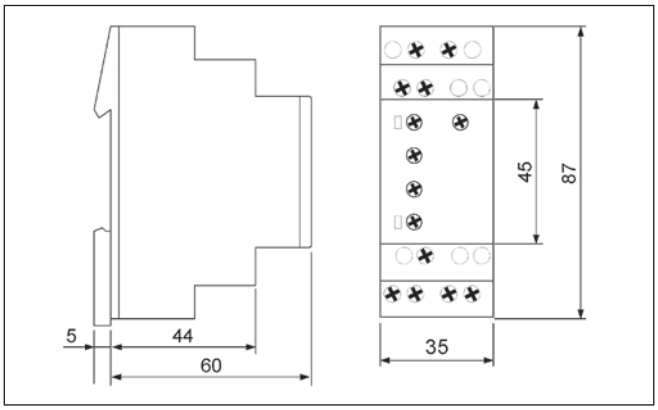
NEW product

- Multifunction time relays with controled times T1 and T2
- 7 time functions: Ii, Ip, EWu, ER, EWs, WsWa, Wt
- 7 time ranges: 1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 100 h
- Wide input voltage range: 12...240 V AC/DC
- 2 changeover contacts: 2 C/O
- Rated load: 8 A / 250 V AC at cat. AC1
- Installation design: width 35 mm
- Recognitions, certifications, directives: CE

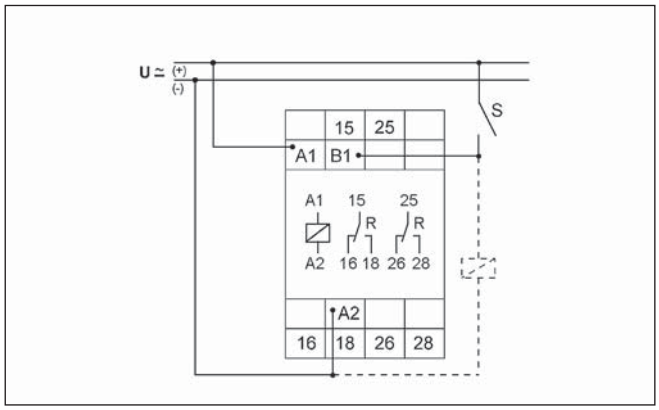
Type of relay			**TR-EI2P-UNI**
Output circuit			
Number and type of contacts			2 C/O - changeover
Rated load		AC1	8 A / 250 V AC
Max. breaking capacity		AC1	2 000 VA
Max. operating frequency • at 100 VA resistive load • at 1 000 VA resistive load			 3 600 cycles/hour PN-EN 60947-5-1 360 cycles/hour
Input circuit			
Supply voltage U			12...240 V AC/DC, AC: 50/60 Hz; terminals A1(+)-A2
Drop-out voltage			AC: ≥ 0,3 U_n
Operating range of supply voltage			0,9 < U_n < 1,1
Rated power consumption			6,0 VA / 2,0 W
Rated frequency			AC: 48...63 Hz
Duty cycle			100%
Residual ripple to DC			10%
Control contact	• input		terminals A1-B1
	• loadable		yes
	• max. line length		10 m
	• trigger level (sensitivity)		automatic adaption to supply voltage
Insulation			
Rated surge voltage			4 000 V AC
Overvoltage category			III PN-EN 60664-1
Insulation pollution degree			2, if built-in 3 PN-EN 60664-1
General data			
Electrical life		• resistive AC1	≥ 2 x 10^5 1 000 VA
Mechanical life (cycles)			≥ 2 x 10^7
Dimensions (L x W x H)			87 x 35 x 60 mm
Weight			120 g
Ambient temperature	• storage, transport		-25...+70 °C
	• operating		-25...+55 °C PN-EN 60068-1
Housing protection category			IP40
Relative humidity			15...85% PN-EN 60721-3-3 class 3K3
Shock resistance			15 g 11 ms PN-EN 60068-2-27
Vibration resistance			0,35 mm DA 10...55 Hz PN-EN 60068-2-6
Time module data			
Functions			EWu, ER, EWs, WsWa, Wt ❶ Ii - A1-B1 terminals bridged Ip - terminals not bridged
Time intervals (timing adjustment)			1 s (50 ms...1 s); 10 s (0,5...10 s); 1 min. (3 s...1 min.); 10 min. (30 s...10 min.); 1 h (3 min. ...1 h); 10 h (30 min. ...10 h); 100 h (5...100 h)
Base accuracy			± 1% (calculate from final range value)
Setting accuracy			± 5% (calculate from final range value)
Repeatability			± 0,5% or ± 5 ms
Temperature influence			± 0,01% / °C
Recovery time			100 ms
Min. pulse of the control contact			AC: 100 ms DC: 50 ms
LED indicator			green LED U/T ON - indication of supply voltage green LED U/T slow flashing - indication of time period T1 green LED U/T fast flashing - indication of time period T2 yellow LED R ON/OFF - indication of output relay

