

# MT-PI-... installation relays



- Installation relays - electromagnetic • AC, DC and AC/DC coils • Cover - installation module, width 17,5 mm • Load of AC1 up to 16 A / 250 V (versions 1 CO, 1 NO ) and up to 8 A / 250 V (versions 2 CO, 2 NO)
- Light indicator (LED diode) - supply voltage
- Application: automatic systems in buildings - in cooperation with control timers, switches, control switches; electric systems; industrial automation and power engineering automation; switchgears of modular equipment
- Recognitions, certifications, directives: **CE**

## Contact data

Number and type of contacts	1 CO, 1 NO	2 CO, 2 NO
Contact material	<b>AgSnO<sub>2</sub></b>	
Max. switching voltage	400 V AC / 300 V DC	
Min. switching voltage	5 V	
Rated load	AC1 DC1	16 A / 250 V AC 16 A / 24 V DC
		8 A / 250 V AC 8 A / 24 V DC
Min. switching current	5 mA	
Max. inrush current	30 A <sup>①</sup>	
Rated current	16 A	
Max. breaking capacity	AC1	4 000 VA
Min. breaking capacity	0,3 W	
Contact resistance	≤ 100 mΩ	
Max. operating frequency		
• at rated load	AC1	600 cycles/hour
• no load		72 000 cycles/hour
<b>Coil data</b>		
Rated voltage	• versions 1 CO, 2 CO • versions 1 NO, 2 NO	50/60 Hz AC DC 50 Hz AC AC: 50 Hz AC/DC
		115 ... 230 V 12 ... 48 V 230 V 12 ... 115 V
Must release voltage		AC: ≥ 0,15 U <sub>n</sub> DC: ≥ 0,05 U <sub>n</sub>
Operating range of supply voltage		0,85...1,1 U <sub>n</sub> AC: 50/60 Hz      see Tables 1, 2, 3, 4
Rated power consumption	• versions 1 CO, 2 CO • versions 1 NO, 2 NO	AC DC DC AC AC/DC AC/DC
		≤ 1,0 VA      115 V AC, 230 V AC, AC: 50 Hz ≤ 0,5 W      12 V DC ≤ 0,65 W      24 V DC, 48 V DC ≤ 0,5 VA      230 V AC, AC: 50 Hz ≤ 0,75 VA / 0,75 W      12 V AC/DC, AC: 50 Hz ≤ 0,65 VA / 0,65 W      24 V AC/DC, 48 V AC/DC, 115 V AC/DC, AC: 50 Hz
<b>Insulation according to PN-EN 60664-1</b>		
Insulation rated voltage	250 V AC	
Rated surge voltage	4 000 V 1,2 / 50 μs	
Overtoltage category	II	
Insulation pollution degree	1	
Flammability degree	contact plate: V-0 cover: V-1 UL94	
Dielectric strength	• between coil and contacts • contact clearance • pole - pole	3 000 V AC      contacts 1 CO and 2 CO, type of insulation: basic 4 000 V AC      contacts 1 NO and 2 NO, type of insulation: reinforced 1 000 V AC      type of clearance: micro-disconnection 2 000 V AC      contacts 2 CO, type of insulation: basic 2 500 V AC      contacts 2 NO, type of insulation: basic
<b>General data</b>		
Operating / release time (typical values)	15 ms / 20 ms	
Mechanical life (cycles)	> 10 <sup>7</sup>	
Dimensions (L x W x H)	90 <sup>⊗</sup> x 17,5 x 63,5 mm	
Weight	60 g	65 g
Ambient temperature	• storage • operating	-40...+70 °C -20...+45 °C
Cover protection category	IP 20	PN-EN 60529
Relative humidity	up to 90%	
Shock resistance	15 g	
Vibration resistance	(NO/NC)	9 g / 5 g 10...150 Hz

The data in bold type pertain to the standard versions of the relays.

<sup>①</sup> UL only for 15 A.

<sup>⊗</sup> Length with 35 mm rail taps: 98,8 mm.

