Time Relays (ZMN11 & ZMN31) User Manual





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PROPER USE AND SAFETY REQUIREMENTS



Cut all the power when connecting and disconnecting the device to a panel.



Do not clean the device with a solvent or similar material. Only use a dry cloth.



Please do not intervene to the device when a technical problem is encountered and get in contact with a technical service within the shortest time.



If the warnings are not taken into account, our company or the authorized dealer shall not be held responsible for the negative consequences.



Do not dispose in the trash, the device must be delivered to the collection centers (electronic device recycling centers). It should be recycled or disposed of without harming human health and environment.



The installation, assembly, activation and operation of the device should be done and used by only expert professionals and in accordance with safety regulations and instructions.

1. INTRODUCTION

1.1. General Features

Electronic time relays are microprocessor-based control devices used in time-critical processes. These devices are specially designed to activate or deactivate a circuit or a system within the set time and function. This relay group, which is generally used in the control panels of power circuits, can basically control the system by changing the relay positions with or without delay. In terms of operating function, there are basically two types of time relays: pull delayed and release delayed. Relays with a delay in pulling are known as straight time relays, while relays with a delay in releasing are known as reverse time relays.

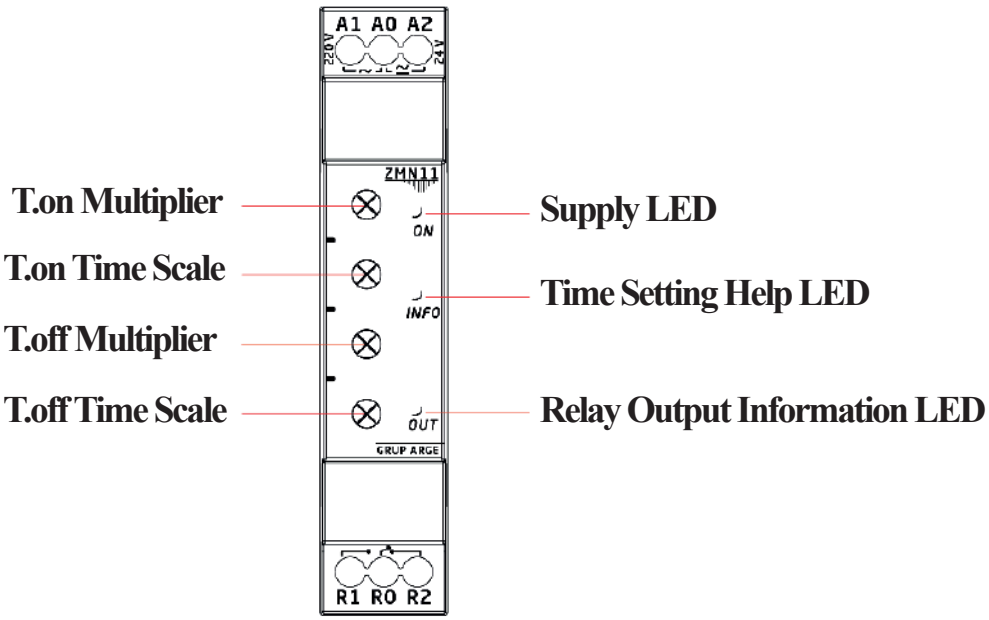
This relay group, which has many different models, has varieties such as flasher model that can operate on and off, right-left relay known as inversion relay in the industry, which is used as an automatic position (direction) changer in automatic systems and repeats this process at intervals determined by the time setting on it, trigged time relay that can operate with trigger detection, star-delta time relay that controls the star-delta connection on a time basis.

