

# RPYS - ZPYS



## Slim Relays and Socket Series



### Benefits

- **Space saving.** RPYS is only 12.6 mm wide (1 CO models) and 13 mm wide (2 CO models).
- **Time savings.** ZPYS socket version is available with push-in terminals saving wiring time.
- **Wide product range.** Coil voltage range from 12 VDC up to 230 VAC. RPYS is available in SPDT (1-Changeover contact) and DPDT (2-changeover contacts) versions.
- **Visual indication of coil types.** The test button has a different colour for the AC-coil and DC-coil types. User can easily identify the coil type of the relay being used.
- **Better adaptation to wiring systems.** RPYS integrates a bidirectional LED with polarity protection (applicable to DC coil versions).

### Description

RPYS is an electromechanical relay that can switch resistive loads up to 10 A (for 1 changeover contact version) and 5 A (for the 2 changeover contact version). RPYS comes in three models:

- Basic version: No LEDs and no test button
- LED
- LED and test button version

ZPYS is the corresponding socket for RPYS relays. It is available in both screw and spring (push-in) terminals.

Additional accessories such as ID tag, plastic clamp, protection diode and bus jumper are also available


### Applications

The RPYS relays and ZPYS sockets can be used for a wide range of industrial applications. The markets of interest are Building automation, Food and Beverage, HVAC machinery, Packaging machinery.

### Main functions

- Switching of resistive loads, AC / DC electromagnetic loads
- Test button version to check correct relay operation (RPYS..LT versions)
- LED indication for relay on (RPYS..L and RPYS..LT versions)

## References

 Order code

 RPYS

Enter the code entering the corresponding option instead of

Code	Option	Description	Notes
R	-		
P	-	Relay family	
Y	-		
S	-	Slim	Series
<input type="checkbox"/>	001	1 changeover contact (SPDT)	Contact form
	002	2 changeover contacts (DPDT)	
<input type="checkbox"/>	12	12 V	Rated coil voltage
	24	24 V	
	115	115 V	
	230	230 V	
<input type="checkbox"/>	D	DC	Coil voltage type
	A	AC	
<input type="checkbox"/>	-	Basic	No options
	L	LED	
	LT	LED + Test Button	

 ZPYS

Enter the code entering the corresponding option instead of

Code	Option	Description	Notes
Z	-		
P	-	Socket family	
Y	-		
S	-	Slim	Series
<input type="checkbox"/>	1	1 changeover output	For RPYS001 models
	2	2 changeover outputs	For RPYS002 models
<input type="checkbox"/>	S	Screw terminals	Terminal type
	G	Push-in terminals	

## Selection guide


Relay Coil Voltage	Basic Version		LED		LED and Test Button	
	1 Changeover Contact	2 Changeover Contacts	1 Changeover Contact	2 Changeover Contacts	1 Changeover Contact	2 Changeover Contacts
12 VDC	RPYS001012D	RPYS002012D			RPYS001012DLT	RPYS002012DLT
24 VDC	RPYS001024D	RPYS002024D	RPYS001024DL	RPYS002024DL	RPYS001024DLT	RPYS002024DLT
24 VAC	RPYS001024A	RPYS002024A			RPYS001024ALT	RPYS002024ALT
115 VAC	RPYS001115A	RPYS002115A			RPYS001115ALT	RPYS002115ALT
230 VAC	RPYS001230A	RPYS002230A			RPYS001230ALT	RPYS002230ALT

Socket Code	Screw Terminals		Push-in Terminals	
	1 Output	2 Outputs	1 Output	2 Outputs
	ZPYS1S	ZPYS2S	ZPYS1G	ZPYS2G

