



- Star – Delta start - up
- 7 Time ranges, 2 change over contacts
- Wide range power supply 12...240V AC/DC
- Low power consumption - <2.5VA or < 2W
- high energy efficiency
- Installation design DIN 35mm
- Width 17.5mm
- For industrial applications
- In accordance with PN-EN 61812-1



## Technical data

Output circuit		MTR17-TTZ-U240--216
Contact arrangement		2 form C
Rated voltage	V AC	250/400
Switching current range AC1	A/V AC	16/250
DC1	A/V DC	16/24
Switching load range AC1	VA	4 000
Contact resistance	mΩ	≤ 100 max.(at 1A 6 VDC)
Max. rated current ❶	A	12
Input circuit		
Supply voltage U <sub>n</sub> AC/DC (AC:50-60Hz)	V	12...240
Tolerance		0,8...1,1U <sub>n</sub> (9,6...264V)
Rated consumption AC	VA	≤ 2,5
DC	W	≤ 2
Rated frequency	Hz	47...63
Rated surge voltage	V	1 000
Insulation		
Insulation rated voltage	V AC	250
Rated surge voltage	V	4 000 1,2/50μs
Overvoltage category		III
Pollution degree		2
Dielectric strength		
• Input - output	V AC	4 000
• Open contact		1 000
• Between contacts		4 000
General data		
Electrical life AC1 at 1000 VA resistive load		≥ 1,5 x 10 <sup>5</sup> operations
Mechanical life		≥ 3 x 10 <sup>7</sup> operations
Dimensions (L x W x H) / Weight	mm / g	90 x 17,5 x 66 / 71g
Ambient temperature / storage temperature	°C	-20...+55 / -40...+70
IP rating		IP20
Relative humidity	%	to 85
Shock resistance	g	15
Vibration resistance	mm	0,35 10...55Hz
Time module data		
Functions		TZ
Time ranges		10s, 30s, 1m, 3m, 10m, 30m, 1h
Timing adjustment		smooth 0,05...1,0 x time range
Setting accuracy	%	5% ❷
Repeatability	%	0,5% or +/-5 ms
Recovery time	ms	≤ 100

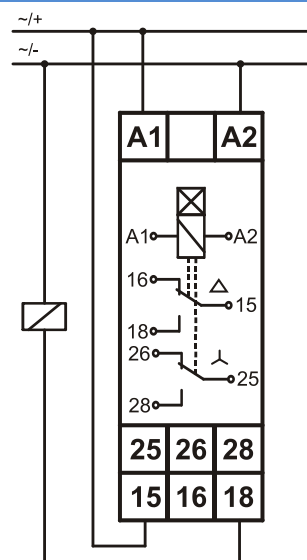
❶ Maximum rated current together of all the relay contacts.

❷ Of minimum scale value.

## Description

Time relay MTR17-TTZ-U240-216 equipped with universal power supply can be connected to any AC/DC voltage source in range of 12...240V. Performs TZ function to control Star-Delta contactors required to reduce inrush currents for 3 phase motors. Microcontroller based circuit ensures high stability of time counter. Designed to use in industrial automation systems.

## Connections



## Mounting

Relays 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: 0,6 Nm.



## Indicators

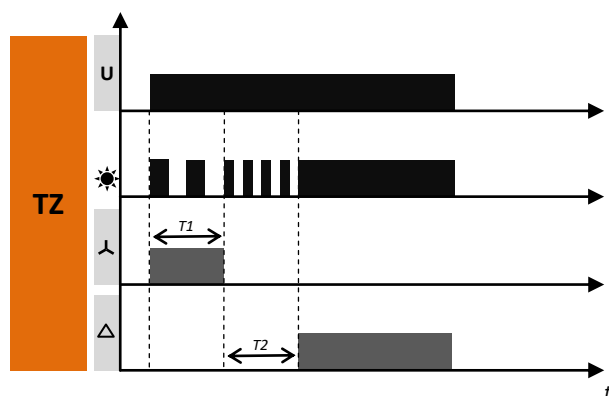


Green LED ON: indication of supply voltage delta-contactor in on-position (terminals 25-28)

Green LED flashes: indication of time period - start-up time

Yellow LED ON/OFF: indication of star-conductor (terminals 15-18)

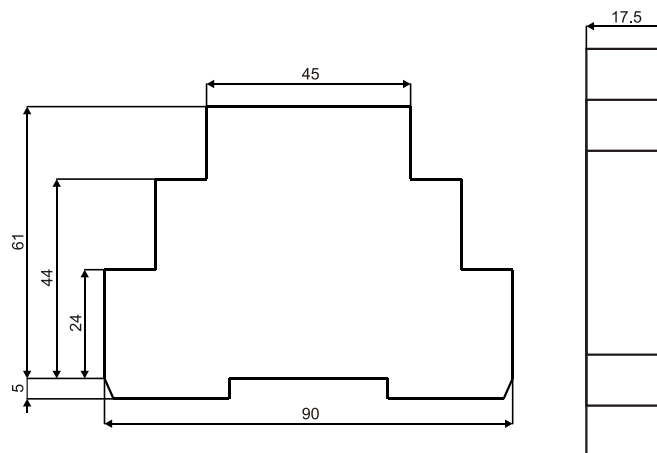
Time functions



### Star-Delta start-up (TZ)

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

### Dimensions



Dobry Czas Sp. z o.o. 51-315 Wrocław ul. Miłostowska 7/6 Poland

+48 71 729 95 90

marketing@dobry-czas.pl

[www.dobry-czas.pl](http://www.dobry-czas.pl)