

RM85 + GZM80



- Interface relay **PI85 with socket GZM80** consists of:
 - electromagnetic relay **RM85**, plug-in socket **GZM80** grey,
 - signalling / protecting module **type M...** LED green:
 - version **LD** (polarization N: +A1/-A2) - M41G or M43G; version **LV** - M91G or M93G,
 - retainer / retractor clip **GZT80-0040**, white description plate **GZT80-0035**
- 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with one M3 screw
- May be linked with interconnection strip type **ZGGZ80**
- Recognitions, certifications, directives: recognitions RM85, RoHS,

Contact data

Number and type of contacts		1 C/O
Contact material		AgNi
Rated / max. switching voltage	AC	250 V / 440 V
Min. switching voltage		5 V
Rated load (capacity)	AC1	16 A / 250 V AC
	AC15	3 A / 120 V 1,5 A / 240 V (B300)
	AC3	750 W (single-phase motor)
	DC1	16 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		30 A
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

Coil data

Rated voltage	50/60 Hz AC	12 ... 230 V
	DC	12 ... 110 V
Must release voltage		AC: ≥ 0,15 U _n DC: ≥ 0,1 U _n
Operating range of supply voltage		see Tables 1, 2 and Fig. 4, 5
Rated power consumption	AC	0,75 VA
	DC	0,4...0,48 W

Insulation according to PN-EN 60664-1

Insulation rated voltage		300 V AC
Rated surge voltage		4 000 V 1,2 / 50 μs
Overvoltage category		III
Insulation pollution degree		3
Dielectric strength		
• between coil and contacts		5 000 V AC type of insulation: reinforced
• contact clearance		1 000 V AC type of clearance: micro-disconnection
Contact - coil distance		
• clearance		≥ 10 mm
• creepage		≥ 10 mm

General data

Operating / release time (typical values)		7 ms / 3 ms
Electrical life		
• resistive AC1		> 0,7 x 10 ⁵ 16 A, 250 V AC
• cos φ		see Fig. 2
• L/R=40 ms		> 10 ⁵ 0,12 A, 220 V DC
Mechanical life (cycles)		> 3 x 10 ⁷
Dimensions (L x W x H)		78,1 x 15,9 x 66,5 mm
Weight		59 g
Ambient temperature	• storage	-40...+85 °C
	• operating	AC: -40...+70 °C DC: -40...+85 °C
Cover protection category		IP 20 PN-EN 60529
Environmental protection		RM85: RTII GZM80: RT0 PN-EN 116000-3
Shock resistance		30 g
Vibration resistance		10 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 V DC	Coil resistance $\pm 10\%$ at 20 °C Ω	Coil operating range at 20 °C V DC	
			min.	max.
012DC	12	360	8,4	30,6
024DC	24	1 440	16,8	61,2
110DC	110	25 200	77,0	280,0

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

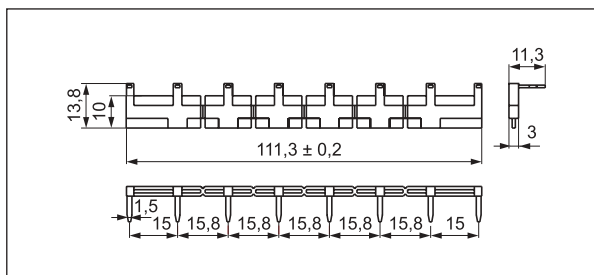
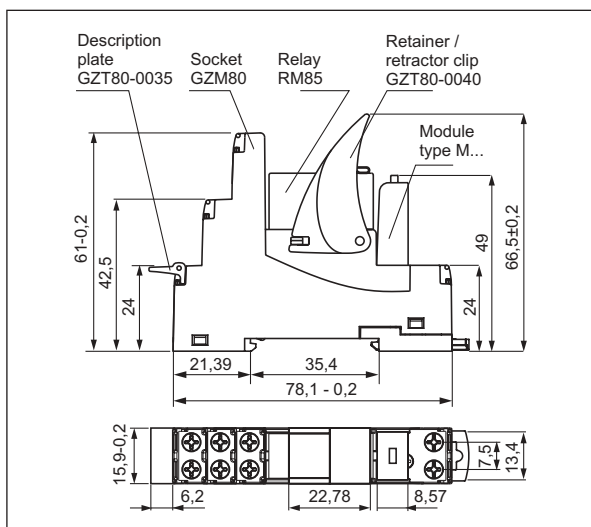
Coil data - AC 50/60 Hz voltage version

