

# PI6-1P / PI6-1T / PI6-OC

## Subminiature Electromagnetic and Solid State Modules

- Width 6,2 mm
- Interface relays PI6-1P - with SPDT contact output / PI6-1T with triac output
- 35 mm rail mount
- Maybe linked with interconnection strip type ZG20
- Equipped in green LED



PI6-1P\*

PI6-1T

PI6-OC

### Contact data

| Number and type of contacts   | SPDT                                               | SPST(1NO)                      | SPST(1NO)       |
|-------------------------------|----------------------------------------------------|--------------------------------|-----------------|
| Contact material              | AgSnO <sub>2</sub>                                 |                                |                 |
| Max. switching voltage        | 400 V AC / 250 V DC                                | 400 V / 440 V                  | 70 V / 70 V     |
| Min. switching voltage        | 10 V                                               | 20 V                           | 5 V             |
| Rated load                    | 6 A / 250 V AC<br>6 A / 24 V DC; 0.15 A / 250 V DC | 1.2 A / 400 V AC               | 0.5 A / 70 V DC |
| Min. switching current        | 100 mA                                             | 10 mA                          | 1 mA            |
| Max. inrush current           | 10 A 20 ms                                         |                                |                 |
| Max. non-repeat surge current |                                                    | 30 A <sup>2</sup> t=20 ms      |                 |
| Rated current                 | 6 A                                                | 1.2 A                          | 0.5 A           |
| Max. breaking capacity        | 1500 VA                                            |                                |                 |
| Min. breaking capacity        | 1 W                                                |                                |                 |
| Contact resistance            | ≤ 100 mΩ 100 mA 24 V                               |                                |                 |
| I <sup>2</sup> t for fusing   |                                                    | 5.1 A <sup>2</sup> s t=1-10 ms |                 |
| dI/dt                         |                                                    | 50 A/μs                        |                 |
| dV/dt                         |                                                    | 40 V/μs                        |                 |
| Max. operating frequency      |                                                    |                                |                 |
| • at rated load               | AC1                                                |                                |                 |
| • no load                     |                                                    |                                |                 |

### Input circuit

|                                   |                    |                                                     |                                                     |                                                     |
|-----------------------------------|--------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| Rated voltage                     | DC                 | 12 ... 36 V                                         | 5...32 V                                            | 5...32 V                                            |
|                                   | AC: 50/60 Hz AC/DC | 24 ... 230 V                                        | 24 ... 230 V                                        | 24 ... 230 V                                        |
| Turn-off voltage                  |                    |                                                     | AC: ≥ 0.2 U <sub>n</sub> ; DC: ≥ 0.1 U <sub>n</sub> | AC: ≥ 0.2 U <sub>n</sub> ; DC: ≥ 0.1 U <sub>n</sub> |
| Must release voltage              |                    | AC: ≥ 0.2 U <sub>n</sub> ; DC: ≥ 0.1 U <sub>n</sub> |                                                     |                                                     |
| Operating range of supply voltage |                    | see page 91                                         |                                                     |                                                     |
| Must operate voltage              |                    | AC and DC: ≤ 0.8 U <sub>n</sub>                     |                                                     |                                                     |
| Rated power consumption           | DC                 | 0.3 ... 0.7 W                                       | 0.3 W; 5...32 V DC at 24 V                          | 0.3 W; 5...32 V DC at 24 V                          |
|                                   | AC/DC              | 0.3 ... 1.6 VA / 0.3 ... 1.6 W                      | 0.3 VA / 0.3 W; 24 V AC/DC                          | 0.3 VA / 0.3 W; 24 V AC/DC                          |
|                                   | AC/DC              |                                                     | 1.6 VA / 1.6 W; 230 V AC/DC                         | 1.6 VA / 1.6 W; 230 V AC/DC                         |

### Insulation

|                             |                                                                       |                                                               |                                                               |
|-----------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Insulation rated voltage    | 400 V AC                                                              | 600 V AC                                                      | 600 V AC                                                      |
| Rated surge voltage         | 4 000 V 1.2 / 50 μs                                                   |                                                               |                                                               |
| Overvoltage category        | III                                                                   |                                                               |                                                               |
| Insulation pollution degree | 3                                                                     | 2                                                             | 2                                                             |
| Dielectric strength         |                                                                       |                                                               |                                                               |
| • input - output            | 4000 V AC 50/60 Hz. 1 min..<br>type of insulation: reinforced         | 4000 V AC 50/60 Hz. 1 min..<br>type of insulation: reinforced | 3000 V AC 50/60 Hz. 1 min..<br>type of insulation: reinforced |
| • input - output            | 6000 V 1.2 / 50 μs                                                    |                                                               |                                                               |
| • mass - input. output      | 2500 V AC 50/60 Hz. 1 min.                                            |                                                               |                                                               |
| • contact clearance         | 1000 V AC 50/60 Hz. 1 min..<br>type of clearance: micro-disconnection |                                                               |                                                               |
| Input - output distance     |                                                                       |                                                               |                                                               |
| • clearance / creepage      | ≥ 6 mm / ≥ 8 mm                                                       |                                                               |                                                               |

