

RMB851

miniature relays, bistable with one coil

RMB851

RMB851-...-01 ②



- Bistable with one coil ① • Cadmium - free contacts
- Height 15,7 mm • 5000 V / 10 mm reinforced insulation
- For PCB and plug-in sockets • Accessories: sockets • DC coils
- Available special version: with transparent cover ②
- Applications: battery-powered devices; other devices where the minimum power consumption is critical
- Compliance with standards: PN-EN 60335-1, PN-EN 61810-1, UL508
- Recognitions, certifications, directives: RoHS

Contact data

Number and type of contacts		1 NO
Contact material		AgNi
Rated / max. switching voltage	AC	250 V / 400 V
Max. switching voltage		250 V
Min. switching voltage		5 V
Rated load (capacity)	AC1	16 A / 250 V AC
	DC1	16 A / 24 V DC
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	DC	3 ... 24 V
Minimum voltages of	• pick-up / reset position	0,7 U _n / 0,55 U _n
Supply voltage pulse duration time		min. 15 ms / max. 1 min.
Rated power consumption	DC	0,9 W

Insulation according to PN-EN 60664-1

Insulation rated voltage		400 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)		3 ms / 2 ms
Electrical life (number of cycles)		
• resistive AC1		3 x 10 ⁴ 16 A, 250 V AC
• DC L/R=40 ms		10 ⁵ 0,15 A, 220 V DC
Mechanical life (cycles)		5 x 10 ⁶
Dimensions (L x W x H)		29 x 12,7 x 15,7 mm
Weight		14 g
Ambient temperature	• storage	-40...+85 °C
	• operating	-20...+85 °C -20...+70 °C ②
Cover protection category		IP 40 ② or IP 67 PN-EN 60529
Environmental protection		RTII ② or RTIII PN-EN 116000-3
Shock resistance	• for contact state	11 g / 18 g open / closed contact
Vibration resistance	• for contact state	10 g / 5 g open / closed contact 10...150 Hz
Solder bath temperature		max. 270 °C
Soldering time		max. 5 s

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

① Relays must be energizing only in pulse mode. Min. time of pulse duration 15 ms.

② For special version - relays in transparent cover: only available with IP 40 and RTII, operating temperature -20...+70 °C - see "Ordering codes"

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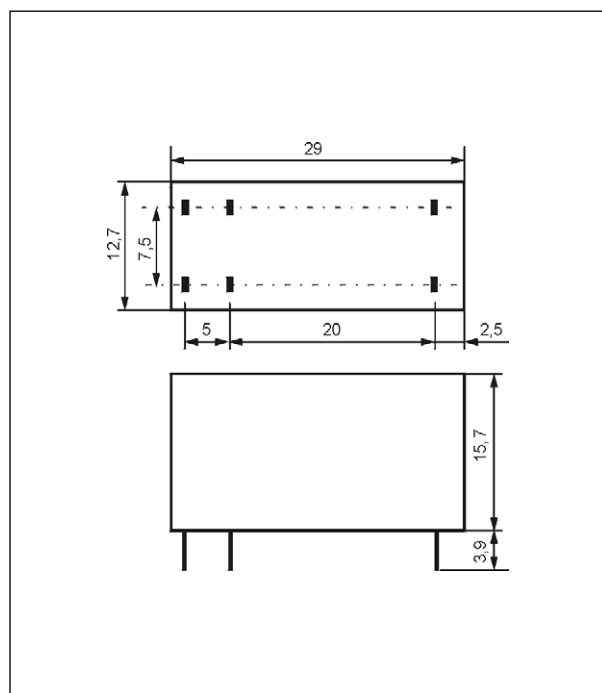
Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Minimum pick-up voltage V DC (at 20 °C)	Reset Ⓢ - minimum voltage V DC (at 20 °C)
1003	3	10	± 10%	2,1	1,7
1005	5	28	± 10%	3,5	2,8
1006	6	40	± 10%	4,2	3,3
1012	12	160	± 10%	8,4	6,6
1024	24	640	± 10%	16,8	13,2

The data in bold type pertain to the standard versions of the relays.
 Ⓢ Minimum voltage value required to reset the relay - open the contact.