Table 2

Coil code	Rated voltage V AC	Coil resistance $\pm 10\%$ at 20 °C Ω	Coil operating range at 20 °C V AC - 50 Hz	
			min.	max.
012AC	12	100	9,6	13,2
024AC	24	400	19,2	26,4
120AC	120	10 200	96,0	144,0
230AC	230	38 500	184,0	253,0

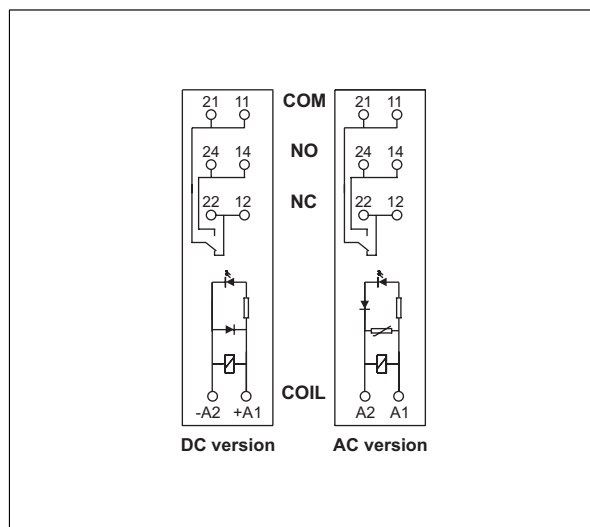
The data in bold type pertain to the standard versions of the relays.

Dimensions

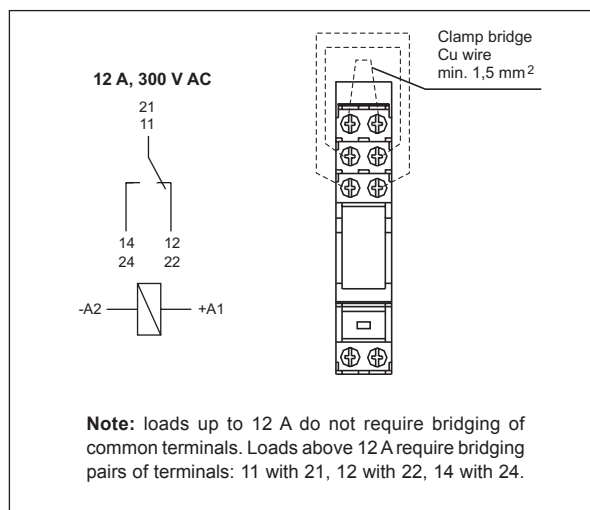


Interconnection strip type **ZGGZ80**

Connection diagrams (screw terminals side view)



