

INDUSTRIAL RELAYS

Industrial Electromagnetic Relays

Industrial electromagnetic relays are used mainly in industrial and power automation applications, in signaling controls, safety and protection systems and control and electric drives systems.



Features:

- DPDT, 3PDT and 4PDT contact configuration
- DC Coil voltages from 5VDC to 220V DC
- AC coil voltages from 6VAC to 240V AC 50/60 Hz
- Din Rail Plug in Socket are standard
- Rated load current: 5A/250V AC to 16A/250V AC rating
5A/24V DC to 16A/24VDC DC1 rating
- Test button with (K) or without block function (W)
- Built in LED light indicator (L)
- Surge suppression element with diode (D) or varistor (V)
- Approved for railroad applications (DE)
- Silver Nickel (AgNi) cadmium free contact material
- UL and CSA recognized relays
- ROHS2 and REACH compliance

Miniature Electromagnetic Relays

Miniature electromagnetic relays are used in many interface applications, standard automation projects, lighting control systems, emergency lighting applications, building application projects, food processing equipment control and many other electrical system applications.



Features:

- Standard SPDT, DPDT contact configuration
- DC Coil voltages from 3VDC to 110V DC
- AC coil voltages from 12VAC to 240V AC 50/60 Hz
- PCB mounting with socket or direct PCB solder
- Din Rail Plug in Socket are standard
- Rated load current: 8A/250V AC (DPDT) or 16A/250V AC (SPDT) rating;
8A/24V DC (DPDT) or 16A/24VDC (SPDT) DC1 rating
- Silver Nickel (AgNi) cadmium free contact material
- UL and CSA recognized relays
- ROHS2 and REACH compliance

Slimline Interface Relays

Slimline interface relays are used for PLC system and industrial automation applications, panel builders, machinery builders, time relays, office equipment and other applications that require a high switching capability in a small space.



Features:

- Standard SPDT contact configuration
- Standard 5 mm width
- DC Coil voltages from 5VDC to 60V DC
- Vertical or Horizontal configuration
- Sealed for Soldering and cleaning
- Can be used with Din rail socket or PCB mountable
- Rated load current
- 6A / 250V AC or 0.05A / 30V AC gold plated) rating
- 6A / 24V DC or 0.05A / 36V DC gold plated) rating
- 4A max for Solid state relays
- Silver Tin Oxide (AgSnO₂) cadmium free contact material
- Gold plated contact (AgSnO₂/Au 3μm) available
- UL recognized
- ROHS2 and REACH compliance

Subminiature Electromagnetic and Solid State Modules

Subminiature electromagnetic relays are used for PLC systems and industrial automation applications, panel builders, equipment builders and other applications that require a high switching capability in a small space. The Altech slim line interface relays can be used as a universal interface between the controller and the actuator to switch loads between 1 mA and 6A. They are available with electromechanical contacts or solid state configuration. Installation time is greatly reduced when a pre-assembled relays and sockets combination is used. Replacement relays and sockets are available from stock. Additional accessories include colored coded jumpers, spacers and markers (unmarked or marked based on the customer specification) for identification purposes.



Features:

- Standard SPDT contact configuration
- Space-saving 6.2 mm width
- Only 85 mm in height from DIN rail
- DC Coil voltages from 5VDC to 110V DC
- AC coil voltages from 6VAC to 240V AC 50/60 Hz
- Pre-assembled relay and DIN mount socket
- Screw clamp or Spring clamp terminals
- Universal AC/DC socket with built-in surge suppression and green LED
- Rated load current
- 6A / 250V AC or 0.05A / 30V AC gold plated) rating
- 6A / 24V DC or 0.05A / 36V DC gold plated) rating
- 4A max for Solid state relays
- Silver Tin Oxide (AgSnO₂) cadmium free contact material
- Gold plated contact (AgSnO₂/Au 3μm) available
- UL recognized
- ROHS2 and REACH compliance

Relays for Photovoltaic Systems

The Altech photovoltaic relays are suitable to be integrated in the solar converter to switch the DC voltage and current generated by the solar panels supplying the generated electricity to the electrical network. This requires an interface between the solar converter and the power grid. The circuit isolation gap between the converter and the power grid must have a contact gap of $\geq 1.5\text{mm}$ (according to safety standard DIN VDE 0126-1-1). Altech offers two different relays to meet this requirement.



