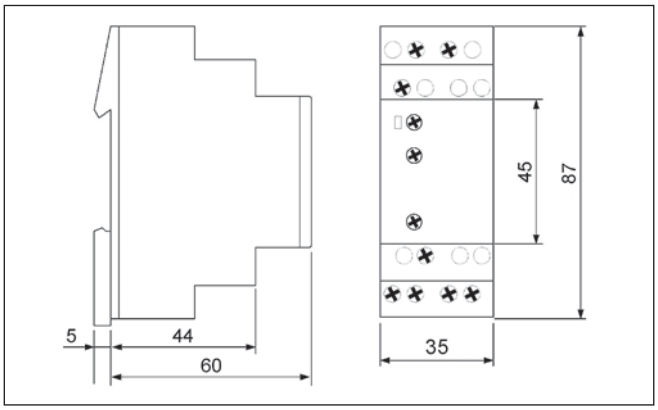
NEW product

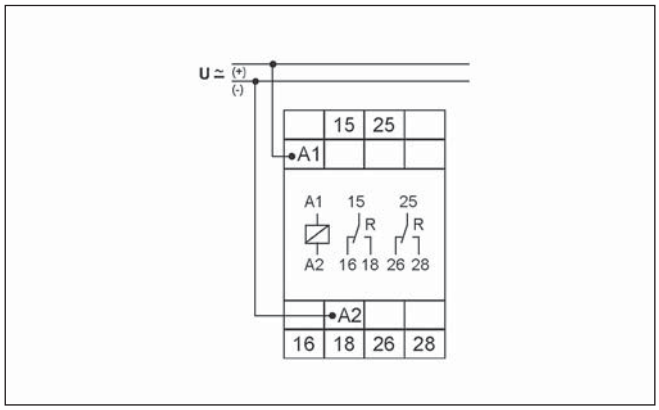
- Star-delta start up with controled times T1 and T2
- 4 time ranges: 10 s; 30 s; 1 min.; 3 min.
- 4 transit times (fixed): 40 ms; 60 ms; 80 ms; 100 ms
- Wide input voltage range: 12...240 V AC/DC
- 2 changeover contacts: 2 C/O
- Rated load: 8 A / 250 V AC at cat. AC1
- Installation design: width 35 mm
- Recognitions, certifications, directives: CE

Type of relay		**TR-ES2P-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		4,0 VA / 1,5 W
Rated frequency		AC: 48...63 Hz
Duty cycle		100%
Residual ripple to DC		10%
Control contact	• input • loadable • max. line length • trigger level (sensitivity)	terminals A1-B1 yes 10 m 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 • operating	-25...+70 °C -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		S
Time intervals (timing adjustment)		10 s (0,5...10 s); 30 s (1,5..30 s); 1 min. (3 s...1 min.); 3 min. (9 s...3 min.)
transit times (fixed)		40 ms; 60 ms; 80 ms; 100 ms
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
LED indicator		green LED U/T ON - indication of supply voltage delta-contactor in on-position (terminals 25-28) green LED U/T flashing - indication of time period star time yellow LED R ON/OFF - indication of star-contactor (terminals 15-18)

Dimensions



Connections diagram

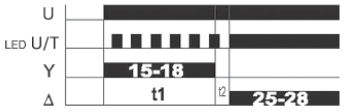


Mounting, mechanical design

Relays **TR-ES2P-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

S - Star-delta start up



When the supply voltage U is applied, the star-contact switches into on-position (yellow LED illuminated) and the set star-time T1 begins (green LED U/T flashes). After the interval T1 has expired (green LED U/T illuminated) the star-contact switches into off-position (yellow LED not illuminated) and the set transit-time T2 begins. After the interval T2 has expired the contact for the delta-contactor switches into on-position. To restart the function the supply voltage must be interrupted and re-applied.

U - supply voltage; **T1**-**T2** - timing adjustment