### General data

|                                |                                               |                           |                                                     |
|--------------------------------|-----------------------------------------------|---------------------------|-----------------------------------------------------|
| Operating time (typical value) | AC: 7 ms; DC: 6 ms                            | 10 ms max. (zero turn-on) |                                                     |
| Release time (typical value)   | AC: 15 ms; DC: 10 ms                          | 10 ms max.                |                                                     |
| Electrical life                |                                               |                           |                                                     |
| • resistive AC1                | > 0.6 x 10 <sup>5</sup> ; 6 A. 250 V AC       |                           |                                                     |
| • cos φ = 0.4                  | > 2 x 10 <sup>5</sup> ; 2 A. 250 V AC         |                           |                                                     |
| • resistive DC1                | 10 <sup>5</sup> ; 6 A. 30 V DC                |                           |                                                     |
| Mechanical life (cycles)       | > 2 x 10 <sup>7</sup>                         |                           |                                                     |
| Max. switching frequency       |                                               |                           | 10 kHz 5...32 V DC (for load up to 24 V DC; 15 kHz) |
| Dimensions (L x W x H)         | 93.8 x 6.2 x 80 mm                            | 93.8 x 6.2 x 80 mm        | 93.8 x 6.2 x 80 mm                                  |
| Weight                         | 40 g                                          | 40 g                      | 40g                                                 |
| Ambient temperature            |                                               |                           |                                                     |
| • storage                      | -40...+70 °C                                  | -40...+70 °C              | -40...+70 °C                                        |
| • operating                    | AC: -40...+55 °C; DC (12. 24 V): -40...+60 °C | -40...+55 °C              | -40...+55 °C                                        |
| Protection category            | IP 20 PN-EN 60529                             | IP 20 PN-EN 60529         | IP 20 PN-EN 60529                                   |
| Environmental protection       | RTI PN-EN 116000-3                            | RTI PN-EN 116000-3        | RTI PN-EN 116000-3                                  |

\* UL Recognized

# PI6-1P / PI6-1T / PI6-OC

Subminiature Electromagnetic and Solid State Modules

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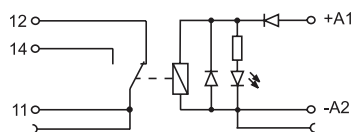


PI6-1P

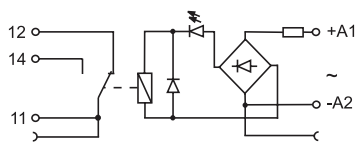


## CONNECTION DIAGRAMS

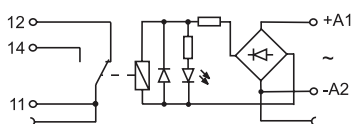
PI6-1P-12VDC, PI6-1P-12VDC-01  
PI6-1P-24VDC, PI6-1P-24VDC-01  
PI6-1P-36VDC, PI6-1P-36VDC-01



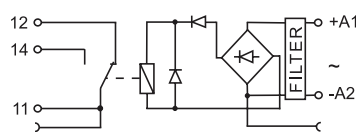
PI6-1P-115VAC/DC  
PI6-1P-230VAC/DC, PI6-1P-230VAC/DC-01



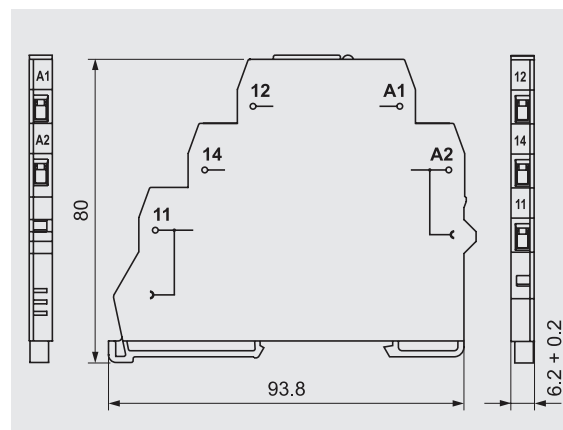
PI6-1P-24VAC/DC, PI6-1P-24VAC/DC-01  
PI6-1P-42VAC/DC