Features:

- Standard DPST (2 NO) contact configuration
- DC Coil voltages from 5VDC to 110V DC
- Rated load current
- 35A / 250V AC or 48A / 250V AC
- 35A / 24V DC or 48A / 24V DC
- Contact gap $>1.75\text{ mm}$; Holding power 1W
- Silver Tin Oxide (AgSnO₂) cadmium free contact material
- Compact size, PCB mounting
- UL recognized
- ROHS2 and REACH compliance

MOUNTING OPTIONS					COIL			TYPE OF RELAY	NUMBER AND TYPE OF CONTACTS							RATED CURRENT [A]							
Direct PCB mounting	With plug-in socket PCB mounting	Panel mounting	35 mm rail mount acc. To PN-EN 60715	Others	AC	DC	AC/DC		SPDT	SPST(1NO)	SPST(1NC)	DPDT	DPST(2NO)	DPST(2NC)	3PDT	3PST(3NO)	4PDT	5	10	15	20	25	30

Industrial Electromagnetic Relays

								R2										12					
								R3										10					
								R4										6					
								RY2										12					
								R2M										5					
								RUC										16					
								R15 - DPDT										10					
								R15 - 3PDT										10					
								R15 - 4PDT										10					

Miniature Electromagnetic Relays

								RM40										5/8*					
								RM50										12					
								RM84										9					
								RM85										16					
								RM87										12					

Slimline Interface Relays

								RM699B										6					
								RSR30-...-D1-24-010-1										1					
								RSR30-...-A1-24-020-1										2					
								RSR30-...-D1-04-025-1										2.5					
								RSR30-...-D1-02-040-1										4					

Subminiature Electromagnetic and Solid State Modules

								PI6-1P										6					
								PI6-1T										1					
								PI6-1OC										1					
								PIR6W-1PS-...										max 6					
								PIR6WB-1PS-... **										max 6					

Relay Socket Combinations

								PI84 with socket GZT80										8					
								PI85 with socket GZT80										16					
								PI84 with socket GZM80										8					
								PI85 with socket GZM80										16					
								PIR2 with socket GZM2										12					
								PIR3 with socket GZM3										10					
								PIR4 with socket GZM4										6					
								PIR2M with socket GZ2										5					

* SPDT 5 A; SPST (1NO) 8A. **spring clamp socket. *** for more information see data sheet.

PI84

Relay Socket Combination

PI84



GZT80 socket

Relay: RM84 (see page 76 for detailed information)

Socket GZT80/GZM80 (see page 81 for detailed information)

Technical Information

Current8 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PI84



GTM80 socket

GZT80 Socket - PI84 DPDT AC 50/60Hz & DC coil

Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PI84-12DC-M41G	12	DC	360	8.4	30.6	M41G*
PI84-24DC-M41G	24	DC	1440	16.8	61.2	M41G*
PI84-110DC-M43G	110	DC	25200	77.0	280.0	M43G*
PI84-12DC-M91G	12	DC	360	8.4	30.6	M91G**
PI84-24DC-M91G	24	DC	1440	16.8	61.2	M91G**
PI84-110DC-M93G	110	DC	25200	77.0	280.0	M93G**
PI84-120AC-M93G	120	AC 50/60Hz	10200	96.0	144.0	M93G**
PI84-230AC-M93G	230	AC 50/60Hz	38500	184.0	276.0	M93G**

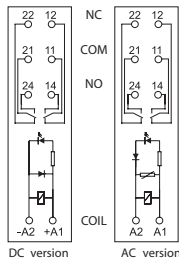
GZM80 Socket - PI84 DPDT AC 50/60Hz & DC coil

Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PI84-012DC-00LD	12	DC	360	8.4	30.6	M41G*
PI84-024DC-00LD	24	DC	1440	16.8	61.2	M41G*
PI84-110DC-00LD	110	DC	25200	77.0	280.0	M43G*
PI84-012DC-00LV	12	DC	360	8.4	30.6	M91G**
PI84-024DC-00LV	24	DC	1440	16.8	61.2	M91G**
PI84-110DC-00LV	110	DC	25200	77.0	280.0	M93G**
PI84-120AC-00LV	120	AC 50/60Hz	10200	96.0	144.0	M93G**
PI84-230AC-00LV	230	AC 50/60Hz	38500	184.0	276.0	M93G**

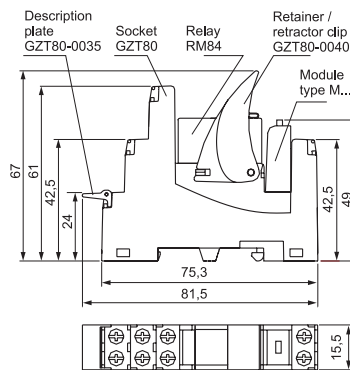
* Module LD (polarization N) It limits overvoltage on DC coils. Coil energizing indication. ** Module LV It limits overvoltage on AC and DC coils. Coil energizing indication.

PI84-GZT80

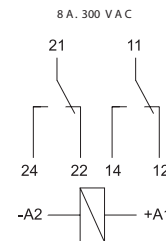
CONNECTION DIAGRAMS



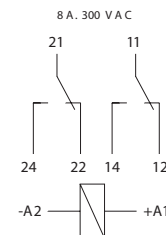
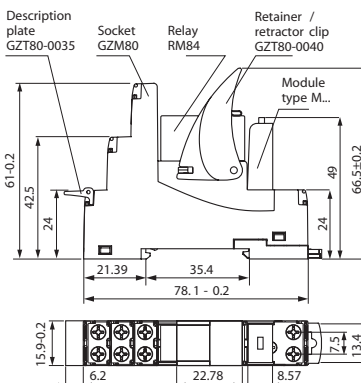
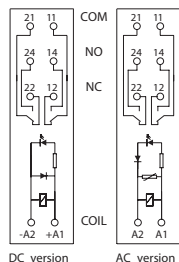
DIMENSIONS



CONNECTION



PI84-GZM80



► **BOLD** - Regular stocked items.

All accessories are included.

PI85

Relay Socket Combination



PI85



GTZ80 socket

Relay: RM85 (see page 76 for detailed information)

Socket GZT80/GZM80 (see page 81 for detailed information)

Technical Information

Current16 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PI85



GZM80 socket

GZT80 Socket - PI85 DPDT AC 50/60Hz & DC coil

Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PI85-12DC-M41G	12	DC	360	8.4	30.6	M41G*
PI85-24DC-M41G	24	DC	1440	16.8	61.2	M41G*
PI85-110DC-M43G	110	DC	25200	77.0	280.0	M43G*
PI85-12DC-M91G	12	DC	360	8.4	30.6	M91G**
PI85-24DC-M91G	24	DC	1440	16.8	61.2	M91G**
PI85-110DC-M93G	110	DC	25200	77.0	280.0	M93G**
PI85-120AC-M93G	120	AC 50/60Hz	10200	96.0	144.0	M93G**
PI85-230AC-M93G	230	AC 50/60Hz	38500	184.0	276.0	M93G**

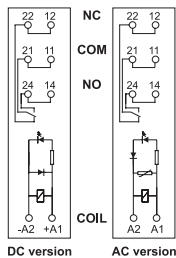
GZM80 Socket - PI85 DPDT AC 50/60Hz & DC coil

Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PI85-012DC-00LD	12	DC	360	8.4	30.6	M41G*
PI85-024DC-00LD	24	DC	1440	16.8	61.2	M41G*
PI85-110DC-00LD	110	DC	25200	77.0	280.0	M43G*
PI85-012DC-00LV	12	DC	360	8.4	30.6	M91G**
PI85-024DC-00LV	24	DC	1440	16.8	61.2	M91G**
PI85-110DC-00LV	110	DC	25200	77.0	280.0	M93G**
PI85-120AC-00LV	120	AC 50/60Hz	10200	96.0	144.0	M93G**
PI85-230AC-00LV	230	AC 50/60Hz	38500	184.0	276.0	M93G**

