



R3 + GZM3

- Interface relay **PIR3** consists of: electromagnetic relay **R3**, plug-in socket **GZM3** grey, signalling / protecting module **type M...** LED green: version **LD** (polarization N: +A1/-A2) - M41G or M42G or M43G; version **LV** - M91G or M92G or M93G, retainer / retractor clip **GZT4-0040**, white description plate **GZT4-0035**
- 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws
- May be linked with interconnection strip type **ZGGZ4**
- Recognitions, certifications, directives: recognitions R3, RoHS, AUCOTEAM GmbH Berlin - railway standards,

### Contact data

|                                |      |                                     |
|--------------------------------|------|-------------------------------------|
| Number and type of contacts    |      | 3 C/O                               |
| Contact material               |      | <b>AgNi</b>                         |
| Rated / max. switching voltage | AC   | 250 V / 440 V                       |
| Min. switching voltage         |      | 5 V                                 |
| Rated load (capacity)          | AC1  | 10 A / 250 V AC                     |
|                                | AC15 | 3 A / 120 V 1,5 A / 240 V (B300)    |
|                                | AC3  | 370 W (single-phase motor)          |
|                                | DC1  | 10 A / 24 V DC (see Fig. 3)         |
|                                | DC13 | 0,22 A / 120 V 0,1 A / 250 V (R300) |
| Min. switching current         |      | 5 mA                                |
| Max. inrush current            |      | 20 A                                |
| Rated current                  |      | 10 A                                |
| Max. breaking capacity         | AC1  | 2 500 VA                            |
| Min. breaking capacity         |      | 0,3 W                               |
| Contact resistance             |      | ≤ 100 mΩ                            |
| Max. operating frequency       |      |                                     |
| • at rated load                | AC1  | 1 200 cycles/hour                   |
| • no load                      |      | 18 000 cycles/hour                  |

### Coil data

|                                   |             |                                                   |
|-----------------------------------|-------------|---------------------------------------------------|
| Rated voltage                     | 50/60 Hz AC | 12 ... 230 V                                      |
|                                   | DC          | 12 ... 110 V                                      |
| Must release voltage              |             | AC: ≥ 0,2 U <sub>n</sub> DC: ≥ 0,1 U <sub>n</sub> |
| Operating range of supply voltage |             | see Tables 1,2                                    |
| Rated power consumption           | AC          | 50 Hz: 1,6 VA 60 Hz: 1,3 VA                       |
|                                   | DC          | 0,9 W                                             |

### Insulation according to PN-EN 60664-1

|                             |  |                                                                          |
|-----------------------------|--|--------------------------------------------------------------------------|
| Insulation rated voltage    |  | 250 V AC                                                                 |
| Rated surge voltage         |  | with AC coils: 2 500 V 1,2 / 50 μs<br>with DC coils: 4 000 V 1,2 / 50 μs |
| Overvoltage category        |  | III                                                                      |
| Insulation pollution degree |  | 3                                                                        |
| Dielectric strength         |  |                                                                          |
| • between coil and contacts |  | 2 500 V AC type of insulation: basic                                     |
| • contact clearance         |  | 1 500 V AC type of clearance: micro-disconnection                        |
| • pole - pole               |  | 2 500 V AC type of insulation: basic                                     |
| Contact - coil distance     |  |                                                                          |
| • clearance                 |  | ≥ 2,5 mm                                                                 |
| • creepage                  |  | ≥ 4 mm                                                                   |

### General data

|                                           |             |                                   |
|-------------------------------------------|-------------|-----------------------------------|
| Operating / release time (typical values) |             | AC: 10 ms / 8 ms DC: 13 ms / 3 ms |
| Electrical life                           |             |                                   |
| • resistive AC1                           |             | > 10 <sup>5</sup> 10 A, 250 V AC  |
| • cos φ                                   |             | see Fig. 2                        |
| Mechanical life (cycles)                  |             | > 2 x 10 <sup>7</sup>             |
| Dimensions (L x W x H)                    |             | 75 x 27 x 82 mm                   |
| Weight                                    |             | 107 g                             |
| Ambient temperature                       | • storage   | -40...+85 °C                      |
|                                           | • operating | AC: -40...+55 °C DC: -40...+70 °C |
| Cover protection category                 |             | IP 20 PN-EN 60529                 |
| Environmental protection                  |             | R3: RTI GZM3: RT0 PN-EN 116000-3  |
| Shock resistance                          | (NO/NC)     | 10 g / 5 g                        |
| Vibration resistance                      |             | 5 g 10...150 Hz                   |