Dimensions



Connection diagrams (pin side view)

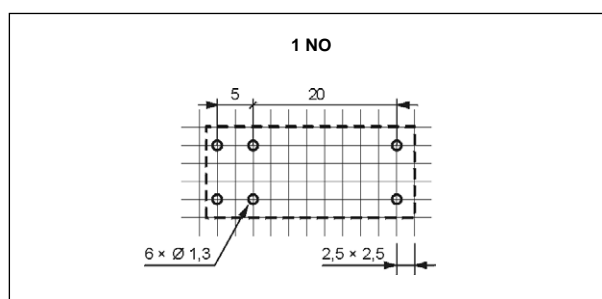
Terminal (pin)	A1(1); A2(2)	21(4); 24(5); 11(7); 14(8)
[mm]	∅ 0,6	0,5 x 0,9

Drilling hole:
 • for relays ∅ 1,3 + 0,1 mm
 • for sockets ∅ 1,5 + 0,1 mm

Contact position not defined at delivery.
 The polarization shown in the figures is required for on-position of the contacts.

RMB851 terminals are doubled for each contact.
 Both terminals are to be used while connecting to load.

Pinout (solder side view)



Connection of GZ... sockets

Note: Loads above 12 A (GZT80, GZM80) or 10 A (GZS80, GZMB80) require bridging pairs of terminals: 11 with 21, 12 with 22, 14 with 24. Loads up to 12 A or 10 A do not require bridging of common terminals (such bridges may be fixed, however).

11.05.2013

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Mounting

Relays **RMB851** ④ are designed for: • direct PCB mounting • screw terminals plug-in sockets **GZT80** ⑤ ⑥ and **GZM80** ⑤ ⑥ with clip **GZT80-0040** or **GZM80-0041**; plug-in sockets **GZS80** ⑤ ⑥ with clip **GZS-0040** or **GZM80-0041**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with one M3 screw • spring terminals plug-in sockets **GZMB80** ⑤ ⑦ with clip **GZMB80-0040** or **GZM80-0041**, 35 mm rail mount acc. to PN-EN 60715 • plug-in sockets for PCB mounting **EC 50** with clip **MP16-2**, MH16-2; plug-in sockets **PW80** with clip **MH16-2**; plug-in sockets **GD50** with clip **MP16-2**, GD-0016, MH16-2.

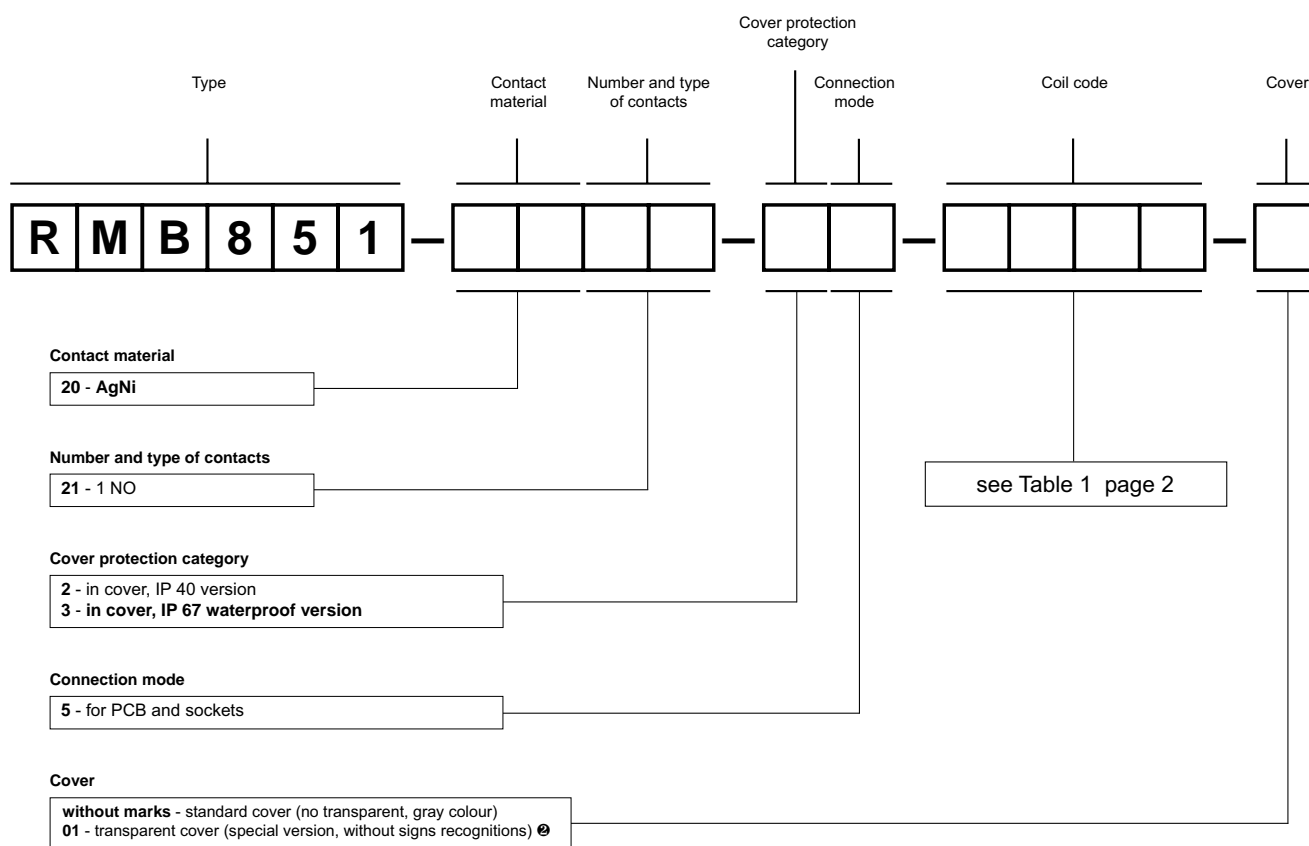
④ For special version - relays in transparent cover: the distance of min. 5 mm between the mounting relays.

