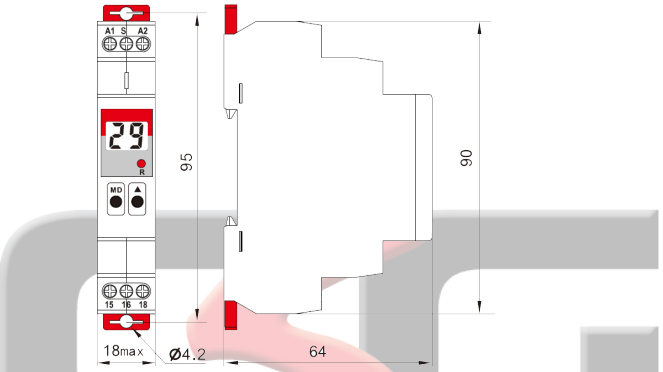
Diagram



Wiring Diagram



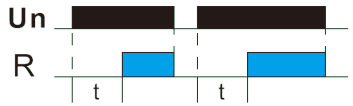
Dimensions



Functions

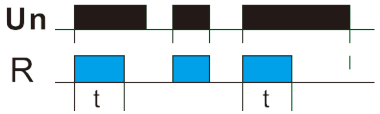
1. On Delay (Power On)

When the relay (Un) is powered on, the relay starts to delay and the output contact is closed after delay (t). After the relay (Un) is de-energized, the output contact is disconnected. The (S) control signal is invalid in this function mode.



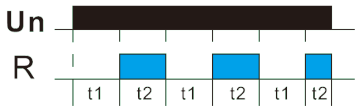
2. Interval (Power On)

When the relay (Un) is powered on, the relay output contact will be closed immediately and start delay. After delay (t) the output contact will be disconnected. If the delay time (t) does not arrive and relay (Un) is powered off, the output contact will be disconnected. The (S) control signal is invalid in this function mode.



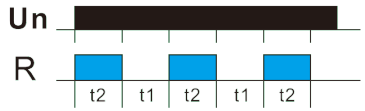
3. Repeat Cycle (Starting Off)

When the relay (Un) is powered on, the relay starts to delay. After delay (t1) the output contact is closed. At the same time, after delay (t2), the relay output contact is disconnected. In this way, the cycle delay is delayed until relay (Un) is powered off. The (S) control signal is invalid in this function mode.



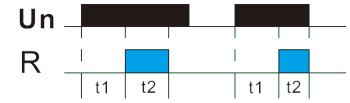
4. Repeat Cycle (Starting On)

When the relay (Un) is powered on, the relay is closed and begins to delay. After the delay (t2), the output contact is disconnected. At the same time, after the delay time (t1), the relay output contact is closed. In this way, the cycle delay is delayed until the relay (Un) is powered off. The (S) control signal is invalid in this function mode.



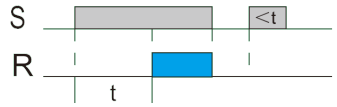
5. Pulse Generator (Power On)

When the relay (Un) is powered on, the relay starts to delay. After delay (t1), the output contact is closed. At the same time, after delay (t2), the relay is disconnected and maintained. After relay (Un) is powered off, the output contact is disconnected. The (S) control signal is invalid in this function mode.



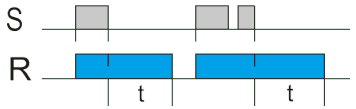
6. On Delay with External Control

When the relay (Un) is in the power on state and the (S) control terminal is connected, the relay starts to delay. After the delay (t), the output contact is closed. When the (S) control terminal is disconnected, the output contact is disconnected.



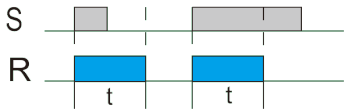
7. Off Delay with External Start

When the relay (Un) is in the power on state and the (S) control terminal is connected, the relay will be closed immediately. When the (S) control terminal is disconnected, the delay will start. After the delay (t), the output contact will be disconnected. During the delay process, the (S) control terminal will be connected and disconnected again. The delay (t) will be cleared and delayed again.



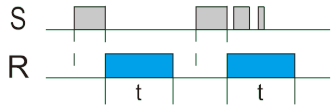
8. Pulse I with External Start

When the relay (Un) is in the energized state and the (S) control terminal is connected, the relay is closed and the relay starts to delay. After the delay (t), the output contact is disconnected. During the delay (t), the (S) control terminal is connected again, the delay (t) remains unchanged and continues to delay.