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

Coil data - DC voltage version

Table 1

| Coil code    | Rated voltage<br>V DC | Coil resistance<br>( $\pm 10\%$ ) at 20 °C<br>$\Omega$ | Coil operating range<br>V DC |                 |
|--------------|-----------------------|--------------------------------------------------------|------------------------------|-----------------|
|              |                       |                                                        | min. (at 20 °C)              | max. (at 55 °C) |
| 012DC        | 12                    | 160                                                    | 9,6                          | 13,2            |
| <b>024DC</b> | <b>24</b>             | <b>640</b>                                             | <b>19,2</b>                  | <b>26,4</b>     |
| 048DC        | 48                    | 2 600                                                  | 38,4                         | 52,8            |
| 110DC        | 110                   | 13 600                                                 | 88,0                         | 121,0           |

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

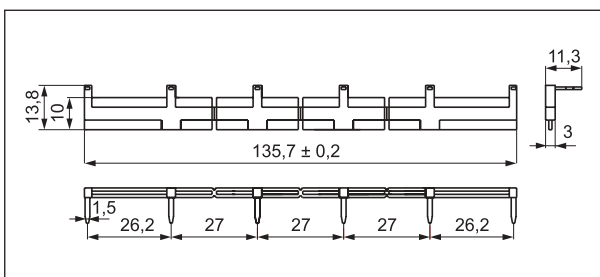
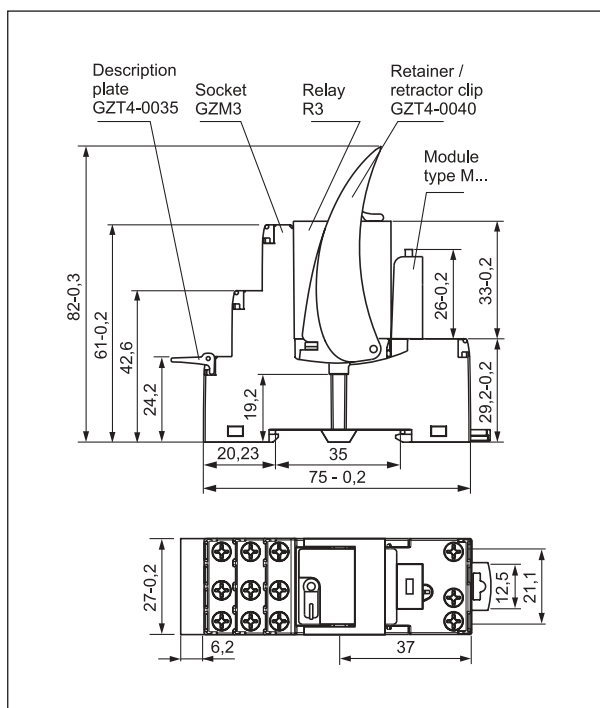
Coil data - AC 50/60 Hz voltage version