⑤ Loads above 12 A (GZT80, GZM80) or 10 A (GZS80, GZMB80) require bridging pairs of terminals: 11 with 21, 12 with 22, 14 with 24 - see page 2.

⑥ Plug-in sockets **GZT80**, **GZM80**, **GZS80** may be linked with interconnection strip type **ZGGZ80** (see page 7).

⑦ For sockets **GZMB80** - see page 5 (wire connection).

Ordering codes



④ For special version - relays in transparent cover: only available with IP 40 and RTII, operating temperature -20...+70 °C

Examples of ordering code:

RMB851-2021-35-1012 relay **RMB851**, for PCB and sockets, one normally open contact, contact material AgNi, coil voltage 12 V DC, in standard cover (no transparent, gray colour) IP 67

RMB851-2021-25-1024-01 relay **RMB851**, for PCB and sockets, one normally open contact, contact material AgNi, coil voltage 24 V DC, in transparent cover (special version, without signs recognitions) IP 40

Plug-in sockets and accessories

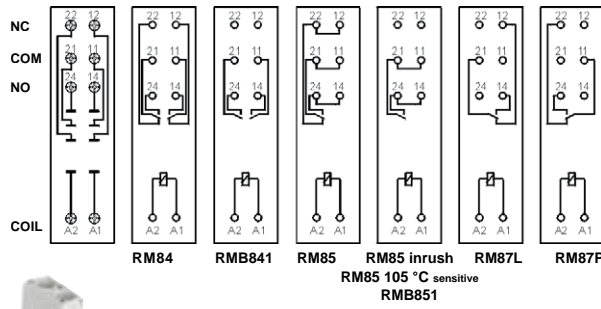
GZT80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive

Screw terminals
Max. tightening moment for the terminal: 0,7 Nm
35 mm rail mount
acc. to PN-EN 60715
or on panel mounting
75,3 x 15,5 x 61(67) mm
Two poles, 5 mm pinout
12 A, 300 V AC