❶ The function has to be set before connecting the relay to the supply voltage.

Dimensions



Connections diagram



Mounting, mechanical design

Relays **TR-EI2P-UNI** are designed for direct mounting on 35 mm DIN rail mount, EN 50022. Mounting position: any. Self-extinguishing plastic housing, IP 40. Shockproof terminal connection according to VBG 4 (PZ1 required), IP 20. Maximum screw torgue: 1,0 Nm. Terminal capacity: 1 x 0,5 do 2,5 mm^2 with/without multicore cable end, 1 x 4 mm^2 without multicore cable end, 2 x 0,5 do 1,5 mm^2 with/without multicore cable end, 2 x 2,5 mm^2 flexible without multicore cable end.

Functions

Ii - asymmetric flasher pulse first

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 U/T 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 U/T 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.

Ip - asymmetric flasher pause first

When the supply voltage U is applied, the set interval T1 begins (green LED U/T 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 U/T flashes fast). After the interval T2 has expired, the output 2 changeover contacts switches into off-position (yellow LED not illumninated). The output 2 changeover contacts is triggered at the ratio of T1:T2 until the supply voltage is interrupted.

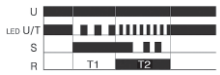
EWu - ON delay and single shot leading edge voltage controlled

When the supply voltage U is applied, the set interval T1 begins (green LED U/t 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 U/T flashes fast). After the interval T2 has expired, the output relay switches into off-position (yellow LED not illuminated). If the supply voltage is interrupted before the interval T1+T2 has expired, the interval already expired is erased and is restarted when the supply voltage is next applied.

ER - ON delay and OFF delay with control contact

The supply voltage U must be constantly applied to the device (green LED U/T illuminated). When the control contact S is closed, the set interval T1 begins (green LED U/T flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval T2 begins (green LED U/T flashes fast). After the interval T2 has expired, the output relay switches into off-position (yellow LED not illuminated). If the control contact is opened before the interval T1 has expired, the interval already expired is erased and is restarted with the next cycle.

EWs - ON delay and single shot leading edge with control contact

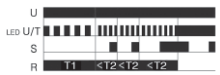


The supply voltage U must be constantly applied to the device (green LED U/T illuminated). When the control contact S is closed, the set interval T1 begins (green LED U/T flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval T2 begins (green LED U/T flashes fast). After the interval T2 has expired, the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.

WsWa - single shot leading and single shot trailing edge with control contact

The supply voltage U must be constantly applied to the device (green LED U/T illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval T1 begins (green LED U/T flashes slowly). After the interval T1 has expired, the output relay R switches into off-position (yellow LED not illuminated). If the control contact is opened, the output relay again switches into on-position (yellow LED illuminated) and the set interval T2 begins (green LED U/T flashes fast). After the interval T2 has expired the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times.

Wt - pulse sequence monitoring



When the supply voltage U is applied, the set interval T1 begins (green LED U/T flashes slowly) and the output relay R switches into on-position (yellow LED illuminated). After the interval T1 has expired, the set interval T2 begins (green LED U/T flashes fast). So that the output relay R remains in on-position, the control contact S must be closed and opened again within the set interval T2. If this does not happen, the output relay R switches into off-position (yellow LED not illuminated) and all further pulses at the control contact are ignored. To restart the function the supply voltage must be interrupted and reapplied.

U - supply voltage; **R** - output relay;
S - control contact; **T1**-**T2** - timing adjustment