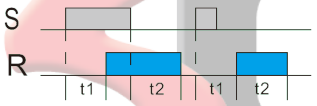
9. Pulse II with External Start

When the relay (Un) is in the energized state and the (S) control terminal is disconnected, the relay is closed and the relay starts to delay. After the delay (t), the output contact is disconnected. During the delay (t), the (S) control terminal is switched on and off again, the delay (t) remains unchanged and continues to delay.



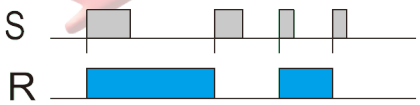
10. On/Off Delay with External Control

When the relay (Un) is in the energized state and the (S) control terminal is connected, the relay starts to delay and the output contact is closed after delay (t1). When the (S) control terminal is disconnected, the relay starts to delay and the output contact is opened after delay (t2).



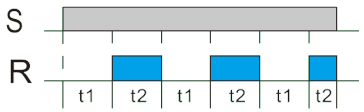
11. Latching Relay

When the relay (Us) is energized and the (S) control terminal is connected, the relay output contact state changes.



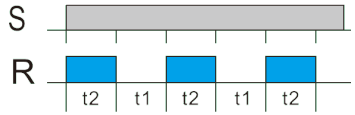
12. Repeat Cycle with External Control (Starting Off)

When the relay (Us) is in the energized state, the (S) terminal is closed and the relay starts to delay. After the delay (t1), the output contact is closed. At the same time, after the delay (t2), the relay output contact is disconnected. This cycle delays until the (S) terminal is disconnected.



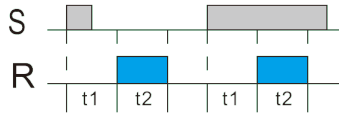
13. Repeat Cycle with External Control (Starting On)

When the relay (Un) is in the energized state, the (S) terminal is closed, the relay is closed and begins to delay. The output contact is disconnected after delay (t2) and the relay output contact is closed after delay time (t1). This cycle delays until the (S) terminal is disconnected.



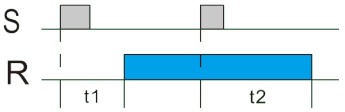
14. Pulse Generator with External Start

Relay (Un) is in the energized state. When terminal (S) is closed, the relay starts to delay. After delay (t1), the output contact is closed. At the same time, after delay (t2), the relay is disconnected.



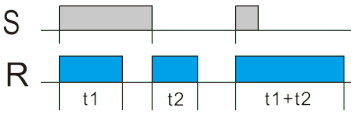
15. Start Stop

Relay (Un) is in the energized state. When terminal (S) is triggered, the relay starts to delay. After delay (t1), the output contact is closed and held. When terminal (S) is triggered again, the relay starts to delay. After delay (t2), the relay is disconnected.



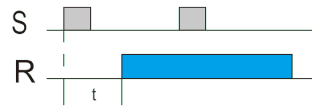
16. Double Delay Off with External Control

Relay (Un) is in the energized state. When terminal (S) is closed, the relay is closed and starts to delay. After delay (t1), the output contact is disconnected. When terminal (S) is disconnected, the relay is closed again and starts to delay. After delay (t2), the relay is disconnected.



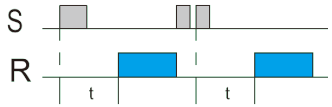
17. On Delay I with External Start

The relay (Un) is in the energized state. When terminal (S) is closed, the relay starts to delay. After delay (t), the output contact is closed and held. When the relay (Un) is disconnected, the relay is disconnected.



18. On Delay II with External Start

The relay (Un) is in the energized state. When terminal (S) is triggered, the relay starts to delay and the output contact closes after delay (t). When terminal (S) is triggered again, the relay opens and starts to delay. The output contact closes after delay (t). When relay (Un) is off, the relay is off.



19. Always ON

The relay (Un) is in the energized state. The relay is closed, (Un) is in the de-energized state and the relay is disconnected.

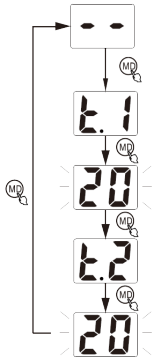
20. Always OFF

The relay (Un) is energized or de-energized and both relays are disconnected.