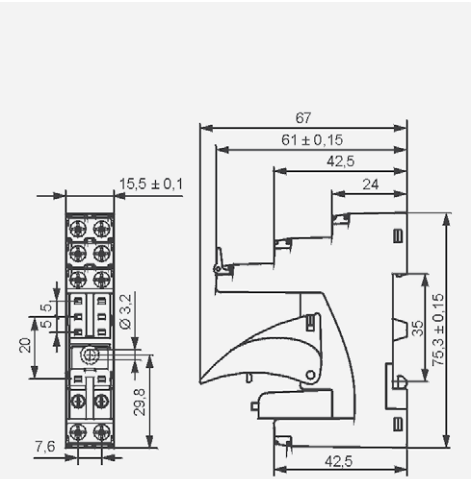
Connection diagrams ⑥



Accessories ①

ZGGZ80 GZM80-0041

Dimensions



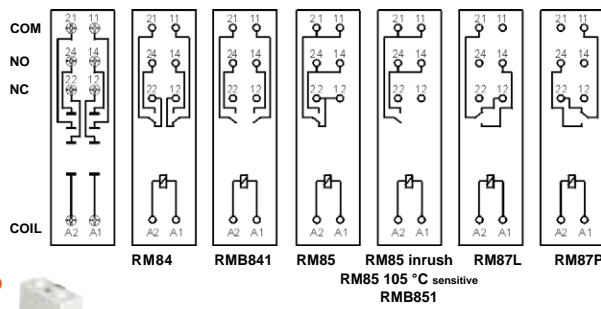
GZM80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive

Screw terminals
Max. tightening moment for the terminal: 0,7 Nm
35 mm rail mount
acc. to PN-EN 60715
or on panel mounting
78,1 x 15,9 x 61(66,5) mm
Two poles, 5 mm pinout
12 A, 300 V AC



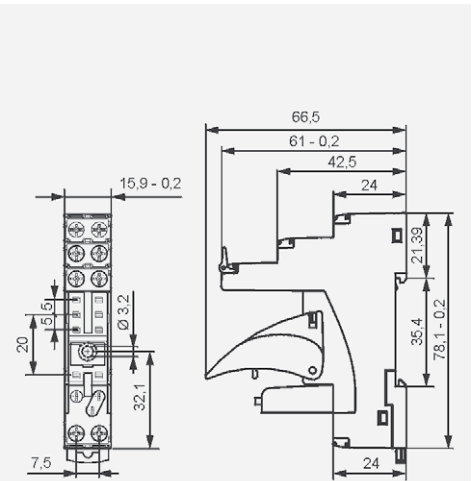
Connection diagrams ⑥



Accessories ①

ZGGZ80 GZM80-0041

Dimensions



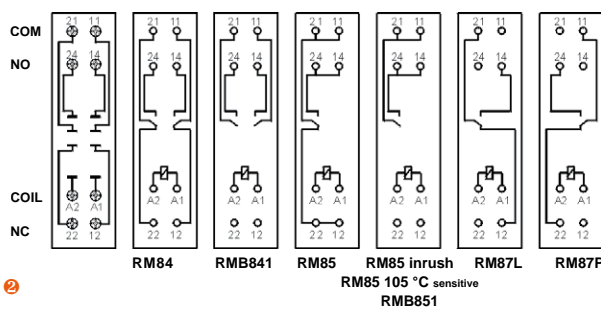
GZS80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive

Screw terminals
Max. tightening moment for the terminal: 0,5 Nm
35 mm rail mount
acc. to PN-EN 60715
or on panel mounting
76,8 x 15,8 x 42,5(57,1) mm
Two poles, 5 mm pinout
10 A, 300 V AC



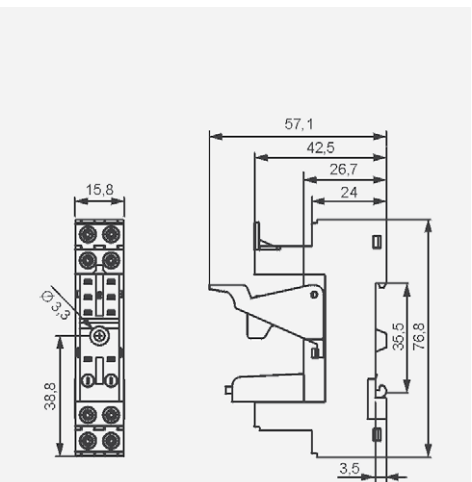
Connection diagrams ⑥



Accessories ①

ZGGZ80 GZM80-0041

Dimensions



① Mounting and sub-assemblies of accessories in the socket - see page 6. Signalling / protecting modules type M... - see www.repol.com.pl ② In the bracket the height of socket with retainer / retractor clip is shown. ③ For RM85, RM85 inrush, RM85 105 °C sensitive, RMB851: loads above 12 A (GZT80, GZM80) or 10 A (GZS80, GZMB80) require bridging pairs of terminals: 11 with 21, 12 with 22, 14 with 24 - see page 2; For RMB841, RMB851 - see page 2 (energizing of bistable relays)