Connection of GZM80



Electrical life at AC resistive load.
Switching frequency: 600 cycles/hour

Fig. 1

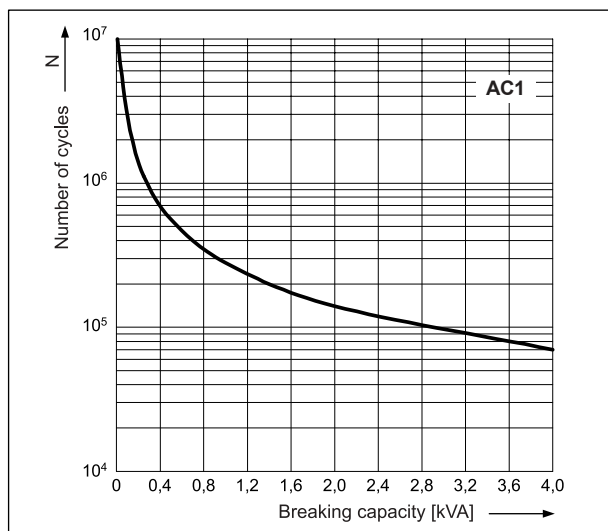

Electrical life reduction factor
at AC inductive load

Fig. 2

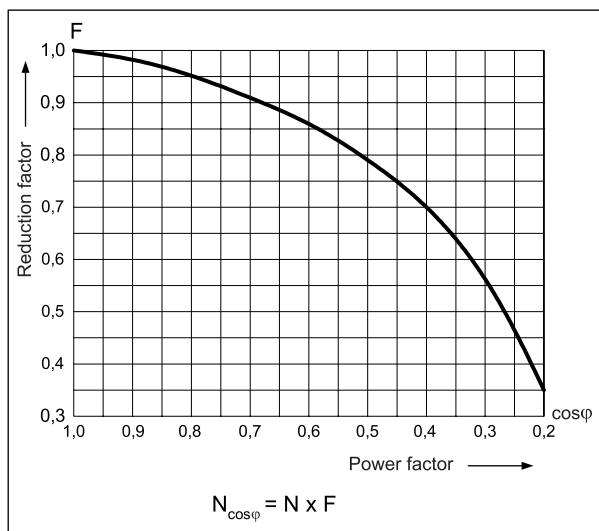

Max. DC resistive load breaking capacity

Fig. 3

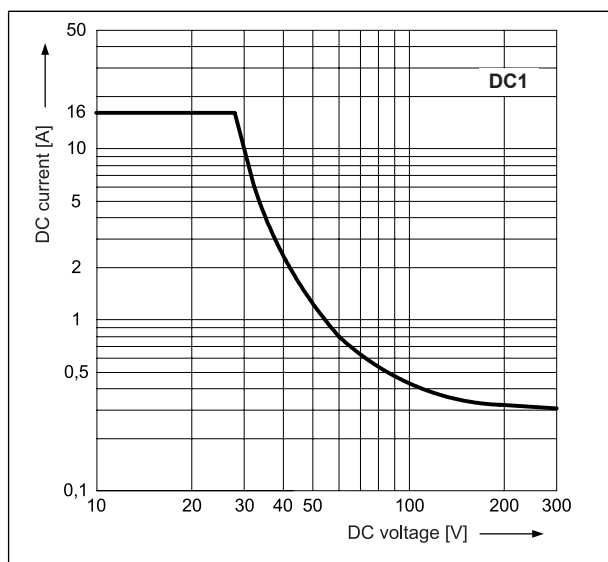

Coil operating range - DC

Fig. 4

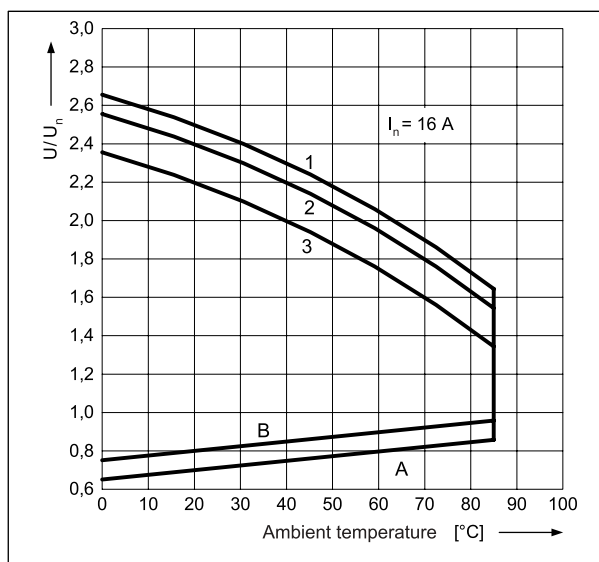
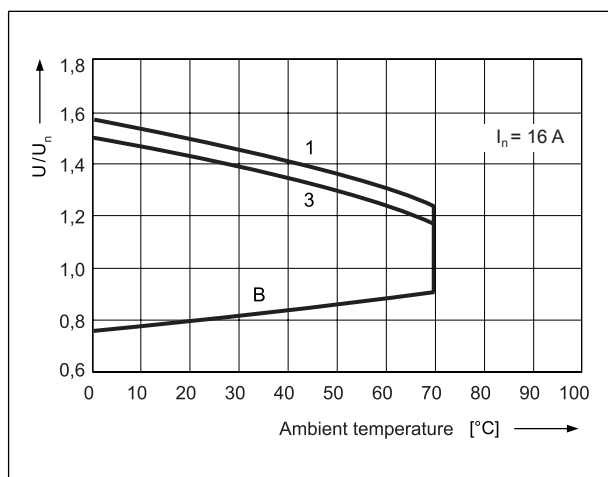

Coil operating range - AC 50 Hz

Fig. 5


Description of Fig. 4 and 5

A - relations between make voltage and ambient temperature at no load on contacts. Coil temperature and ambient temperature are equal before coil energizing. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).