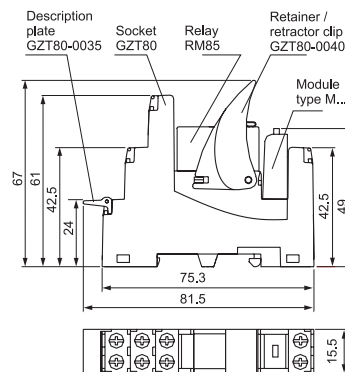
* Module LD (polarization N) It limits overvoltage on DC coils. Coil energizing indication. ** Module LV It limits overvoltage on AC and DC coils. Coil energizing indication.

PI85-GZT80

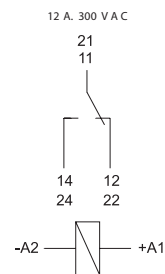
CONNECTION DIAGRAMS



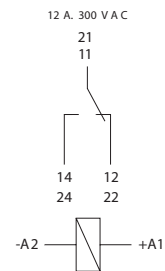
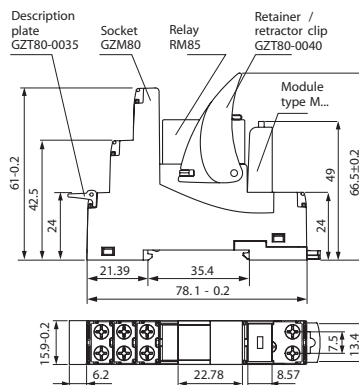
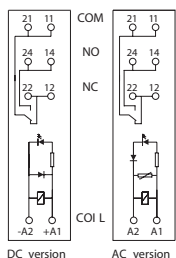
DIMENSIONS



CONNECTION



PI85-GZM80



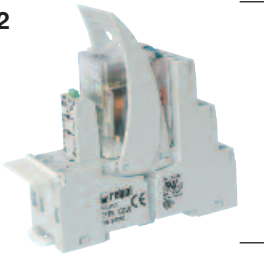
► BOLD - Regular stocked items.

All accessories are included.

PIR2

Relay Socket Combination

PIR2



Relay: R2 (see page 50 for detailed information)

Socket: GZM2 (see page 55 for detailed information)

Technical Information

Current12 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PIR2 DPDT AC 50/60Hz & DC coil

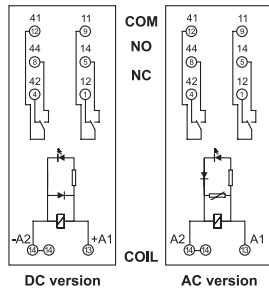
Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PIR2-012DC-00LD	12	DC	160	9.6	13.2	M41G*
► PIR2-024DC-00LD	24	DC	640	19.2	26.4	M41G*
PIR2-110DC-00LD	110	DC	13600	88.0	121.0	M43G*
PIR2-012DC-00LV	12	DC	160	9.6	13.2	M91G**
► PIR2-024DC-00LV	24	DC	640	19.2	26.4	M91G**
PIR2-110DC-00LV	110	DC	13600	88.0	121.0	M93G**
► PIR2-120AC-00LV	120	AC 50/60Hz	3770	96.0	132.0	M93G**
PIR2-230AC-00LV	230	AC 50/60Hz	16100	184.0	253.0	M93G**

* Module LD (polarization N) It limits overvoltage on DC coils. Coil energizing indication. M41G on 6/24VDC ; M42G on 24/60VDC ; M43G on 110/230VDC.

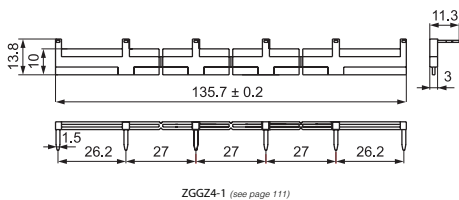
** Module LV It limits overvoltage on AC and DC coils. Coil energizing indication. M91G on 6/24VAC ; M92G on 24/60VAC ; M93G on 110/230VAC.