PI6-1P-230VAC/DC-10



## DIMENSIONS



## PI6-1P SPDT AC 50/60Hz & DC coil

| Part Number               | Rated input voltage Un | Power of input circuit | Input voltage range in V |                |
|---------------------------|------------------------|------------------------|--------------------------|----------------|
|                           |                        |                        | min. (at 20°C)           | max. (at 55°C) |
| PI6-1P-12VDC              | 12 V DC                | 0.3 W                  | 9.6                      | 14.1           |
| PI6-1P-24VDC              | 24 V DC                | 0.4 W                  | 19.2                     | 28.0           |
| PI6-1P-36VDC              | 36 V DC                | 0.7 W                  | 28.8                     | 40.0           |
| ► <b>PI6-1P-24VAC/DC</b>  | 24 V AC/DC             | 0.5 VA / 0.5 W         | 19.2                     | 26.4           |
| PI6-1P-42VAC/DC           | 42 V AC/DC             | 0.3 VA / 0.3 W         | 33.6                     | 50.0           |
| ► <b>PI6-1P-115VAC/DC</b> | 115 V AC/DC            | 0.8 VA / 0.8 W         | 92.0                     | 130.0          |
| PI6-1P-230VAC/DC          | 230 V AC/DC            | 0.8 VA / 0.8 W         | 184.0                    | 253.0          |

► BOLD - Regular stocked items.

# PI6-1P / PI6-1T / PI6-OC

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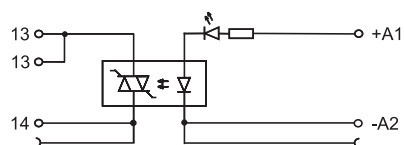


**PI6-1T**

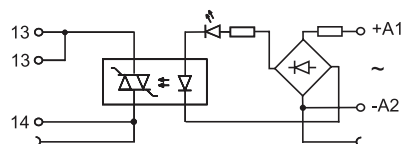


### CONNECTION DIAGRAMS

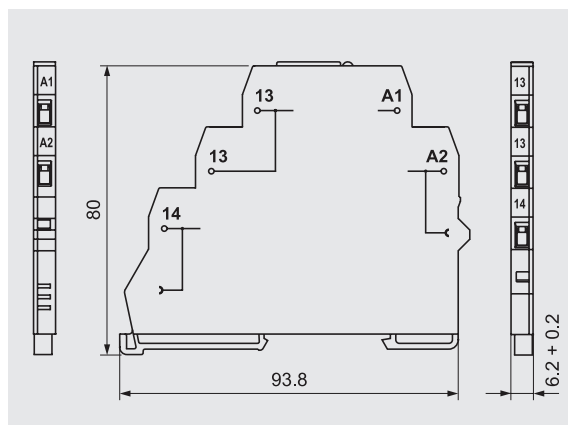
#### PI6-1T-5...32VDC



#### PI6-1T-24VAC/DC PI6-1T-230VAC/DC



### DIMENSIONS



### PI6-1T SPST(1NO) AC 50/60Hz & DC coil

| Part Number               | Rated input voltage Un | Power of input circuit |
|---------------------------|------------------------|------------------------|
| ► <b>PI6-1T-5...32VDC</b> | 5...32 V DC            | 0.3 W at 24V           |
| PI6-1T-24VAC/DC           | 24 V AC/DC             | 0.3 VA / 0.3 W         |
| PI6-1T-230VAC/DC          | 230 V AC/DC            | 1.6 VA / 1.6 W         |

► **BOLD** - Regular stocked items.

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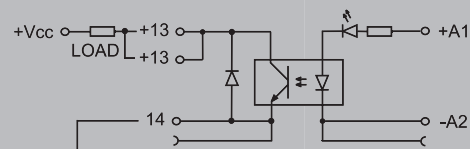


PI6-OC

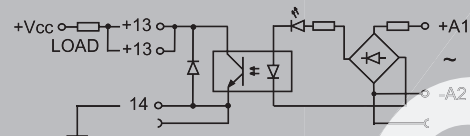


## CONNECTION DIAGRAMS

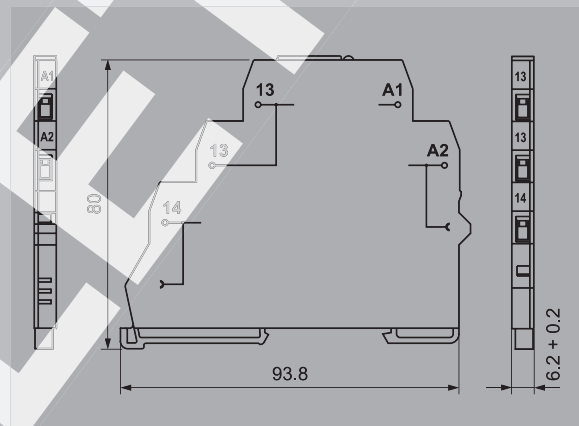
### PI6-OC-5...32VDC



### PI6-OC-24VAC/DC PI6-OC-230VAC/DC



## DIMENSIONS



## PI6-OC SPST(1NO) AC 50/60Hz & DC coil

### Part Number

### Rated input voltage Un

### Power of input circuit

#### ► PI6-OC-5...32VDC

PI6-OC-24VAC/DC  
PI6-OC-230VAC/DC

5...32 V DC  
24 V AC/DC  
230 V AC/DC

0.3 W at 24V  
0.3 VA / 0.3 W  
1.0 VA / 1.0 W

► BOLD - Regular stocked items.