Table 2

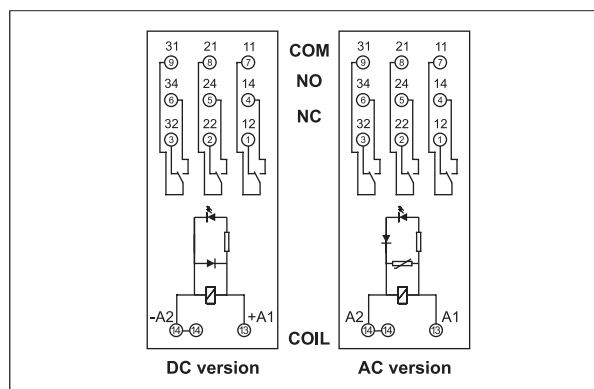
| Coil code    | Rated voltage<br>V AC | Coil resistance<br>( $\pm 10\%$ ) at 20 °C<br>$\Omega$ | Coil operating range<br>V AC |                 |
|--------------|-----------------------|--------------------------------------------------------|------------------------------|-----------------|
|              |                       |                                                        | min. (at 20 °C)              | max. (at 55 °C) |
| 012AC        | 12                    | 39,5                                                   | 9,6                          | 13,2            |
| <b>024AC</b> | <b>24</b>             | <b>158,0</b>                                           | <b>19,2</b>                  | <b>26,4</b>     |
| 048AC        | 48                    | 640,0                                                  | 38,4                         | 52,8            |
| 120AC        | 120                   | 3 770,0                                                | 96,0                         | 132,0           |
| <b>230AC</b> | <b>230</b>            | <b>16 100,0</b>                                        | <b>184,0</b>                 | <b>253,0</b>    |

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

### Dimensions

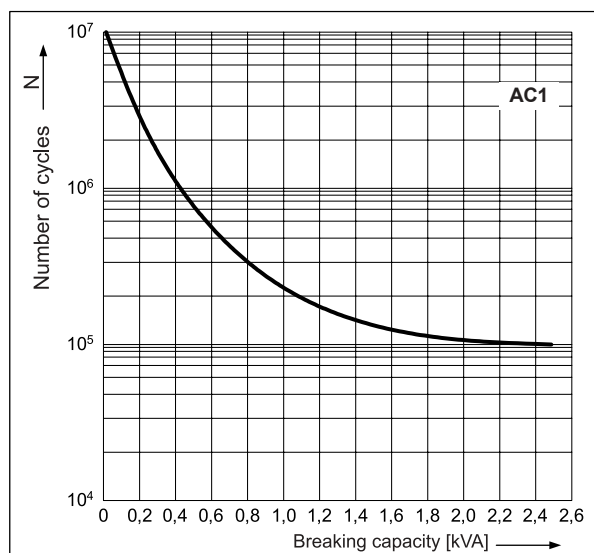
Interconnection strip type **ZGGZ4**

### Connection diagrams (screw terminals side view)



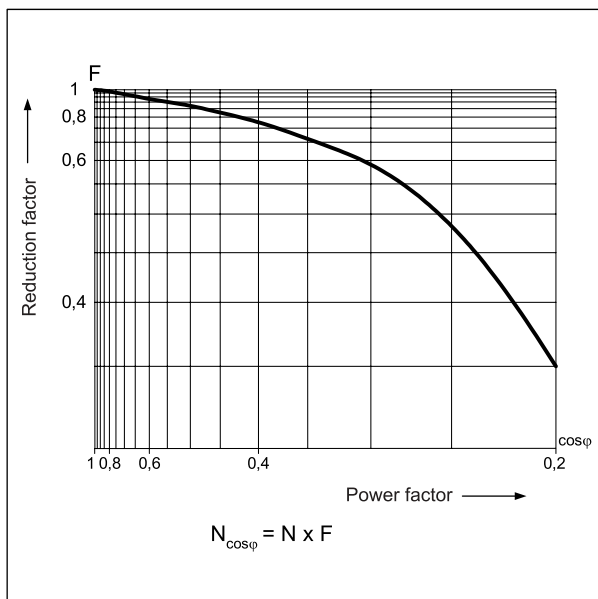
### Electrical life at AC resistive load. Switching frequency: 1 200 cycles/hour