PIR2

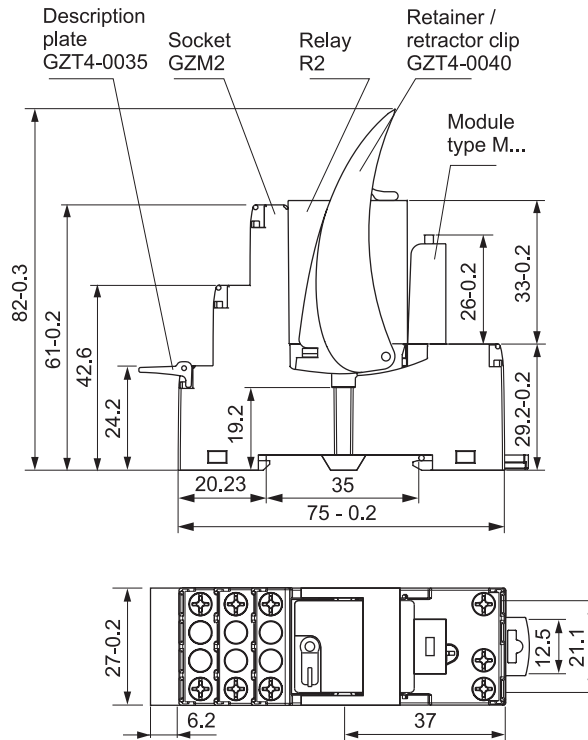
CONNECTION DIAGRAMS



INTERCONNECTION STRIP



DIMENSIONS



► **BOLD** - Regular stocked items.

All accessories are included.

PIR3

Relay Socket Combination



PIR3



Relay: R3 (see page 50 for detailed information)

Socket: GZM3 (see page 56 for detailed information)

Technical Information

Current10 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PIR3 3PDT AC 50/60Hz & DC coil

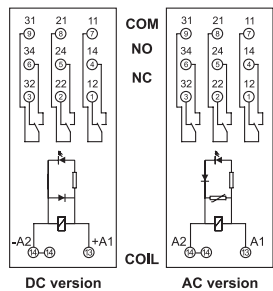
Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PIR3-012DC-00LD	12	DC	160	9.6	13.2	M41G*
PIR3-024DC-00LD	24	DC	640	19.2	26.4	M41G*
PIR3-110DC-00LD	110	DC	13600	88.0	121.0	M43G*
PIR3-012DC-00LV	12	DC	160	9.6	13.2	M91G**
PIR3-024DC-00LV	24	DC	640	19.2	26.4	M91G**
PIR3-110DC-00LV	110	DC	13600	88.0	121.0	M93G**
PIR3-120AC-00LV	120	AC 50/60Hz	3770	96.0	132.0	M93G**
PIR3-230AC-00LV	230	AC 50/60Hz	16100	184.0	253.0	M93G**

* Module LD (polarization N) It limits overvoltage on DC coils. Coil energizing indication. M41G on 6/24VDC ; M42G on 24/60VDC ; M43G on 110/230VDC.

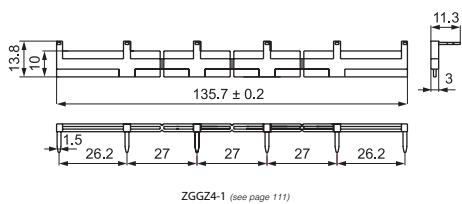
** Module LV It limits overvoltage on AC and DC coils. Coil energizing indication. M91G on 6/24VAC ; M92G on 24/60VAC ; M93G on 110/230VAC.