Plug-in sockets and accessories

GZMB80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive

Spring terminals
Max. cross section of the cables:
1 x 0,2...1,5 mm²
(1 x 24...16 AWG)
Length of the cable deinsulation: 9...11 mm

35 mm rail mount
acc. to PN-EN 60715
97 x 16 x 45,2(69) mm
Two poles, 5 mm pinout
10 A, 300 V AC



GZMB80-0040



TR

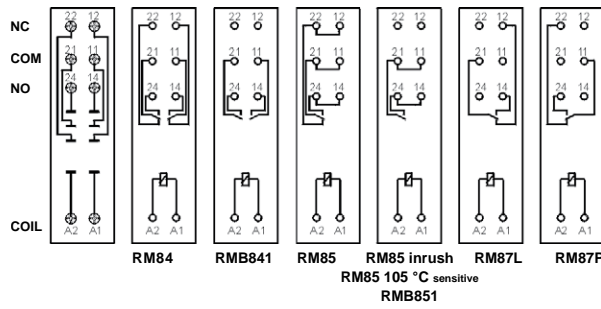


Module type M...

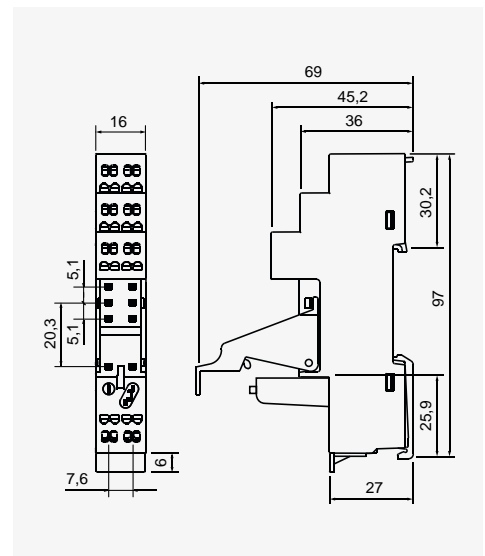


GZM80-0041

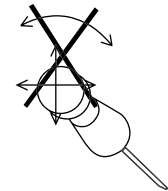
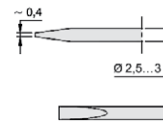
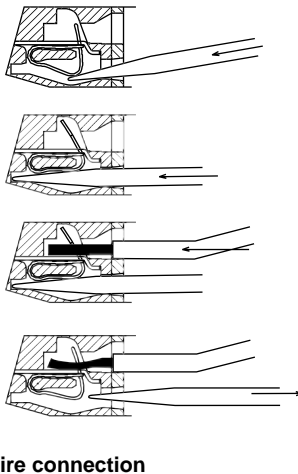
Connection diagrams ⑥



Dimensions



The drawings present the sequence of operations in course of inserting wires to the spring terminal, and the recommended screwdriver to be used for opening of case springs, comply with the DIN 5264 FORM „A”.



Accessories ①

Wire connection

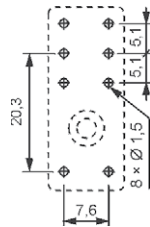
EC 50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

For PCB
31,3 x 12,7 x 9 mm
Two poles, 5 mm pinout
8 A, 300 V AC



Pinout



MP25-2

MH25-2

RM81-0001

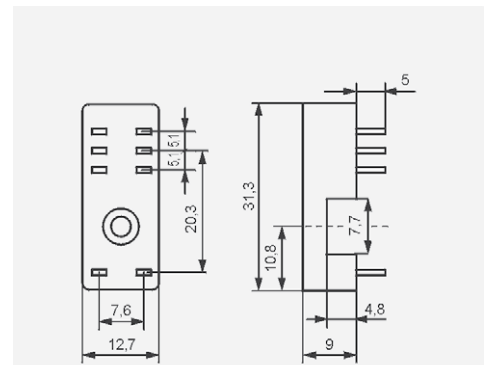


MP16-2

MH16-2

GD-0025

Dimensions



Accessories

Dimensions

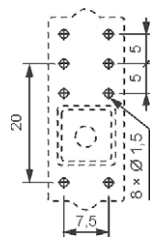
PW80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