1.2. Technical Features

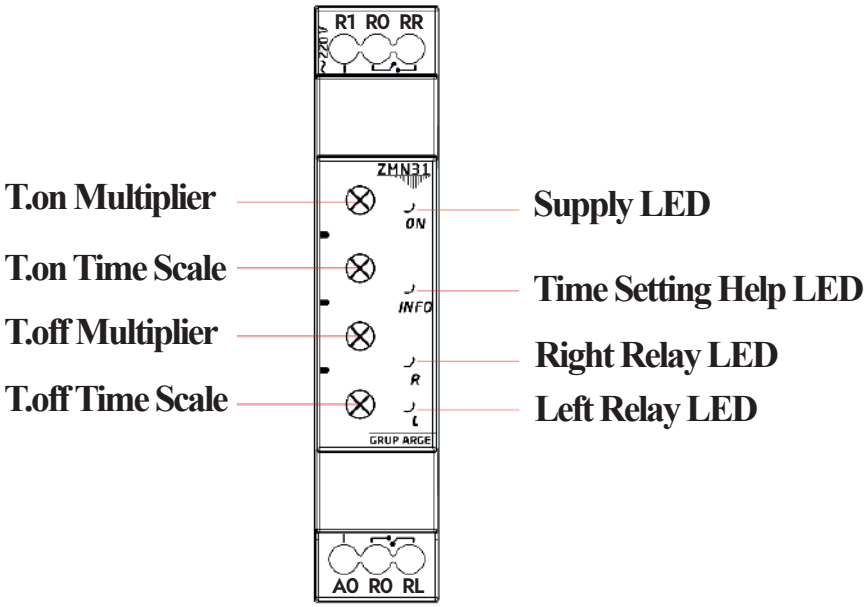
Operating Voltage:	18-28 V AC/DC (ZMN11)
	180 - 280 V AC (ZMN11-ZMN31)
Operating Frequency:	50 / 60 Hz
Time Interval:	0.1 sec-100 h.
Relay Output:	1 x C/O, 5 A @ 250 VAC (ZMN11)
	2 × N/O, 5 A @ 250 VAC (ZMN31)
Adjustment:	Potentiometer
Indicator:	3 LEDs (ZMN11)
	4 LEDs (ZMN31)
Ambient Temperature:	-5°C to +50°C
Protection Class:	IP20
Mounting:	DIN Rail

1.3. LED Descriptions

ZMN 11 :



ZMN 31 :



1.4. LED Warnings

●	**ON**	It shows that energy exists. It also flashes when the potentiometer changes.
◐	**INFO**	When adjusting the potentiometer, it lights up if the time value is set correctly, it turns off if it remains in the unstable zone.
●	**OUT / R / L**	On when the relay is pulled, off when it is not pulled.

Table:1

* ◐ Flasher

* ● Flashing

1.5. Use of the Device

ZMN11 and ZMN31 Time Relays;

ZMN31 model works as Right Left Relay. ZMN31 Right Left Relay works as off start. When the relay supply voltage is supplied, the Toff time starts counting, at the end of the time the right relay pulls and remains pulled until the Ton time. At the end of the Ton time, the Toff time starts counting and at the end of the Toff time the Left Relay pulls and this process continues periodically. If the Ton and Toff times are changed with the potentiometers during operation, this change is detected and the operation continues according to the new time values.

ZMN11 model works as Flasher Relay. The device works as a fixed off start. If desired, it is possible to operate as on start by using the other terminal of the relay. When the device is first energized, the set Toff time starts counting, at the end of the Toff time, the relay pulls the relay and starts counting the Ton time. At the end of the Ton time, the relay releases and starts counting the Toff time again, this process continues periodically until the energy is cut off. Time can be changed with potentiometers during operation and operation continues according to the new set time.

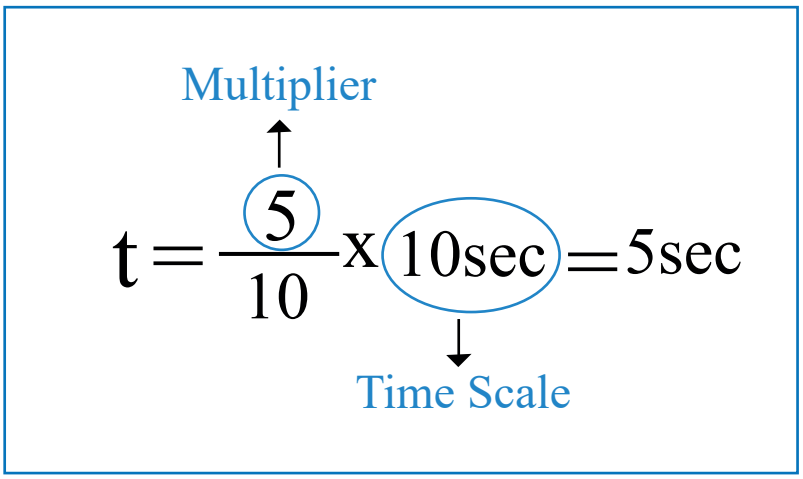
ZMN11 and ZMN31 models have info LED feature. The info LED helps to set the time. If any of the potentiometers is in the critical zone when first energized, the info LED will blink until any potentiometer changes. When there is a change in any of the potentiometers, the info LED starts to work for the potentiometer with the change. If the set potentiometer value is not in the critical zone, the LED lights up, if it is in the critical zone, the LED turns off.