PIR3

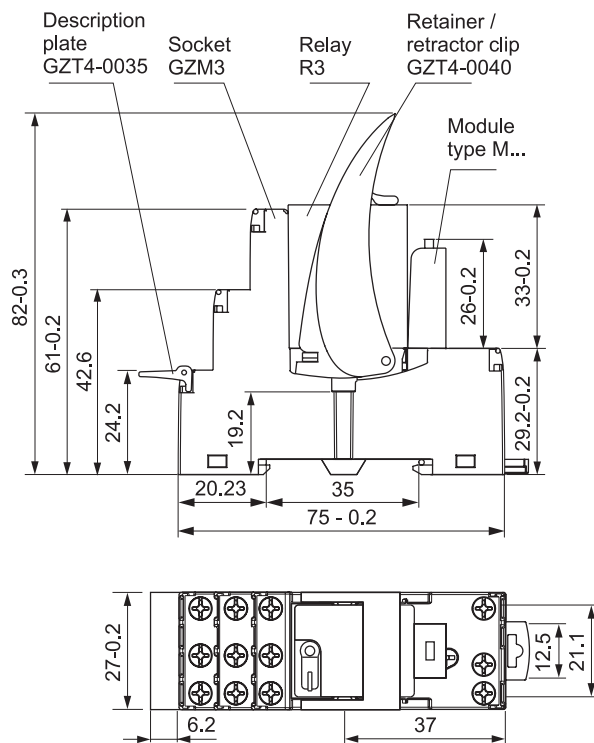
CONNECTION DIAGRAMS



INTERCONNECTION STRIP



DIMENSIONS

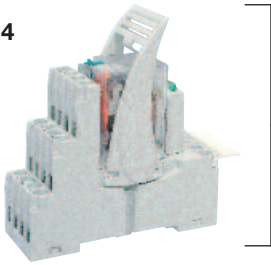


All accessories are included.

PIR4

Relay Socket Combination

PIR4



Relay: R4 (see page 50 for detailed information)

Socket: GZM4 (see page 56 for detailed information)

Technical Information

Current6 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PIR4 4PDT AC 50/60Hz & DC coil

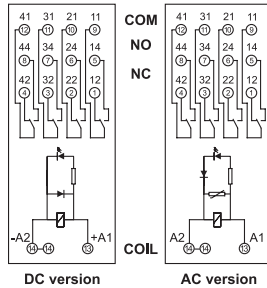
Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range		Type of Module
				min. (at 20°C)	max. (at 55°C)	
PIR4-012DC-00LD	12	DC	160	9.6	13.2	M41G*
► PIR4-024DC-00LD	24	DC	640	19.2	26.4	M41G*
PIR4-110DC-00LD	110	DC	13600	88.0	121.0	M43G*
PIR4-012DC-00LV	12	DC	160	9.6	13.2	M91G**
► PIR4-024DC-00LV	24	DC	640	19.2	26.4	M91G**
PIR4-110DC-00LV	110	DC	13600	88.0	121.0	M93G**
► PIR4-120AC-00LV	120	AC 50/60Hz	3770	96.0	132.0	/M93G**
PIR4-230AC-00LV	230	AC 50/60Hz	16100	184.0	253.0	M93G**

* Module LD (polarization N) It limits overvoltage on DC coils. Coil energizing indication. M41G on 6/24VDC ; M42G on 24/60VDC ; M43G on 110/230VDC.

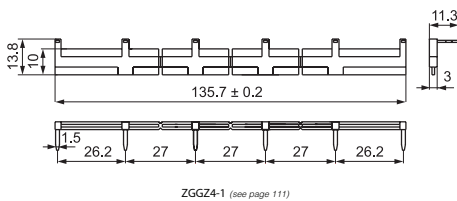
** Module LV It limits overvoltage on AC and DC coils. Coil energizing indication. M91G on 6/24VAC ; M92G on 24/60VAC ; M93G on 110/230VAC.