Setting Instructions

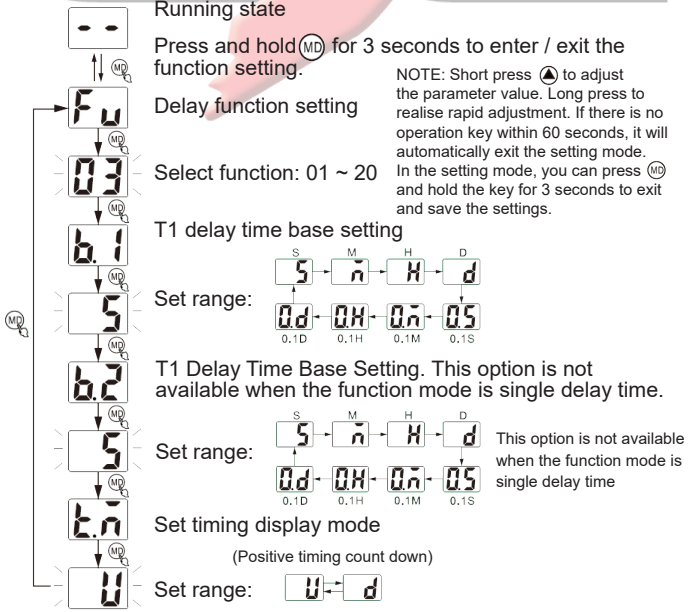
1. Fast Adjustment of Delay Time

Short press (MD) to enter the interface of fast setting delay time as shown below.



2. Delay Function Setting

Long press (MD) to enter the function mode parameter setting interface as shown below.

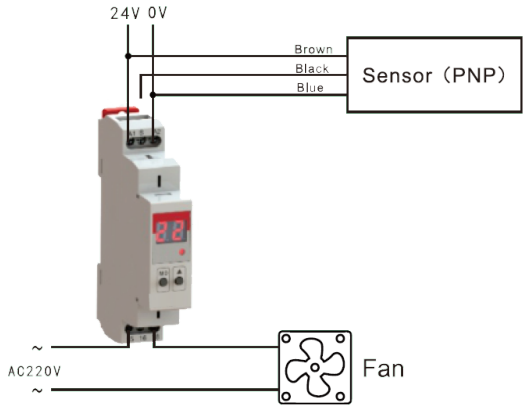


Wiring Examples

NOTE: These are examples only. The product should be wired according to the appropriate application.

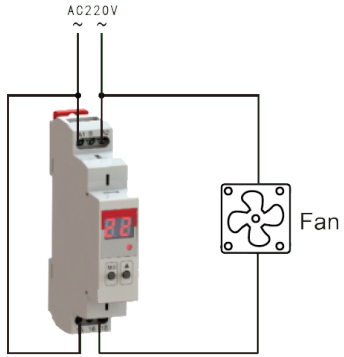
Example 1

The working mode is set to 07 and accessed through the sensor (PNP). When the sensor detects the signal, the relay acts (15-18 is closed) and the ventilation fan works. When the sensor loses the signal, the relay disconnects after a delay (t) (15-18 is disconnected) and the ventilation fan stops working.



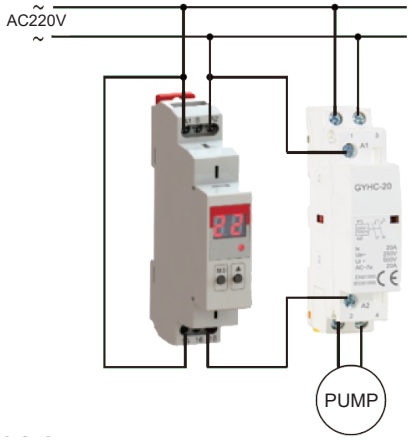
Example 2

The working mode is set to 03, the ventilation fan is turned on for 10 hours and turned off for 1 hour before the ventilation fan is cycled on and off.



Example 3

The working mode is set to 02, the time relay is powered on (15-18 is closed) and the contactor is closed. The water pump starts to work, the delay (t) reaches, the relay is disconnected (15-18 is disconnected), the contactor is disconnected and the water pump starts working.



Example 4

The working mode is set to 08, press the trigger button and the time relay acts (15-18 is closed). Turn on the LED, delays (t), the relay is disconnected (15-18 is disconnected), and the LED is closed.