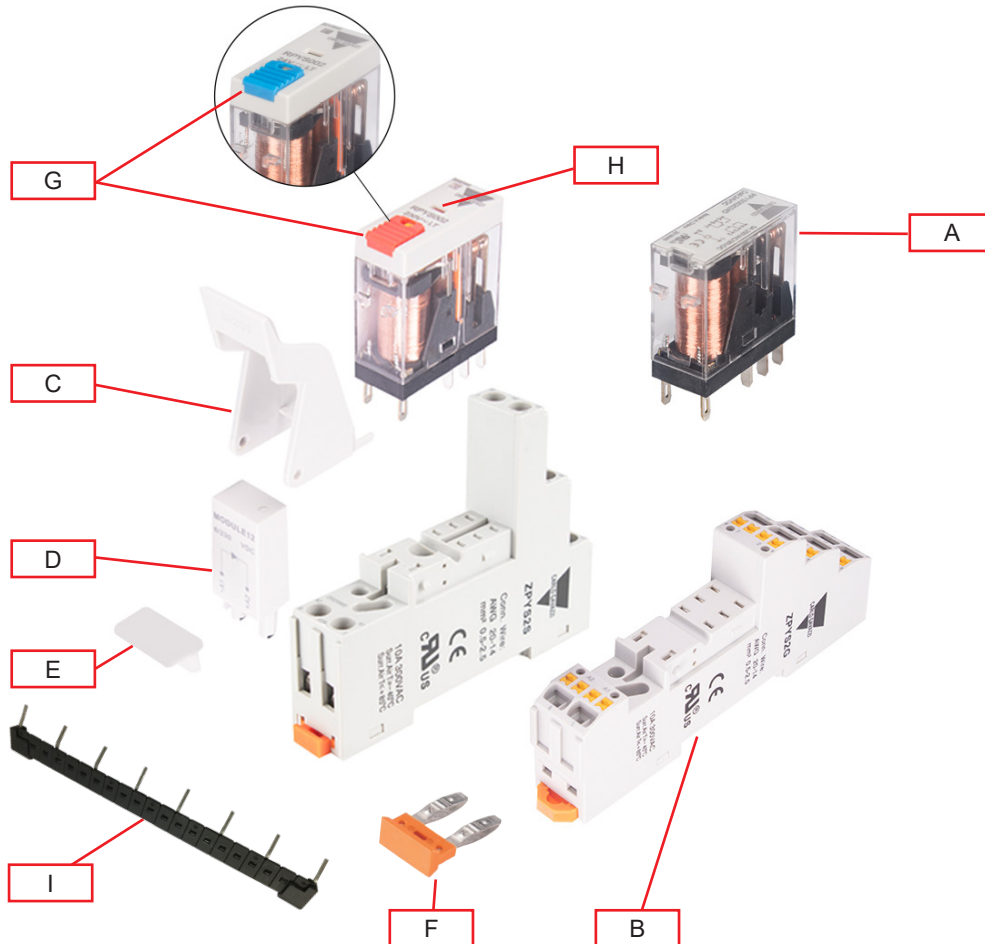
## Carlo Gavazzi compatible components

Purpose	Component order code
Plastic clamp for ZPYS screw and push in socket	ZPYSPC
ID tag for ZPYS screw and push in socket	ZPYSID
Bus jumper for push in socket	ZGBJ
Bus jumper for screw socket	ZDBB
Module with protection diode	MODULE42

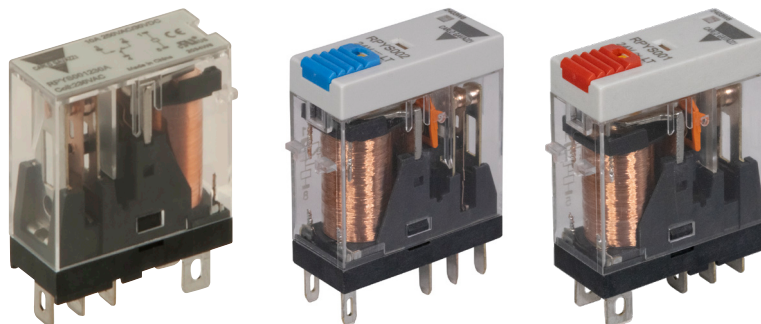
## Further reading

Information	Where to find it	QR
RPYS-ZPYS datasheet	<a href="https://www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/RPYS_ZPYS_DS_EN.pdf">https://www.gavazziautomation.com/fileadmin/images/PIM/DATASHEET/ENG/RPYS_ZPYS_DS_EN.pdf</a>	

