NEW

- **Single-function time relays**, **time function E** (ON delay), **8 time ranges**
- Cadmium - free contacts • AC/DC input voltages
- Cover - installation module, width 17,5 mm
- Direct mounting on 35 mm rail mount acc. to PN-EN 60715
- Application: in low-voltage systems
- Compliance with standard PN-EN 61812-1
- Recognitions, certifications, directives: CE EAC

Output circuit - contact data

Number and type of contacts			1 CO
Contact material			$AgSnO_2$
Max. switching voltage			400 V AC / 300 V DC
Rated load		AC1	10 A / 250 V AC
		DC1	10 A / 24 V DC; 0,3 A / 250 V DC
Rated current			10 A / 250 V AC
Max. breaking capacity		AC1	16 A / 250 V AC
Min. breaking capacity			1W, 10V, 10mA
Contact resistance			≤ 100 mΩ
Max. operating frequency			
• at rated load		AC1	600 cycles/hour

Input circuit

Rated voltage	AC: 50/60 Hz AC/DC		12...240 V terminals (+)A1 – (-)A2
Operating range of supply voltage			0,9...1,1 U_n
Rated power consumption		AC	≤ 4,5 VA AC: 50 Hz
		DC	≤ 1,5 W
Range of supply frequency		AC	48...63 Hz

Insulation according to PN-EN 60664-1

Insulation rated voltage		250 V AC
Rated surge voltage		2 500 V 1,2 / 50 µs
Overvoltage category		II
Insulation pollution degree		1
Flammability degree		V-0 UL94
Dielectric strength	• input - output	2 500 V AC type of insulation: basic
	• contact clearance	1 000 V AC type of clearance: micro-disconnection

General data

Electrical life	• resistive AC1	> 0,5 x 10^5 10 A, 250 V AC
Mechanical life (cycles)		> 3 x 10^7
Dimensions (L x W x H)		90 ❶ x 17,5 x 63,5 mm
Weight		64 g
Ambient temperature	• storage	-40...+70 °C
	• operating	-20...+45 °C
Cover protection category		IP 20 PN-EN 60529
Relative humidity		up to 85%
Shock resistance		15 g
Vibration resistance		0,35 mm DA 10...55 Hz

Time module data

Functions		E permanent switching ON and OFF
Time ranges		1 s ❷; 10 s; 1 min.; 10 min.; 1 h; 10 h; 1 d; 10 d
Timing adjustment		smooth - (0,1...1) x time range
Setting accuracy		± 5% ❸ ❷
Repeatability		± 0,5% ❷
Values affecting the timing adjustment	• temperature	± 0,05% / °C
	• humidity	± 0,05% / %HR
Recovery time		≤ 50 ms
LED indicator		green LED U ON - indication of supply voltage U green LED U flashing - measurement of T time yellow LED R ON/OFF - output relay status

❶ Length with 35 mm rail taps: 98,8 mm. ❷ For first range setpoint (1 s) setting accuracy and repeatability are smaller than the given ones in technical parameters (significant influence of the operational relay operating time, processor start-time, and the moment of supply switching as referred to the AC supply course). ❸ Calculated from the final range values, for the setting direction from minimum to maximum.

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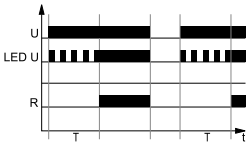
Time functions

Permanent switching **ON and OFF**.
The functions ON and OFF are selected with TIME potentiometer. In the ON function, the normally open contacts are closed all the time whereas in the OFF function they are open. The position of the FUNC potentiometer is of no significance in these functions as is the preset measurement time. The ON or OFF functions are used for the time relay operation control in electric systems.

E - ON delay.



On applying the supply voltage U the set interval T begins - off-delay of the output relay R. After the interval T has lapsed, the output relay R switches on and remains on until supply voltage U is interrupted.