Fig. 1



**Electrical life reduction factor at AC inductive load**

Fig. 2

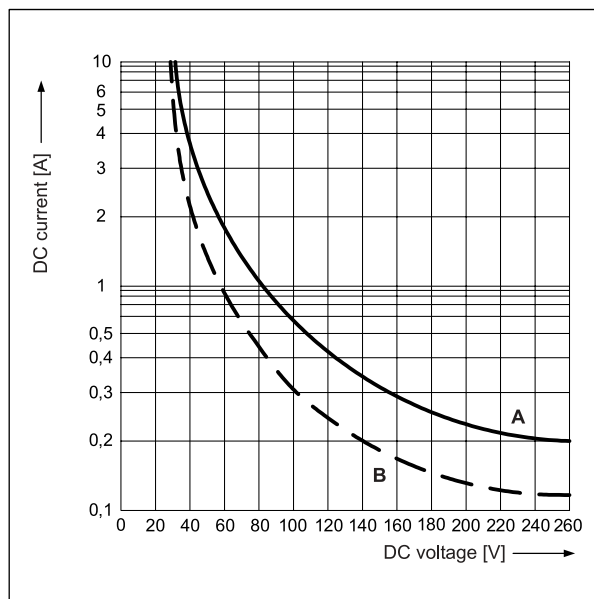


**Max. DC breaking capacity**

**A - resistive load DC1**

**B - inductive load L/R = 40 ms**

Fig. 3

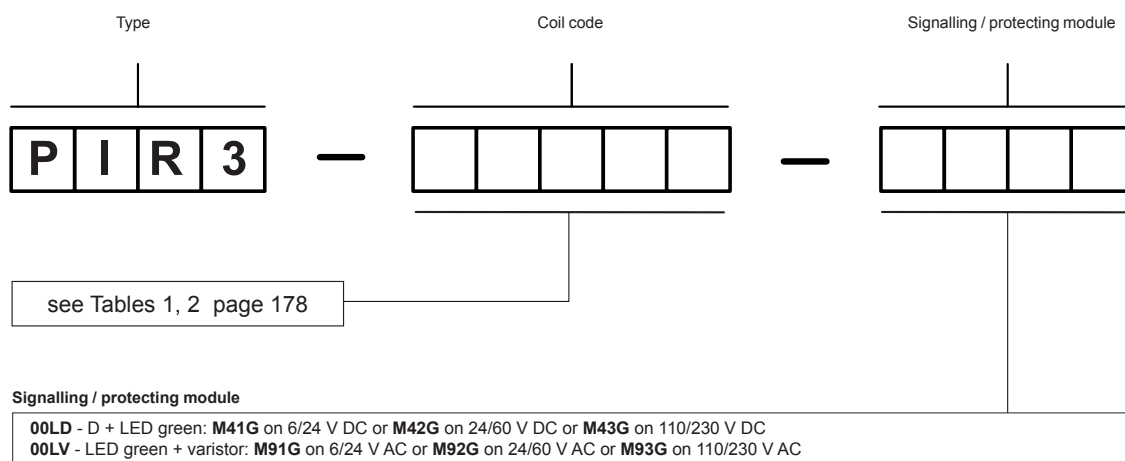


## Mounting

Relays **PIR3** with socket **GZM3** ❶ are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws.

❶ Plug-in sockets **GZM3** may be linked with interconnection strip type **ZGGZ4**. Strip **ZGGZ4** bridges common input signals, maximum permissible current is 10 A / 250 V AC. Possibility of connection of 6 sockets. Colours of strips: **ZGGZ4-1** grey, **ZGGZ4-2** black (see page 262).

## Ordering codes



Examples of ordering codes:

**PIR3-012DC-00LD**

interface relay **PIR3**, which consists of: relay **R3**, voltage version 12 V DC, plug-in socket **GZM3** grey (screw terminals), signalling / protecting module **M41G** (version **LD**, polarization N: +A1/-A2, LED green), retainer / retractor clip **GZT4-0040**, white description plate **GZT4-0035**

**PIR3-230AC-00LV**

interface relay **PIR3**, which consists of: relay **R3**, voltage version 230 V AC 50/60 Hz, plug-in socket **GZM3** grey (screw terminals), signalling / protecting module **M93G** (version **LV**, LED green), retainer / retractor clip **GZT4-0040**, white description plate **GZT4-0035**