1.6. Selection Table

Product Model	ZMN11	ZMN31
Time Range	0.1 sec-100 h	0.1 sec-100 h
Open Flasher	√	
Closed Flasher	√	
Symmetric Flasher	√	
Right-Left Relay		√
Contact Output	1 x C/O, 5 A @ 250 VAC	2 × N/O, 5 A @ 250 VAC
24 V AC/DC	√	
220 V AC	√	√
DIN I Box	√	√

Table:2

1.7. Time Setting

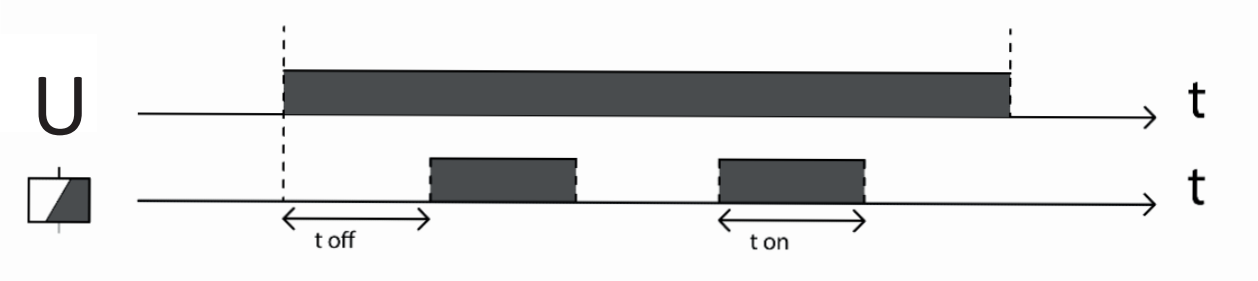


1.8. Function Diagram

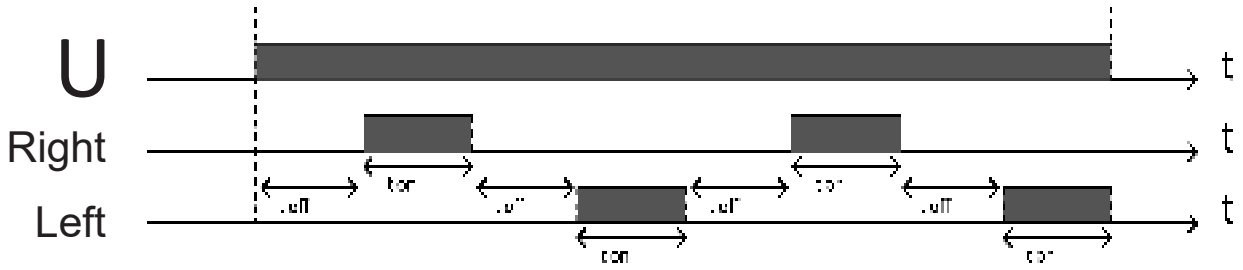
	Relay Voltage
U	Source Voltage

Table:3

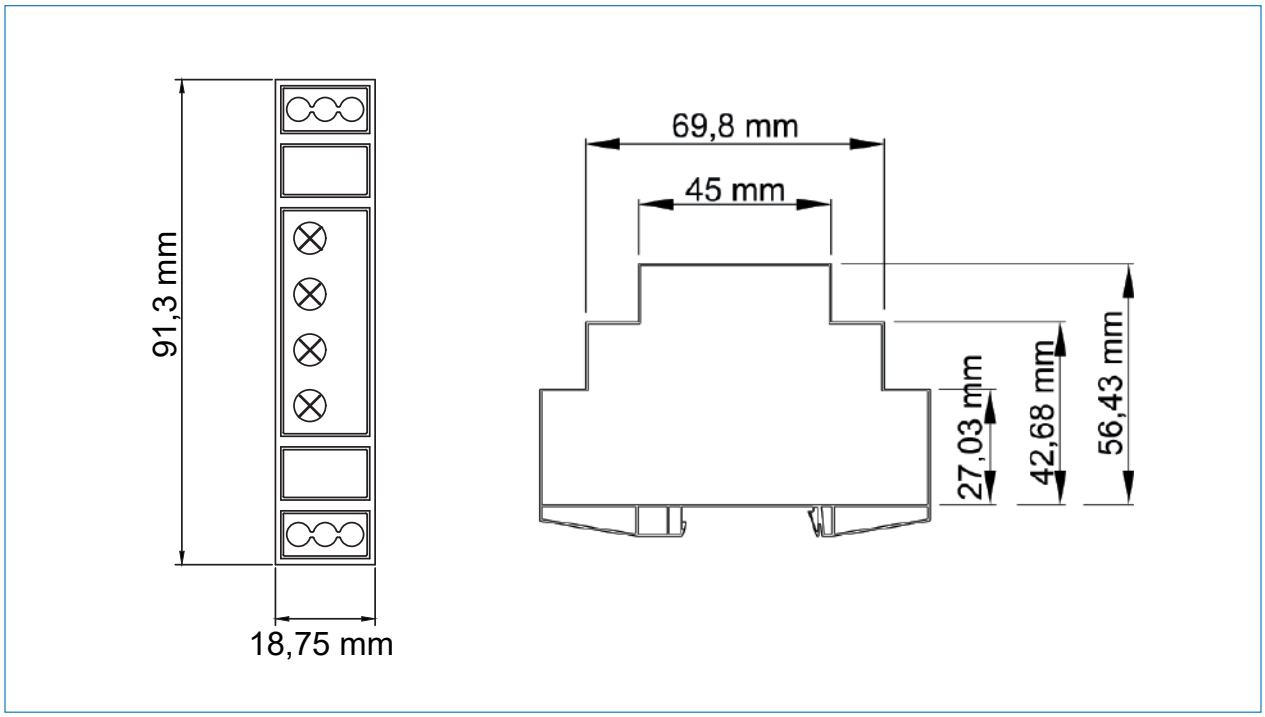
ZMN11 :