B - relations between make voltage and ambient temperature after initial coil heating up with $1,1 U_n$, at continuous load of I_n on contacts. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).

1, 2, 3 - values on Y axis represent allowed overvoltage on coil at certain ambient temperature and contact load:

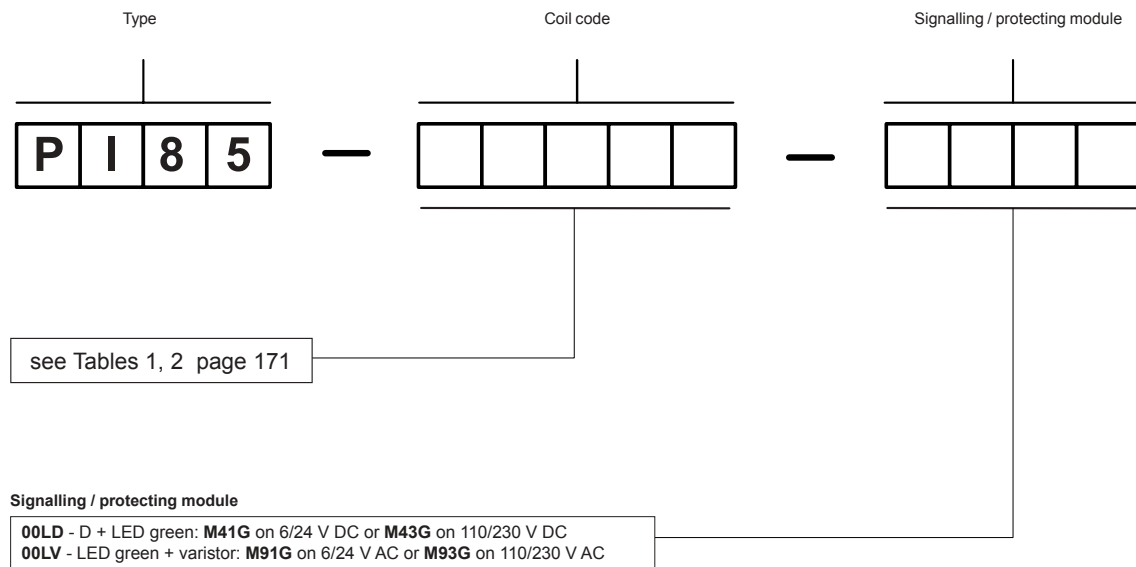
- 1** - no load
- 2** - 50% of rated load
- 3** - rated load

Mounting

Relays **PI85 with socket GZM80** ❶ are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with one M3 screw.

❶ Plug-in sockets **GZM80** may be linked with interconnection strip type **ZGGZ80**. Strip **ZGGZ80** bridges common input signals, maximum permissible current is 10 A / 250 V AC. Possibility of connection of 8 sockets. Colours of strips: **ZGGZ80-1** grey, **ZGGZ80-2** black (see page 261).

Ordering codes



Examples of ordering codes:

- PI85-012DC-00LD** interface relay **PI85**, which consists of: relay **RM85**, voltage version 12 V DC, plug-in socket **GZM80** grey (screw terminals), signalling / protecting module **M41G** (version **LD**, polarization N: +A1/-A2, LED green), retainer / retractor clip **GZT80-0040**, white description plate **GZT80-0035**
- PI85-230AC-00LV** interface relay **PI85**, which consists of: relay **RM85**, voltage version 230 V AC 50/60 Hz, plug-in socket **GZM80** grey (screw terminals), signalling / protecting module **M93G** (version **LV**, LED green), retainer / retractor clip **GZT80-0040**, white description plate **GZT80-0035**