

# TR-EI1P-UNI

## time relays



- **Time relays with independently controled times T1 and T2, time function li, lp** (Cyclical operation in two independent intervals T1 and T2) **●, 7 time ranges**
- 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
- Recognitions, certifications, directives: **CE EAC**

### Output circuit - contact data

Number and type of contacts	1 CO	
Contact material	AgNi	
Rated load	AC1	8 A / 250 V AC
Max. breaking capacity	AC1	2 000 VA (8 A / 250 V AC)
Max. operating frequency	3 600 cycles/hour	
• at resistive load 100 VA	360 cycles/hour	
• at resistive load 1 000 VA		
<b>Input circuit</b>		
Rated voltage	AC: 50/60 Hz AC/DC	12...240 V terminals (+)A1 – (-)A2
Must release voltage	AC: $\geq 0,3 U_n$	
Operating range of supply voltage	0,9...1,1 $U_n$	
Rated power consumption	AC	4,0 VA
	DC	1,5 W
Range of supply frequency	AC	48...63 Hz
Duty cycle	100%	
Residual ripple to DC	10%	
<b>Insulation according to PN-EN 60664-1</b>		
Insulation rated voltage	250 V AC	
Rated surge voltage	4 000 V 1,2 / 50 $\mu$ s	
Overvoltage category	III	
Insulation pollution degree	2 if built-in: 3	
Dielectric strength • contact clearance	1 000 V AC type of clearance: micro-disconnection	
<b>General data</b>		
Electrical life • resistive AC1	$> 2 \times 10^5$ 1 000 VA	
Mechanical life (cycles)	$> 2 \times 10^7$	
Dimensions (L x W x H)	87 x 17,5 x 65 mm	
Weight	63 g	
Ambient temperature • storage • operating	-25...+70 °C -25...+55 °C	
Cover protection category	IP 20	PN-EN 60529
Relative humidity	15...85%	
Shock resistance	15 g 11 ms	
Vibration resistance	0,35 mm DA 10...55 Hz	
<b>Time module data</b>		
Functions <b>●</b>	li, lp	
Time ranges	1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 100 h	
Timing adjustment	smooth - (0,05...1) x time range	
Base accuracy	$\pm 1\%$ (calculated from the final range values)	
Setting accuracy	$\pm 5\%$ (calculated from the final range values)	
Repeatability	$\pm 0,5\%$ or $\pm 5$ ms	
Temperature influence	$\pm 0,01\%$ / °C	
Recovery time	100 ms	
LED indicator	green LED U ON - indication of supply voltage U green LED U slow flashing - measurement of T1 time green LED U fast flashing - measurement of T2 time yellow LED R ON/OFF - output relay status	

**●** Start by function lp - terminals A1-B1 are not connected / bridged; start by function li - terminals A1-B1 are connected / bridged  
- see „Time functions”, page 2.

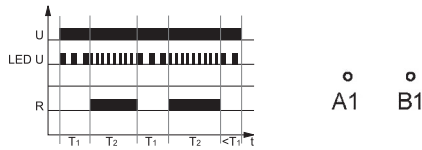
# TR-EI1P-UNI

## time relays

### Time functions

**Ip** - Cyclical operation pause first. Independent settings of T1 and T2 intervals.

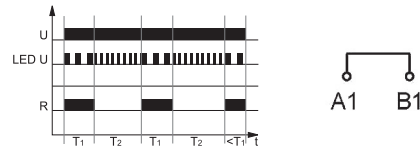
Start by function Ip - terminals A1-B1 are not connected / bridged.



When the supply voltage U is applied, the set interval T1 begins (green LED flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval T2 begins (green LED flashes fast). After the interval T2 has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at the ratio of T1:T2 until the supply voltage is interrupted.

**Ii** - Cyclical operation pulse first. Independent settings of T1 and T2 intervals.

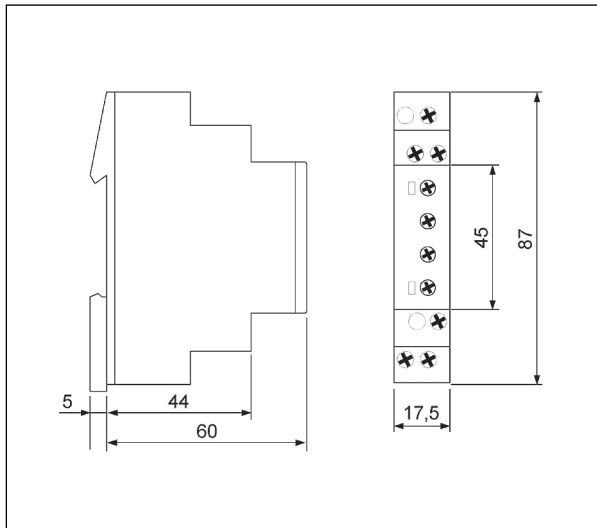
Start by function Ii - terminals A1-B1 are connected / bridged.



