DERTPE005EN 01/22

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Multi-voltage / multifunction time relay

1RT80MTMF

1 mod. DIN

ENGLISH

INFORMATION AND SAFETY PRECAUTIONS

It is advisable to read the installation and user instructions carefully and to keep them for future reference. The manufacturer reserves the right to make all the technical and construction changes it deems necessary without prior notice.

Important: the installation, electrical connection and commissioning of devices and equipment must be performed by qualified personnel and in compliance with regulations and applicable laws.

Before starting the installation and maintenance of the device, disconnect the 230V ~ mains power supply.

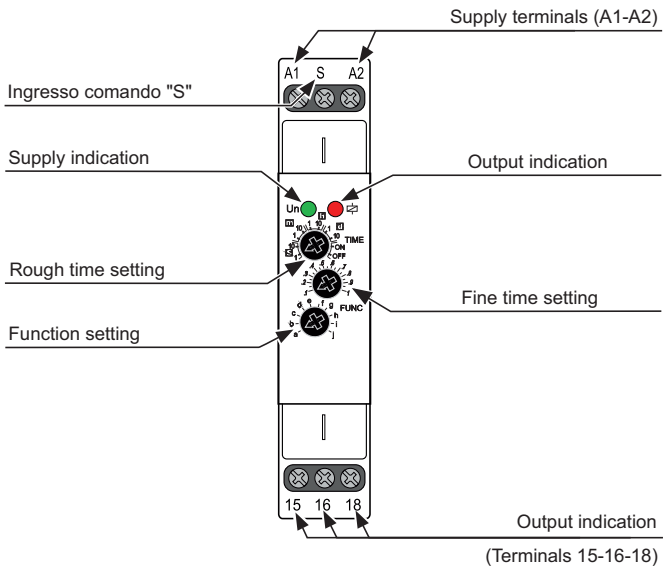
- Do not connect or power the unit if any part is visibly damaged.
- Once installation is complete, inaccessibility to the terminals without the use of special tools must be guaranteed.
- The manufacturer assumes no responsibility concerning the use of products that must comply with specific environmental and/or installation regulations.
- This unit must be intended only for the use for which it was built.
  Any other use must be considered improper and dangerous.

IMPORTANT

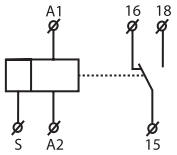
Device is constructed for connection in 1-phase AC/DC 12- 240 V main alternating current voltage and must be installed according to norms valid in the state of application. Connection according to the details in this direction. Installation, connection, setting and servicing should be installed by qualifi ed electrician staff only, who has learnt these instruction and functions of the device. This device contains protection against overvoltage peaks and disturbancies in supply. For correct function of the protection of this device there must be suitable protections of higher degree (A, B, C) installed in front of them. According to standards elimination of disturbancies must be ensured. Before installation the main switch must be in position “OFF” and the device should be de-energized. Don´t install the device to sources of excessive electro-magnetic interference. By correct installation ensure ideal air circulation so in case of permanent operation and higher ambient temperature the maximal operating temperature of the device is not exceeded. For installation and setting use screw-driver cca 2 mm. The device is fully-electronic - installation should be carried out according to this fact. Nonproblematic function depends also on the way of transportation, storing and handling.
In case of any signs of destruction, deformation, non-function or missing part, don´t install and claim at your seller. After stop using the product it is possible to demount and recycle.

DISPOSING OF OLD ELECTRICAL AND ELECTRONIC EQUIPMENT
This symbol on the product or on its packaging indicates that this product cannot be treated as household waste. On the contrary, it must be taken to a specific collection centre for recycling electrical and electronic equipment, such as: - outlets, if a similar product to the one being disposed of is being purchased - local collection centres (waste collection centres, local recycling centres, etc.). By making sure the product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inadequate disposal of this product. Recycling materials will help conserve natural resources. For more detailed information about recycling this product, please contact the local office in your area, the household waste disposal service in your area or the shop where you purchased this product.

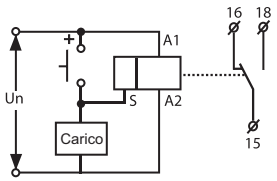
Description



Symbol



Possibility to connect load onto controlling input:
It is possible to connect the load (e.g.: contactor) between terminals S-A2, without any interruption of correct relay function.



