# GEYA®

CE

# Multifunction time relay GRT8-M

## Instruction Manual

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## General

■Applications

-Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage).

■Function Features

-10 functions: - 5 time functions controlled by supply voltage
- 4 time functions controlled by control input
- 1 function of latching relay

-Comfortable and well-arranged function and time-range setting by rotary switches.

-Time scale 0.1 s - 10 days divided into 10 ranges.

- Relay status is indicated by LED.

- 1-MODULE,DIN rail mounting.

■Model and connotation

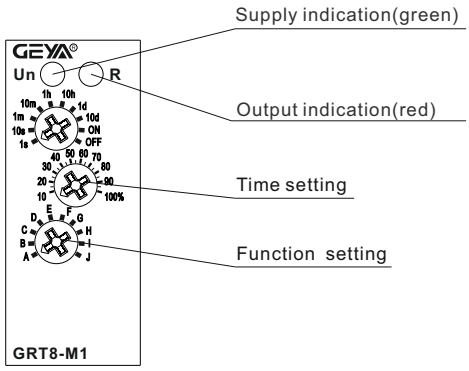
GRT8 – M □/□

- Rated control supply voltage:
  A230:AC230V
  W240:AC/DC12V-240V
- Number of contacts:
  1:1×SPDT
  2:2×SPDT
- Multifunction time relay
- GRT8 Series

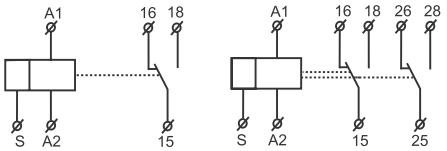
## Technical parameters

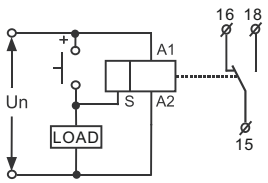
| Technical parameters | | GRT8-M1 | GRT8-M2 |
|---|---|---|---|
| Function | | A,B,C,D,E,F,G,H,I,J | |
| Supply terminals | | A1-A2 | |
| Voltage range | W240 | AC/DC 12-240V(50-60Hz) | |
| Burden | W240 | AC 0.09-3VA/DC 0.05-1.7W | |
| Voltage range | A230 | AC 230V(50-60Hz) | |
| Power input | A230 | AC max.6VA/1.3W | AC max.6VA/1.9W |
| Supply voltage tolerance | | -15%;+10% | |
| Supply indication | | green LED | |
| Time ranges | | 0.1s-10days,ON,OFF | |
| Time setting | | potentionmeter | |
| Time deviation | | 10%-mechanical setting | |
| Repeat accuracy | | 0.2%-set value stability | |
| Temperature coecient | | 0.05%/℃,at=20℃(0.05%℉，at=68℉) | |
| Output | | 1×SPDT | 2×SPDT |
| Current rating | | 16A/AC1 | |
| Switching voltage | | 250VAC/24VDC | |
| Min.breaking capacity DC | | 500mW | |
| Output indication | | red LED | |
| Mechanical life | | $1\times10^7$ | |
| Electrical life(AC1) | | $1\times10^6$ | |
| Reset time | | max.200ms | |
| Operating temperature | | -20℃ to +55℃ ( -4℉ to 131℉ ) | |
| Storage temperature | | -35℃ to +75℃ ( -22℉ to 158℉ ) | |
| Mounting/DIN rail | | Din rail EN/IEC 60715 | |
| Protection degree | | IP40 for front panel/IP20 terminals | |
| Operating position | | any | |
| Overvoltage cathegory | | III. | |
| Pollution degree | | 2 | |
| Max.cable size($mm^2$) | | solid wire max.1×2. 5or 2×1. 5/with sleeve max.1×2. 5(AWG 12) | |
| Dimensions | | 90×18×64mm | |
| Weight | | 1×SPDT: W240-62g,A230-60g | |
| | | 2×SPDT: W240-82g,A230-81g | |
| Standards | | EN 61812-1,IEC60947-5-1 | |

## Panel Diagram




## Wiring Diagram




It is possible to connect load between S-A2 (e.g contactor , control of light or any other device, without disturbing a correctgunction of relay(load is energized while the switch is ON.)

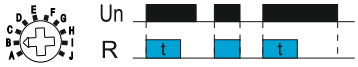
# Functions Diagram

### 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 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 also return to their shelfstate. Trigger switch is not used in this function.




### C:Repeat Cycle (Starting Off )

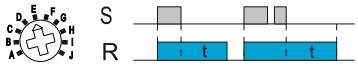
When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.


### D:Repeat Cycle (Starting On)

When 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.

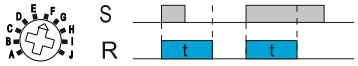

### E: Off Delay (S Break)

Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When 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.



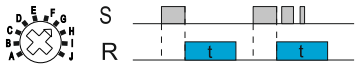

### F: Single Shot

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.



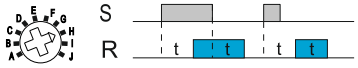

### G: Single Shot Trailing Edge (Non-Retriggerable)

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



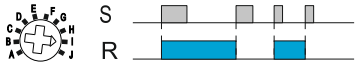

### H: On/Off Delay

Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When 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.



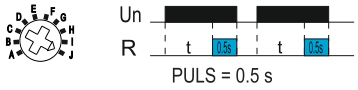

### I: Latching relay

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.

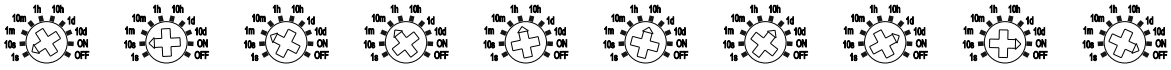



### J:Pulse generator

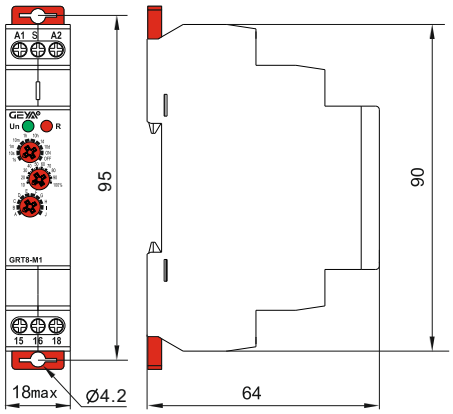
Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and re-applied to repeat pulse. Trigger switch is not used in this function.




# Time Range




# Dimensions(mm)




**Disposal of Electrical Waste**
All electrical waste should be disposed of in compliance with current WEEE regulations.

**Caution**
The products must be installed by qualified electricians. All and any electrical connections of the time relay shall comply with the appropriate safety standards.

http://www.matronics.dk