For PCB
34,6 x 12,9 x 6,6 mm
Two poles, 5 mm pinout
8 A, 250 V AC

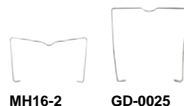


Pinout



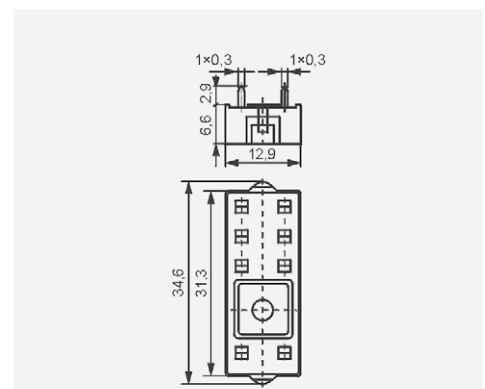
MH25-2

RM81-0001



MH16-2

GD-0025



① Mounting and sub-assemblies of accessories in the socket - see page 6. Signalling / protecting modules type M... - see www.repol.com.pl ② In the bracket the height of socket with retainer / retractor clip is shown. ③ For RM85, RM85 inrush, RM85 105 °C sensitive, RMB851: loads above 12 A (GZT80, GZM80) or 10 A (GZS80, GZMB80) require bridging pairs of terminals: 11 with 21, 12 with 22, 14 with 24 - see page 2; For RMB841, RMB851 - see page 2 (energizing of bistable relays)

Plug-in sockets and accessories

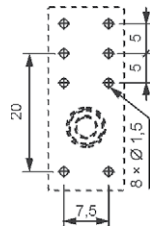
GD50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

For PCB
31,5 x 13 x 9 mm
Two poles, 5 mm pinout
8 A, 300 V AC



Pinout



RM81-0001



MP25-2



GD-0025



MH25-2



MP16-2



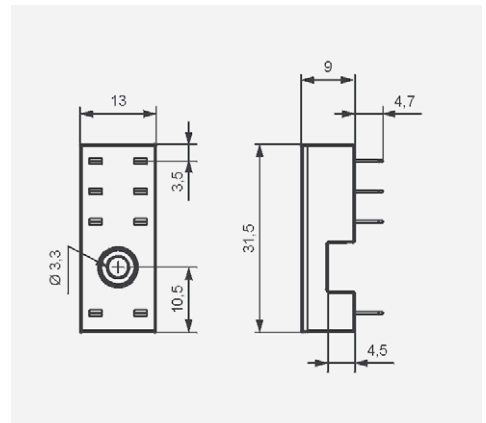
GD-0016



MH16-2

Accessories

Dimensions

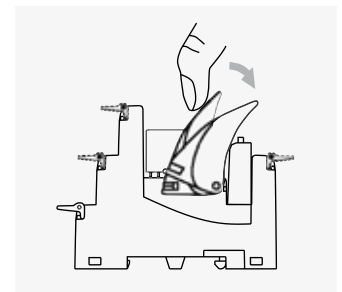


Mounting and sub-assemblies of the relay and accessories in the socket

Signalling / protecting module type M...