# Structure



Element	Component	Function
A	Relay	RPYS slim relay
B	Socket	ZPYS slim socket
C	Hold down spring	Plastic retaining clip
D	Protection module	Optional function module with diode and LED
E	ID tag	ID tag for ZPYS socket
F	Bus jumper	Bus jumper for push in socket
G	Test button	DC coil versions : Blue test button AC coil versions : Red test button
H	LED	LED indication when relay is ON (for RPYS..LT versions)
I	Bus jumper	Bus jumper for screw socket



## Features

### Coil data

	RPYS..12D	RPYS..24D	RPYS..24A	RPYS..115A	RPYS..230A
<b>Coil voltage</b>	12 VDC	24 VDC	24 VAC	115 VAC	230 VAC
<b>Coil resistance (<math>\Omega</math>)</b> ( $\pm 10\%$ for coil voltage < 110 V) ( $\pm 15\%$ for coil voltage > 110 V)	270	1100	240	6300	23000
<b>Pick-up voltage (23 °C )</b>	$\leq 75\%$ rated voltage		$\leq 80\%$ rated voltage		
<b>Drop-out voltage (23 °C)</b>	$\geq 10\%$ rated voltage		$\geq 30\%$ rated voltage		
<b>Maximum voltage (23 °C )</b>	110 % rated voltage				
<b>Coil operating power</b>	0.53 W		1 VA		

### Contacts data

	RPYS001	RPYS002
<b>Rated current AC-15 / DC 13</b>	10 A @ 250 VAC, 30 VDC	5 A @ 250 VAC, 30 VDC
<b>Minimum load current</b>	10 mA / 12 VDC	
<b>Switching capacity (resistive)</b>	2500 VA, 300 W; 4000 VA, 480 W	1250 VA 150 W; 2000 VA, 240 W
<b>Initial contact resistance</b>	$\leq 50\text{ m}\Omega$	
<b>Material</b>	Ag alloy	
<b>Electrical durability</b>	$\geq 100,000$ cycles (1800 Ops / h)	
<b>Mechanical durability</b>	$\geq 10,000,000$ cycles (18000 Ops / h)	
<b>Insulation resistance</b>	$\geq 1000\text{ M}\Omega$ (500 VDC)	
<b>Operate time</b>	$\leq 20\text{ ms}$ (at nominal voltage)	
<b>Release time</b>	$\leq 10\text{ ms}$ (at nominal voltage)	
<b>Initial breakdown voltage</b> <b>Between open contacts</b> <b>Between poles</b> <b>Between contacts and coil</b>	1000 VAC / min 3000 VAC / min 5000 VAC / min	

**Environmental specifications**

Ambient temperature	-40 ~ 55 °C (-40 ~ 131 °F)
Storage temperature	-55 ~ 85 °C (-67 ~ 185 °F)
Humidity	5 % ~ 85 % RH
Shock resistance	10 g
Vibration resistance	10 ~ 55 Hz
Weight	20 g

**Compatibility and conformity**

CE (RoHS, LVD)	IEC 61810
UL certification	UL508a (cURus)

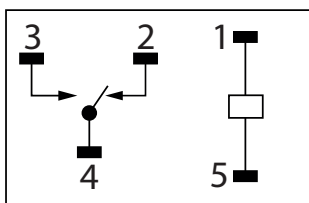
**Installation**

Mounting	Plug-in into socket
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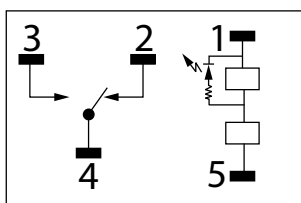
## Connection diagram

