14.07.2014

TR-EI2P-UNI

time relays



- Time relays with independently controled times T1 and T2 (7 time functions; 7 time ranges)
- AC/DC input voltages
- Cover installation module, width 35 mm
- Direct mounting on 35 mm rail mount acc. to PN-EN 60715
- · Application: in low-voltage systems
- Recognitions, certifications, directives: (€ [H]

Output circuit - contact data

Output circuit - contac		
Number and type of contacts	3	2 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		
at resistive load 100 VA		3 600 cycles/hour
at resistive load 1 000 VA		360 cycles/hour
Input circuit		•
Rated voltage	AC: 50/60 Hz AC/DC	12240 V terminals (+)A1 – (-)A2
Must release voltage	AC. 30/00 112 AC/DC	$AC: \ge 0.3 \text{ U}_0$
Operating range of supply voltage		0,91,1 Un
Rated power consumption AC		6,0 VA
Nated power consumption	DC	2.0 W
Range of supply frequency	AC	4863 Hz
Duty cycle	AC	100%
		10%
Residual ripple to DC Control contact S •		1070
• min. time of pulse duration	A	AC: ≥ 100 ms DC: ≥ 50 ms
•		
loadablemax. length of control line		yes
trigger level (sensitivity)		10 m
		automatic adaption to supply voltage
Insulation according to PN-EN 60664-1		
Insulation rated voltage		250 V AC
Rated surge voltage		4 000 V 1,2 / 50 μs
Overvoltage category		III
Insulation pollution degree		2 if built-in: 3
Dielectric strength • contact clearance		1 000 V AC type of clearance: micro-disconnection
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 65 mm
Weight		120 g
Ambient temperature	storage	-25+70 °C
	 operating 	-25+55 °C
Cover protection category		IP 20 PN-EN 60529
Relative humidity		1585%
Shock resistance		15 g 11 ms
Vibration resistance		0,35 mm DA 1055 Hz
Time module data		
Functions ®		ER, EWs, EWu, Ip, Ii, WsWa, Wt
Time ranges		1 s; 10 s; 1 min.; 10 min.; 1 h; 10 h; 100 h
Timing adjustment		smooth - (0,051) x time range
Base accuracy		± 1% (calculated from the final range values)
Setting accuracy		± 5% (calculated from the final range values)
Repeatability		± 0,5% or ± 5 ms
Temperature influence		± 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
		Johon LED IX Orn Or F Output rolay status

- The external control contact S connect terminal A1 with terminal B1 (applies to functions with control contact S).
- 2 Where the control signal is recognizable.
- 1 The function has to be set before connecting the relay to the supply voltage.



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Time functions

ER - ON delay and OFF delay with control contact S. Independent settings of T1 and T2 intervals.



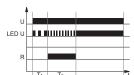
The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact S is closed, the set interval T1 begins (green LED flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, 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). 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 ON for the set time with closing of the control contact S. Independent settings of T1 and T2 intervals.



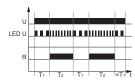
The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact S is closed, the set interval T1 begins (green LED flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval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

EWu - ON delay and the set interval. Independent settings of T1 and T2 intervals.



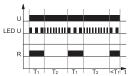
When the supply voltage U is applied, the set interval T1 begins (green LED/t flashes slowly). After the interval T1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval T2 begins (green LED flashes fast). After the interval T2 has expired, the output 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.

 $\mbox{\bf lp}$ - Cyclical operation pause first. Independent settings of T1 and T2 intervals.



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



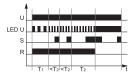
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval T1 begins (green LED flashes slowly). After the interval T1 has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval T2 begins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

WsWa - ON for the set intervals T1 and T2 with the control contact S. Independent settings of T1 and T2 intervals.



The supply voltage U must be constantly applied to the device (green LED 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 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 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 - Monitoring of the sequence of pulses. Switching on is extended with consecutive pulses / closings of the contact S. Independent settings of T1 and T2 intervals.



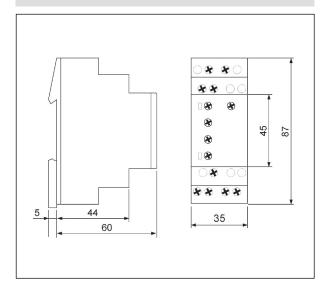
When the supply voltage U is applied, the set interval T1 begins (green LED flashes slowly) and the output relay R switches into on-position (yellow LED illuminated). After the interval T1 has expired, the set interval T2 begins (green LED flashes fast). So that the output relay R remains in on-position, 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 state of the relay; S - control contact state; T1, T2 - measured times; t - time axis

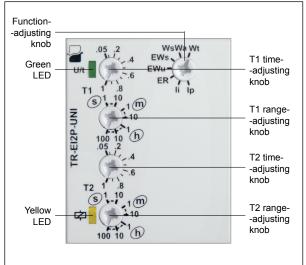
TR-EI2P-UNI

time relays

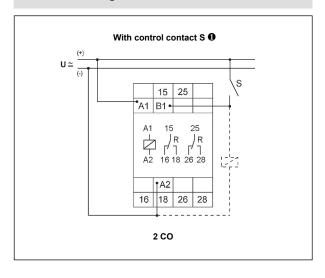
Dimensions



Front panel description



Connection diagram

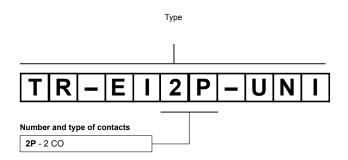


Mounting

Relays **TR-EI2P-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: $1 \times 2.5 \text{ mm}^2 / 2 \times 1.5 \text{ mm}^2$ ($1 \times 14 / 2 \times 16 \text{ AWG}$), 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).

 $\pmb{0}$ The external control contact S connect terminal A1 with terminal B1 (applies to functions with control contact S).

Ordering codes



Example of ordering codes:

TR-EI2P-UNI

time relay **TR-EI2P-UNI**, multifunction (relay perform 7 functions), cover - installation module, width 35 mm, two changeover contacts, 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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