Connection

(morsetti 15-16-18)

Type of load	cos φ ≥ 0.95 AC1	AC2	AC3	AC5a	AC5a	AC5b	AC6a	AC7b	AC12
mat. contacts AgNi, contact 16A	250V / 16A	250V / 5A	250V / 3A	250V / 3A (690VA)	X	800W	X	250V / 3A	250V / 10A

Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
mat. contacts AgNi, contact 16A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

Technical parameters

Power supply

Supply terminals	A1 - A2
Voltage range	AC/DC 12-240V AC 50-60Hz
Absorbed power	AC 0.7-3 VA DC 0.5-1.7 W
Max. dissipated power (Un + terminals)	4W
Supply voltage tolerance	-15%; +10%
Supply indication	green LED

Function

Number of functions	10
Time ranges	0.1s - 10days
Time setting	rotary switch and potentiometer
Time deviation	5% - mechanical setting
Reeat accuracyp	0.2 % - set value stability
Temperature coefficient	0.01% / °C

Output

Number of contacts	1x changeover (AgNi)
Current rating	16A / AC1
Breaking capacity	4000VA / AC1, 384W / DC
Inrush current	30A / < 3s
Switching voltage	250V AC / 24V DC
Power dissipation (contacts)	max. 1,2 W
Output indication	multifunction red LED
Mechanical life	10.000.000 cycles
Electrical life (AC1)	50.000 cycles

Controlling

Load between S-A2	Yes
Control terminals	A1 - S
Connection of light buttons to neon	No
Impulse length	min. 25 ms / max. unlimited
Recovery time	max. 150ms

Other information

Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-30°C to +70°C (-22°F to 158°F)
Dielectrical strength	4kV (between the power terminals and the output terminals)
Use	domestic / tertiary / industrial
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP40 from front panel / IP20 terminals
Overvoltage category	III.
Pollution degree	2
Max. cable size (mm²)	solid wire max. 1 x 2.5 or 2 x 1.5 with sleeve max. 1 x 2.5 (AWG 12)
Dimensions	90 x 17.6 x 64 mm (3.5 x 0.7 x 2.5 inch)
Weight	65g (2.3oz.)
Standards	EN 61812-1

Characteristic

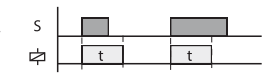
- Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage, 16A or 3 x 8A contacts).
- Fulfills all requirements for time relays.
- 10 functions:
  - 5 time functions controlled by supply voltage.
  - 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 t2 (d
  - Time scale 0.1 s - 10 days divided into 10 ranges: (0.1 s –1 s / 1 s –10 s / 0.1 min –1 min / 1 min –10 min / 0.1 h –1 h / 1 h –10 hrs / 0.1 day –1 day / 1 day –10 days / only ON / only OFF).
- Universal supply voltage AC/DC 12 - 240 V or AC 230 V
- Output contact: 1 x changeover/SPDT 16A
- Multifunction red LED output indicator fl ashes or shines depending on the status of output.
- 1-MODULE, DIN rail mounting.

Function

ON DELAY.

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.

SINGLE SHOT.

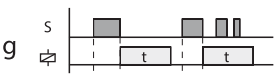


Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay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

INTERVAL 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.

SINGLE SHOT FALLING EDGE.

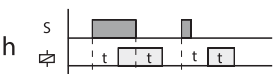


Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. At the end of the preset time t, the relay contacts R return to their normal condition unless the trigger switch S 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.

FLASHER - OFF FIRST.

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.

ON / OFF DELAY.

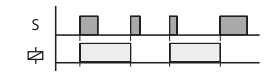


Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.

FLASHER - ON FIRST.

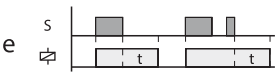
When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.

MEMORY LATCH.



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.

OFF DELAY.



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.

PULSE GENERATOR 0.5S.

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.

More accurate setting of timing for long periods of time

Example of time setting to 8 hours period:
For rough setting use time scale 1-10s on the potentiomenter.
For fine time setting aim for 8s on potentiometer, then recheck accuracy (using stopwatch etc).
On rough time setting, set potentiometer to originally desired scale 1-10 hours, leave a fine setting as it is.