PIR4

CONNECTION DIAGRAMS

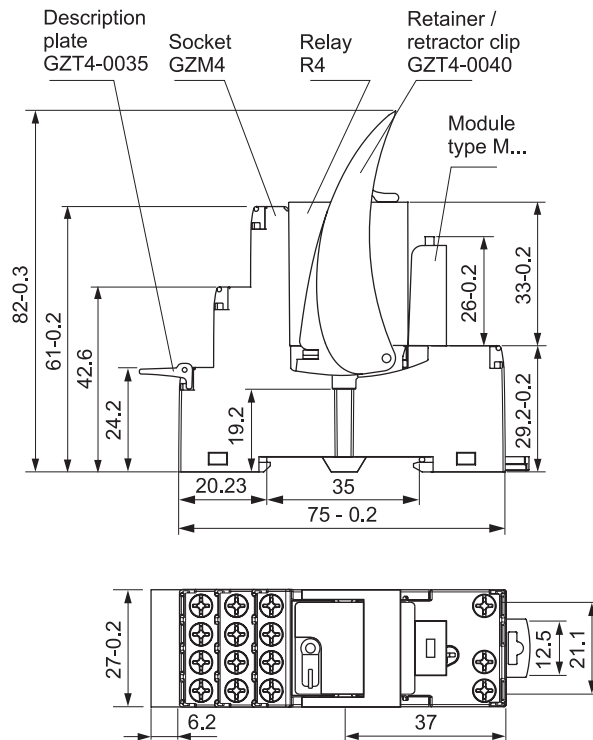


INTERCONNECTION STRIP



ZGGZ4-1 (see page 111)

DIMENSIONS



► BOLD - Regular stocked items.

All accessories are included.

PIR2M

Relay Socket Combination



PIR2M



Relay: R2M (see page 58 for detailed information)

Socket: GZ2 (see page 65 for detailed information)

Technical Information

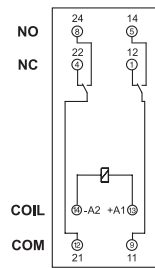
Current5 A
 Voltage.....250V AC / 24V DC
 Wire Range.....2.5 mm² / 24-14 AWG
 Torque.....0.7 Nm

PIR2M DPDT AC 50/60Hz & DC coil

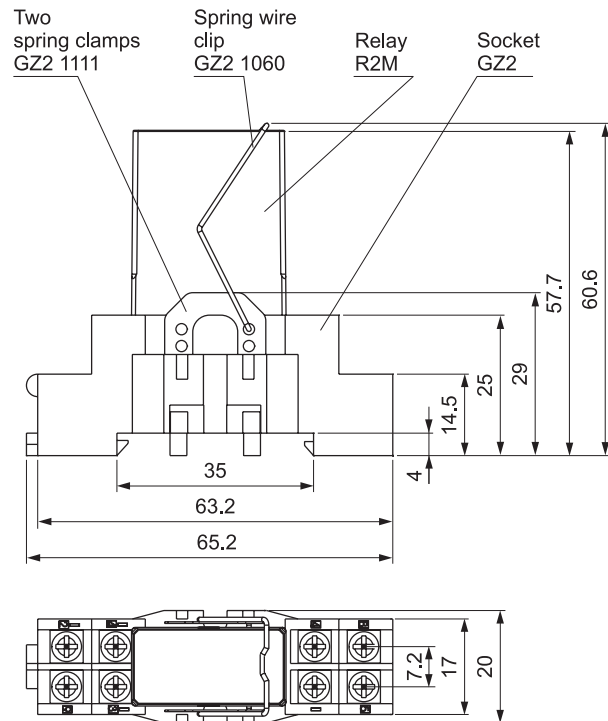
Part Number	Coil Voltage (V)	Coil Type	Coil Resistance at 20°C in Ω	Coil Operating Range	
				min. (at 20°C)	max. (at 55°C)
PIR2M-012DC-20	12	DC	188	9.6	13.2
PIR2M-024DC-20	24	DC	750	19.2	26.4
PIR2M-110DC-20	110	DC	13480	88.0	121.0
PIR2M-115AC-20	120	AC 50/60Hz	6390	96.0	132.0
PIR2M-230AC-20	230	AC 50/60Hz	21470	184.0	253.0

PIR2M

CONNECTION DIAGRAMS



DIMENSIONS



All accessories are included.