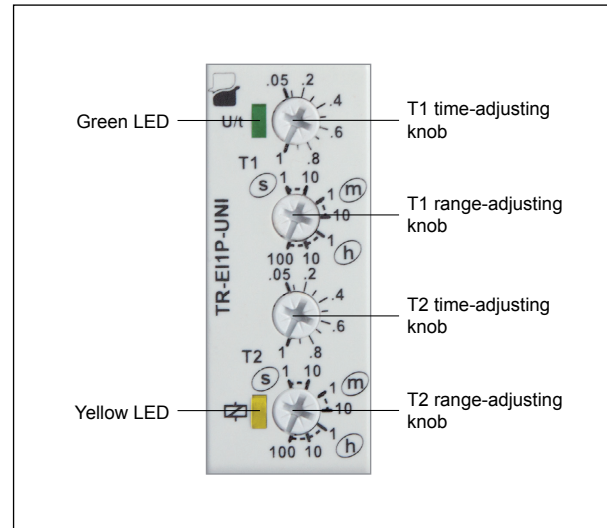
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval T1 begins (green LED flashes slowly). After the interval T1 has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval T2 begins (green LED flashes fast). After the interval T2 has expired, the output relay switches into on-position (yellow LED illuminated). The output relay is triggered at the ratio of T1:T2 until the supply voltage is interrupted.

**U** - supply voltage; **R** - output state of the relay; **T1, T2** - measured times; **t** - time axis

### Dimensions



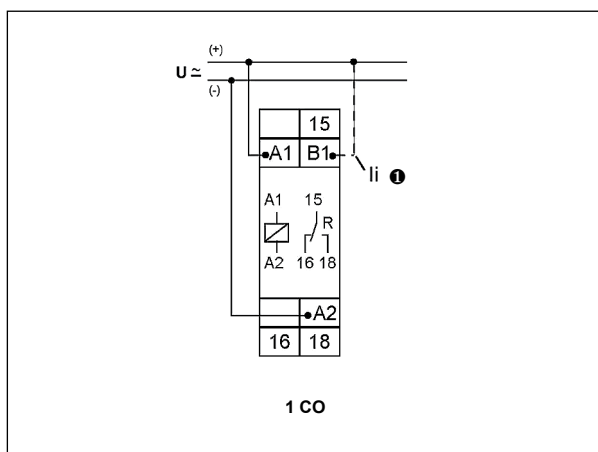
### Front panel description



# TR-EI1P-UNI

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### Connection diagram

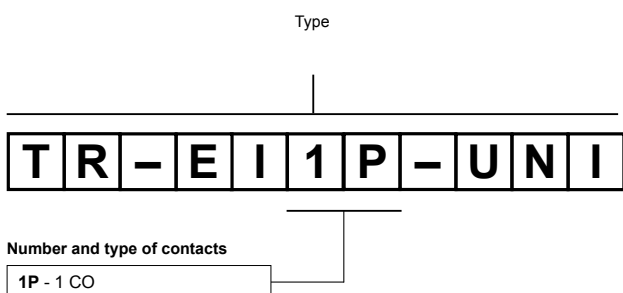


### Mounting

Relays **TR-EI1P-UNI** 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 mm<sup>2</sup> / 2 x 1,5 mm<sup>2</sup> (1 x 14 / 2 x 16 AWG), length of the cable deinsulation: 6,5 mm, max. tightening moment for the terminal: 1,0 Nm. Shockproof terminal connection according to VBG 4 (PZ1 required).

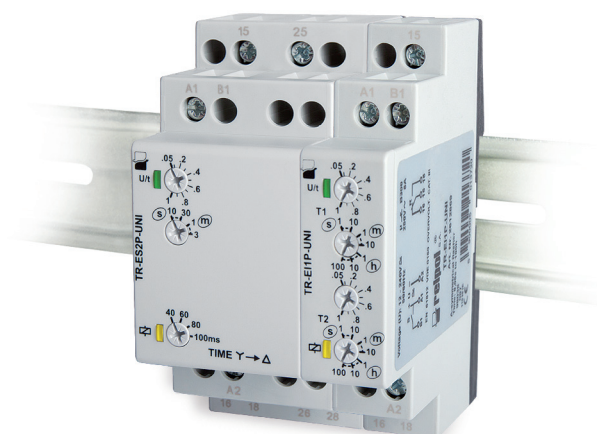
**i** Start by function Ip - terminals A1-B1 are not connected / bridged; start by function li - terminals A1-B1 are connected / bridged - see „Time functions”, page 2.

### Ordering codes



Example of ordering codes:

**TR-EI1P-UNI** time relay **TR-EI1P-UNI**, single-function (relay perform function li + Ip), cover - installation module, width 17,5 mm, one changeover contact, 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.

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