**Coil data - DC voltage version (1 CO, 2 CO contacts)**
**Table 1**

Coil code	Coil operating range V DC	Coil operating range V DC	
		min. (at 20 °C)	max. (at 55 °C)
1012	12	10,2	13,2
1024	24	20,4	26,4
1048	48	40,8	52,8

**Coil data - AC 50/60 Hz voltage version (1 CO, 2 CO contacts)**
**Table 2**

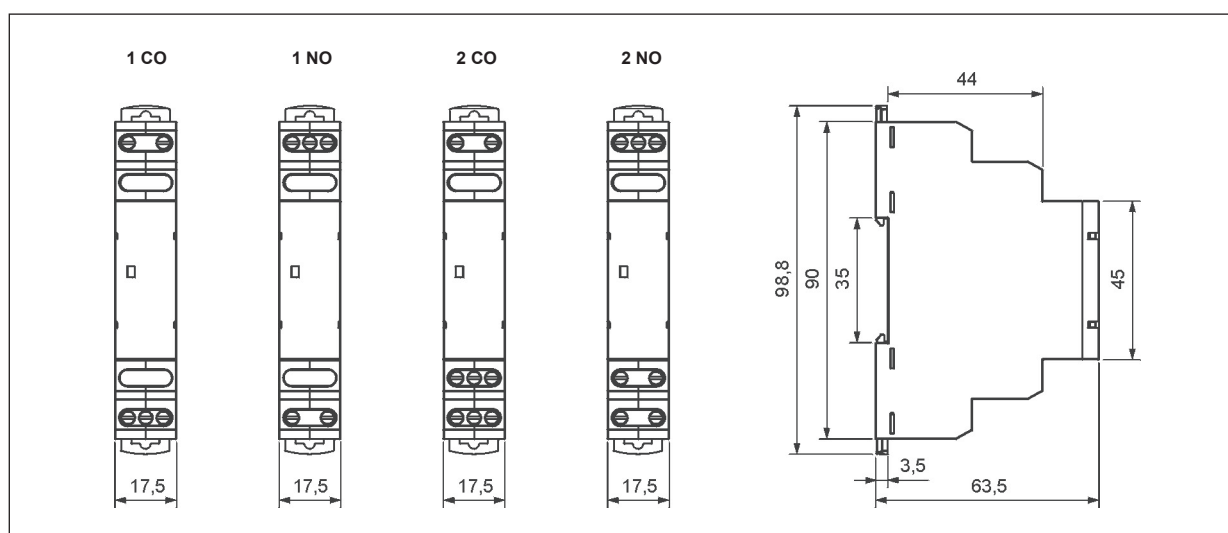
Coil code	Coil operating range V AC	Coil operating range V AC	
		min. (at 20 °C)	max. (at 55 °C)
5115	115	97,8	126,5
5230	230	195,5	253,0

**Coil data - AC/DC 50 Hz voltage version (1 NO, 2 NO contacts)**
**Table 3**

Coil code	Coil operating range V AC/DC	Coil operating range V AC/DC	
		min. (at 20 °C)	max. (at 55 °C)
8012	12	10,2	13,2
9024 Ⓢ	24 V AC/DC Ⓢ	20,4	26,4
	230 V AC Ⓢ	195,5	253,0
8048	48	40,8	52,8
8115	115	97,8	126,5

Ⓢ Selection of supply voltage via wires connection: 24 V AC/DC - to the terminals A1-A2; 230 V AC - to the terminals A1-A3.

