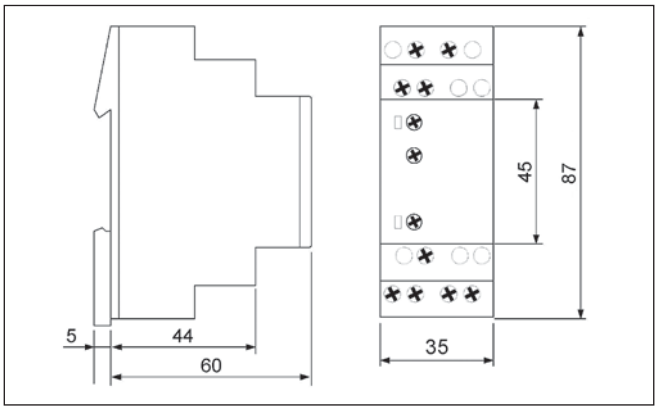
NEW product

- Multifunction time relay
- 7 time functions: E, Wu, Bp, R, Ws, Wa, Es
- 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

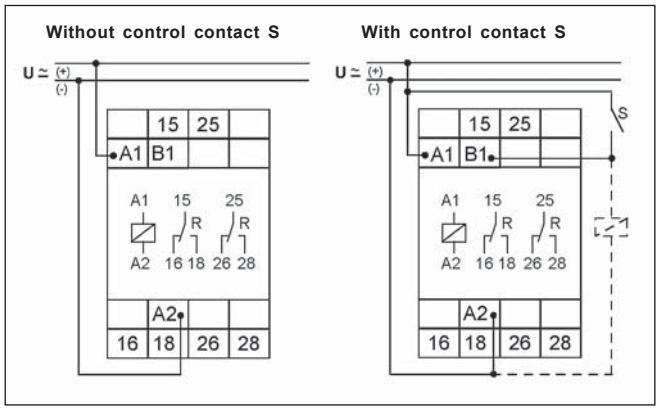
Type of relay			**TR-EM2P-UNI**
Output circuit			
Number and type of contacts			2 C/O - changeover
Rated load		AC1	8 A / 250 V AC
Max. breaking capacity		AC1	2 000 VA
Max. operating frequency • at 100 VA resistive load • at 1 000 VA resistive load			3 600 cycles/hour PN-EN 60947-5-1 360 cycles/hour
Input 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			E, Wu, Bp, R, Ws, Wa, Es ❶
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 flashing - indication of time period T 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 diagrams



Mounting, mechanical design

Relays **TR-EM2P-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

E - ON delay

When the supply voltage U is applied, the set interval T begins (green LED U/T flashes). After the interval T has expired (green LED U/T illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval T, the interval already expired is erased and is restarted when the supply voltage is next applied.

Wu - single shot leading edge voltage controlled

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval T begins (green LED U/T flashes). After the interval T has expired (green LED U/T illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval T has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.

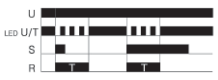
Bp - flasher pause first

When the supply voltage U is applied, the set interval T begins (green LED U/T flashes). After the interval T has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval T begins again. After the interval T has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

R - OFF delay

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). If the control contact is opened, the set interval T begins (green LED flashes). After the interval T has expired (green LED U/T illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval T has expired, the interval already expired is erased and is restarted.

Ws - single shot leading edge with control input S



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 (green LED U/T illuminated) and the set interval T begins (green LED U/T flashes). After the interval T has expired (green LED U/T illuminated) 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.

Wa - single shot trailling edge with control input S

The supply voltage U must be constantly applied to the device (green LED U/T illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval T begins (green LED U/T flashes). After the interval T has expired (green LED U/T illuminated), the ouput 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.

Es - ON delay with control input S

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 T begins (green LED U/T flashes). After the interval T has expired (green LED U/T illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval T has expired, the interval already expired is erased and is restarted with the next cycle.

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