U - supply voltage; **R** - output state of the relay; **T** - measured time; **t** - time axis

Additional functions

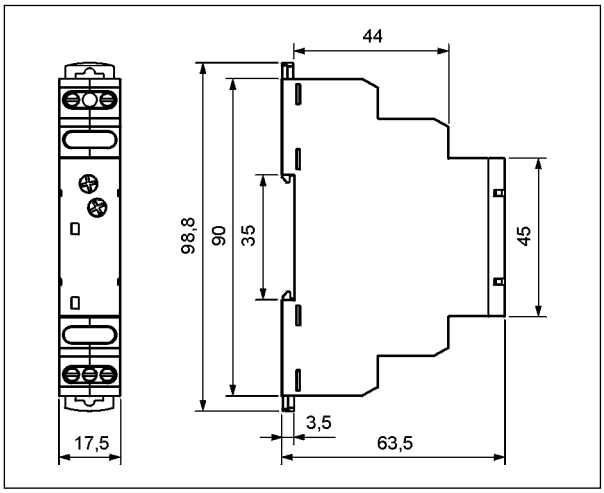
Supply diode: it is lit permanently when the time is not being measured. In course of the T time measurement, it flashes at 500 ms period where it is lit for 80% of the time, and off for 20% of the time.

Adjustment of the set values: the values of time and range are read in the course of the relay's operation. The set values may be modified at any moment.

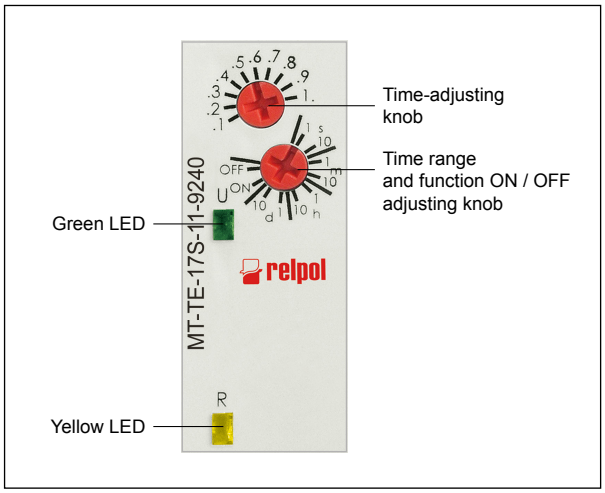
Release: the relay is released with the supply voltage.

Supply: the relay may be supplied with DC voltage or AC voltage 48...63 Hz of 10,8...250 V. A programmed control of the supply voltage has been applied so the processor shall not start operation if the voltage is lower than approximately 10 V. The supply voltage is permanently monitored in course of the operation of the relay. When the voltage drops below 9 V for more than 50 ms, the relay shall be reset. Owing to this, the regeneration time is programmed to 50 ms, and it does not depend on the tolerance of the elements.

Dimensions



Front panel description



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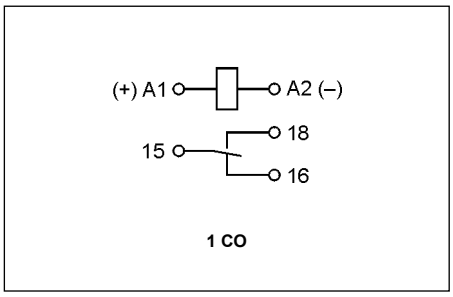
Connection diagram



Mounting

Relays **MT-TE-...** are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715. Operational position - any. **Connections:** max. cross section of the cables: 1 x 2,5 mm² / 2 x 1,5 mm² (1 x 14 / 2 x 16 AWG), length of the cable deinsulation: 6,5 mm, max. tightening moment for the terminal: 0,6 Nm.

Two taps:
easy assembly on 35 mm rail,
firm tapping (top and bottom).

Ordering codes

Type	Time functions performed		Cover		Number and type of contacts		Rated input voltage			
M	T	–	T	E	— 1	7	S — 1	1	— 9	2	4	0

Time functions performed

E - relay performing a function E

Cover

17S - installation module, width 17,5 mm

Number and type of contacts

11 - 1 CO

Rated input voltage

9240 - 12...240 V AC/DC AC: 50/60 Hz

Example of ordering code:

MT-TE-17S-11-9240 time relay **MT-TE-...**, single-function (relay perform function E), cover - installation module, width 17,5 mm, one changeover contact, contact material $AgSnO_2$, rated input voltage 12...240 V AC/DC AC: 50/60 Hz

PRECAUTIONS:
1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.