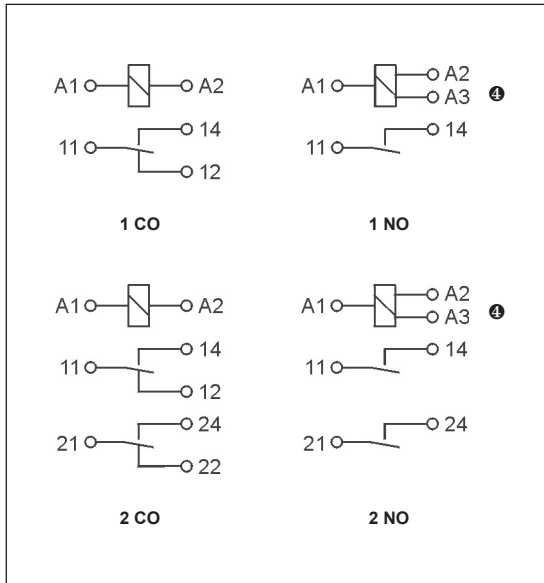
### Dimensions



### 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.

## Connection diagrams



## Table of codes

Table 4

Installation relay code		Rated coil voltage
with 1 CO contact	with 2 CO contacts	
MT-PI-17S-11-1012	MT-PI-17S-12-1012	12 V DC
MT-PI-17S-11-1024	MT-PI-17S-12-1024	24 V DC
MT-PI-17S-11-1048	MT-PI-17S-12-1048	48 V DC
MT-PI-17S-11-5115	MT-PI-17S-12-5115	115 V AC 50/60 Hz
MT-PI-17S-11-5230	MT-PI-17S-12-5230	230 V AC 50/60 Hz
with 1 NO contact	with 2 NO contacts	
MT-PI-17S-21-8012	MT-PI-17S-22-8012	12 V AC/DC
MT-PI-17S-21-8048	MT-PI-17S-22-8048	48 V AC/DC
MT-PI-17S-21-8115	MT-PI-17S-22-8115	115 V AC/DC
MT-PI-17S-21-9024	MT-PI-17S-22-9024	24 V AC/DC
⑤	⑤	230 V AC 50 Hz

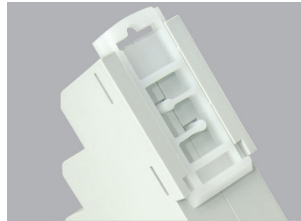
⑤ Selection of supply voltage via wires connection:

24 V AC/DC - to the terminals A1-A2; 230 V AC - to the terminals A1-A3.

④ Terminal A3 occurs only in versions MT-PI-17S-21-9024, MT-PI-17S-22-9024; used to supply relays with rated voltage 230 V AC 50 Hz - connection to the terminals A1-A3.

## Mounting

Relays **MT-PI-...** 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.

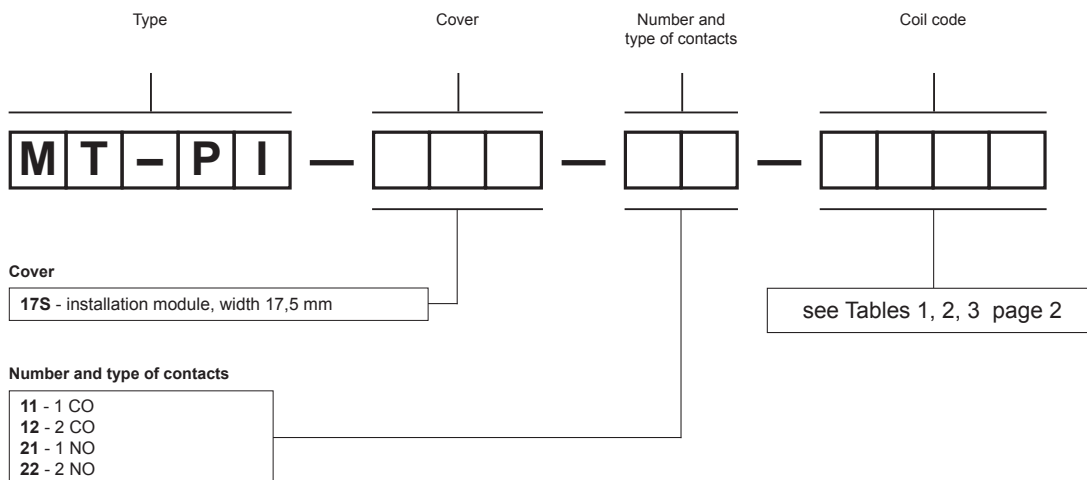


**Two taps:**  
easy assembly on 35 mm rail,  
firm tapping (top and bottom).



**Green LED:**  
signalling the operation  
status of the relay.

## Ordering codes ⑥



Example of ordering code ⑥:

**MT-PI-17S-22-9024**

relay **MT-PI-...**, cover - installation module, width 17,5 mm, two normally open contacts, contact material AgSnO<sub>2</sub>, coil voltage 230 V AC 50 Hz or 24 V AC/DC AC: 50 Hz ⑥

⑥ Ordering codes **MT-PI-...** are specified in Table 4, "Installation relay code" column.