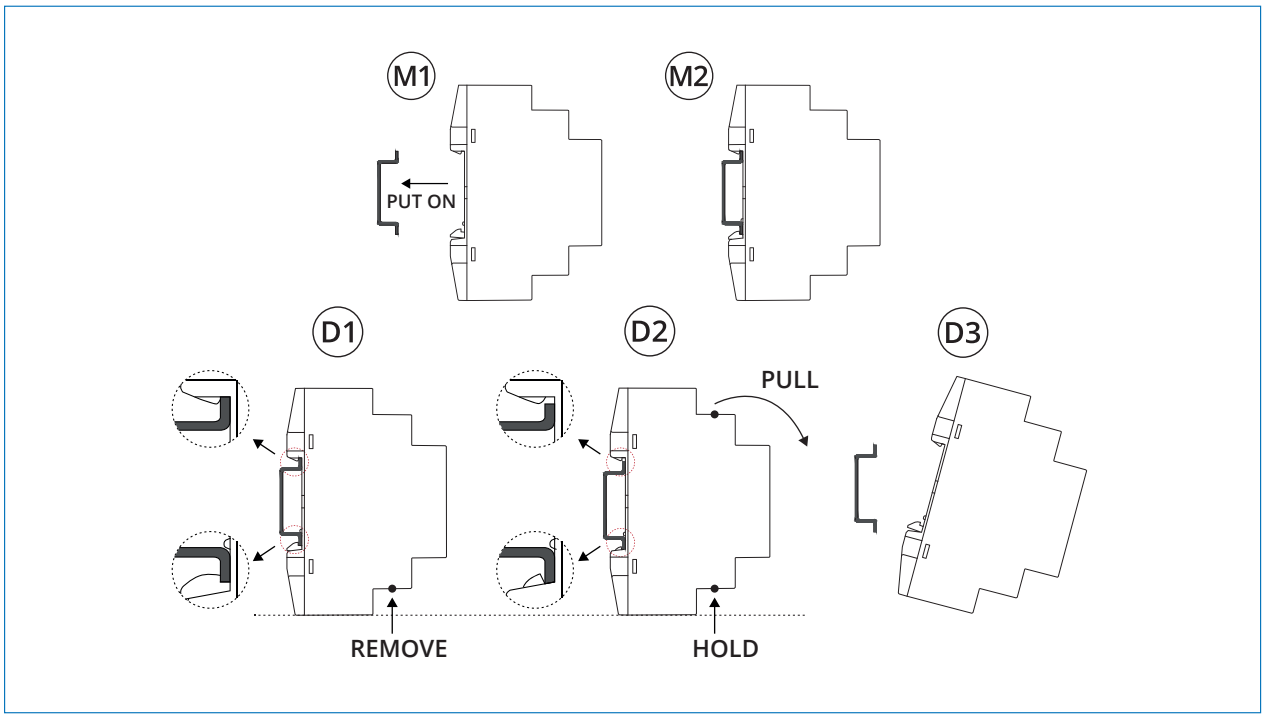
ZMN 31 :



1.9. Technical Drawing

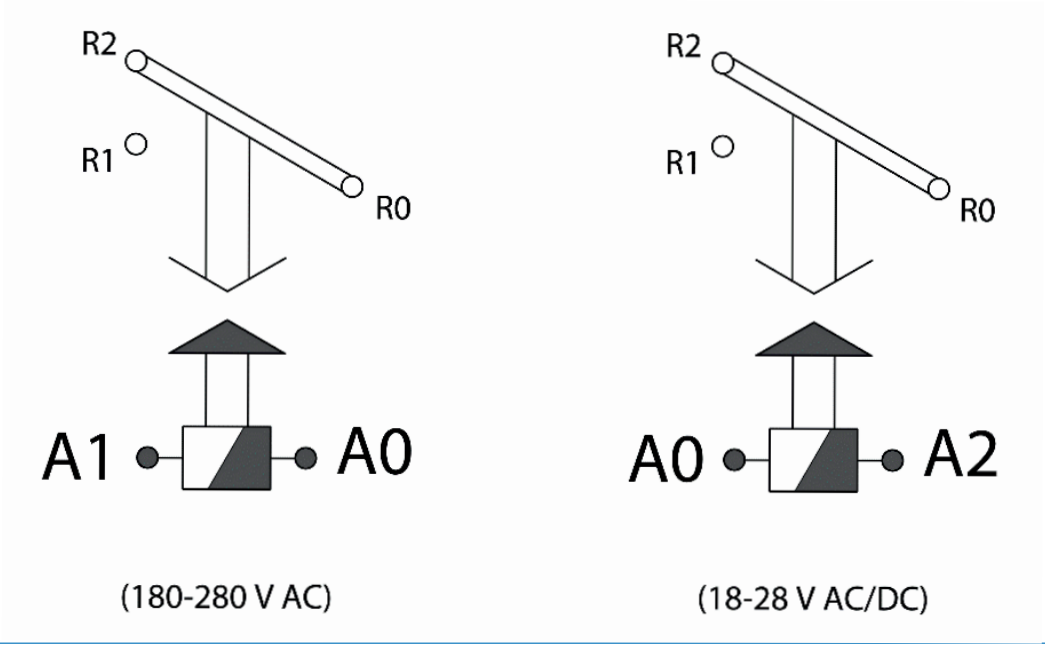


1.10. Product Assembly and Disassembly



1.11. Connection Diagram

ZMN 11 :



ZMN 31 :