Electromagnetic relay

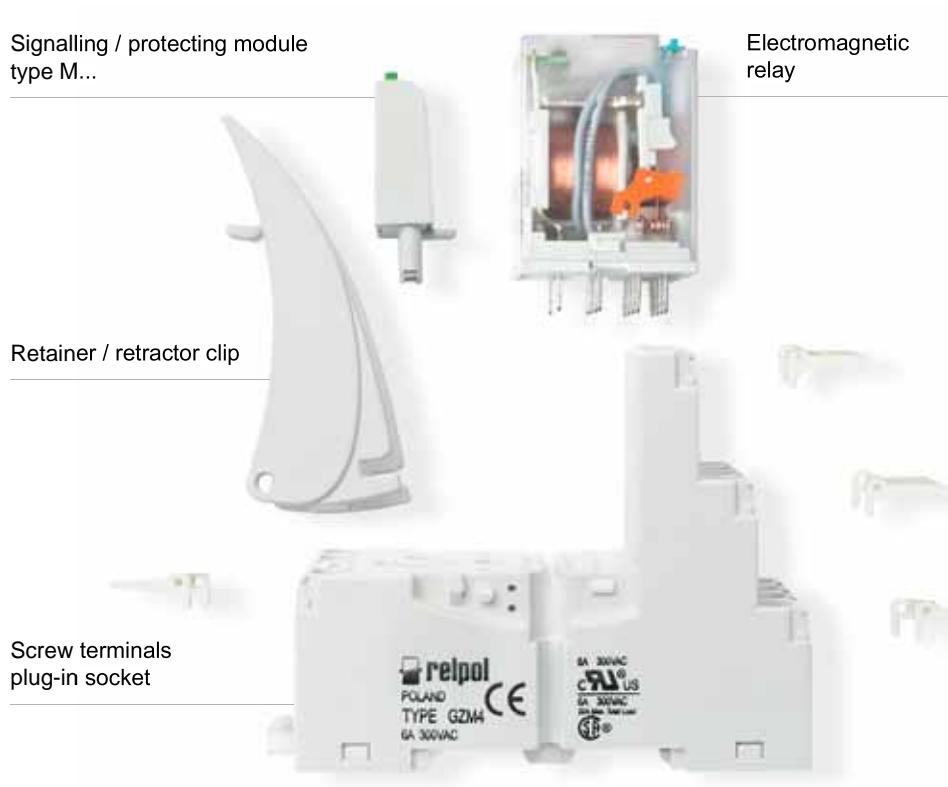
Retainer / retractor clip



Removing the relay from the socket with a retractor / retractor clip

Screw terminals plug-in socket

Description plate



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.

Interconnection strips ZGGZ80



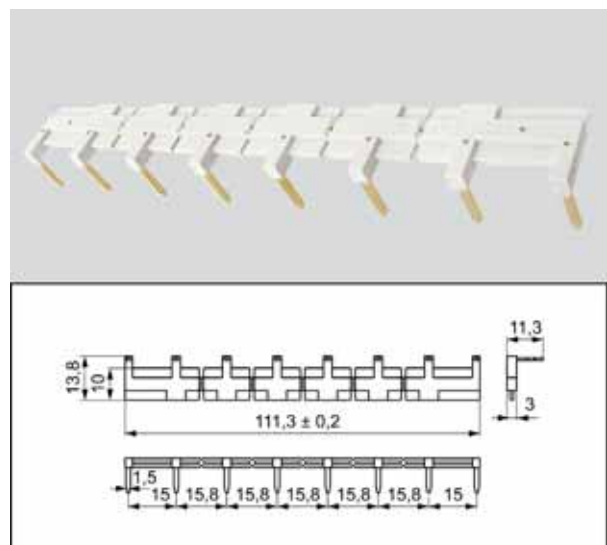
ZGGZ80 for:

Plug-in sockets	Relays for plug-in sockets	Interface relays ①
GZT80	RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RM87L ②, RM87P ② RM87N ②	PI84-...-M..G (GZT80 + RM84)
GZM80		PI84-...-00L. (GZM80 + RM84)
GZS80		PI85-...-M..G (GZT80 + RM85)
GZT92		PI85-...-00L. (GZM80 + RM85)
GZM92		
GZS92		
ES 32	RM96 1 CO	

① Interface relay **PI84 (PI85)** is offered as a **set**: plug-in socket **GZT80** or **GZM80** + miniature relay **RM84 (RM85)** + signalling / protecting module **type M...** + retainer / retractor clip **GZT80-0040** + description plate **GZT80-0035**. ② Also versions RM87. sensitive

Interconnection strip ZGGZ80

- designed for the co-operation with plug-in sockets of miniature relays and with interface relays PI84 and PI85, which are equipped with screw terminals; sockets and relays are mounted on 35 mm rail mount acc. to PN-EN 60715,
- bridges common input signals (coil terminals A1 or A2) or output signals - see photo at the top,
- maximum permissible current is 10 A / 250 V AC,
- possibility of connection of 8 sockets or relays,
- colours of strips: **ZGGZ80-1** grey, **ZGGZ80-2** black.



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