**Contacts layout**

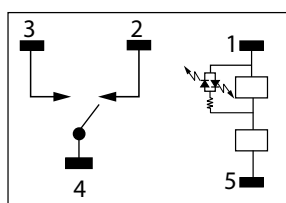
RPYS001...D/A



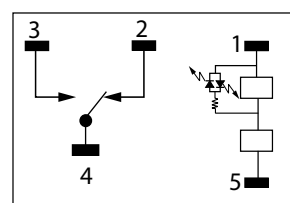
RPYS001...ALT



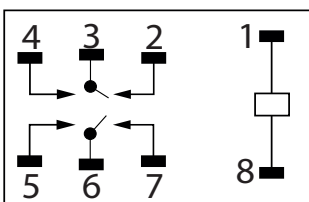
RPYS001...DLT



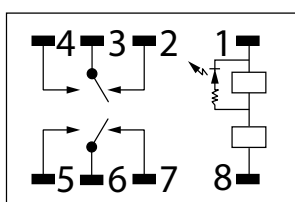
RPYS0011024DL



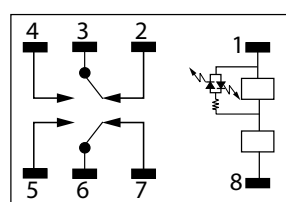
RPYS002...D/A



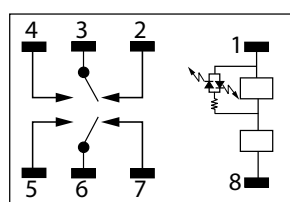
RPYS002...ALT



RPYS002...DLT



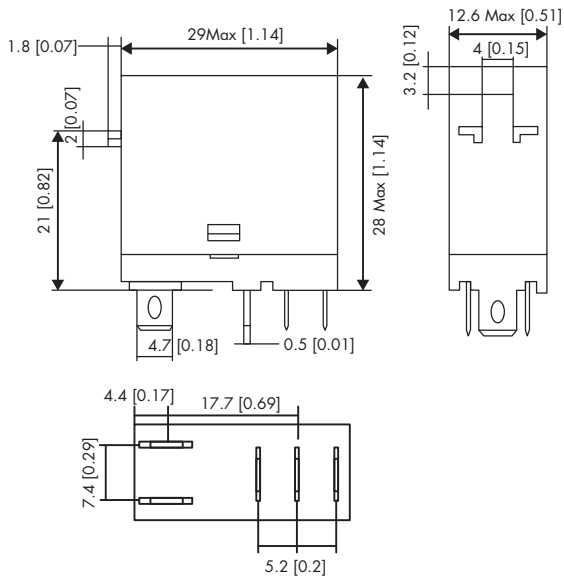
RPYS002024DL



**Dimensions**

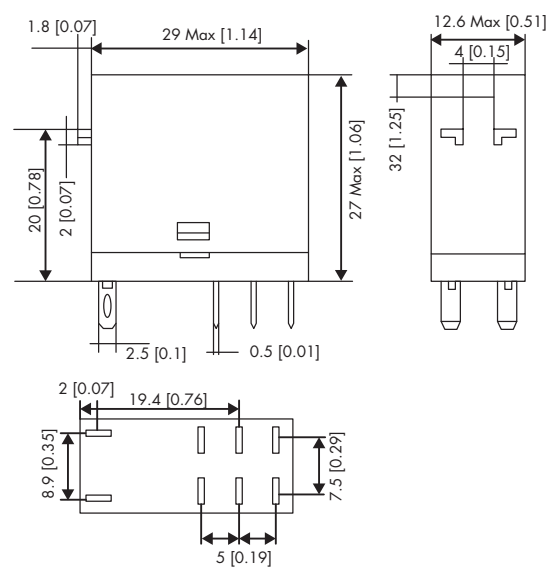
**RPYS001...D/A**

Unit: mm [inches]



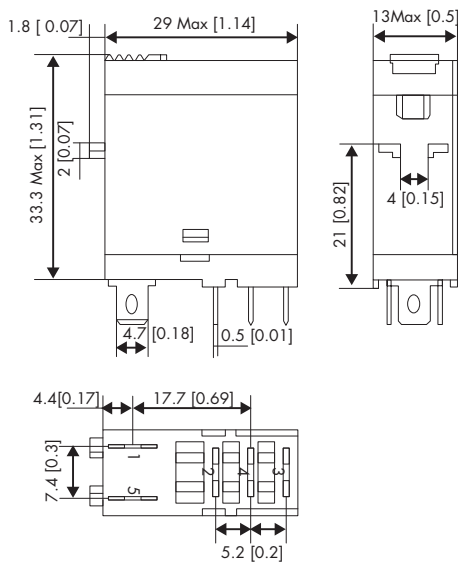
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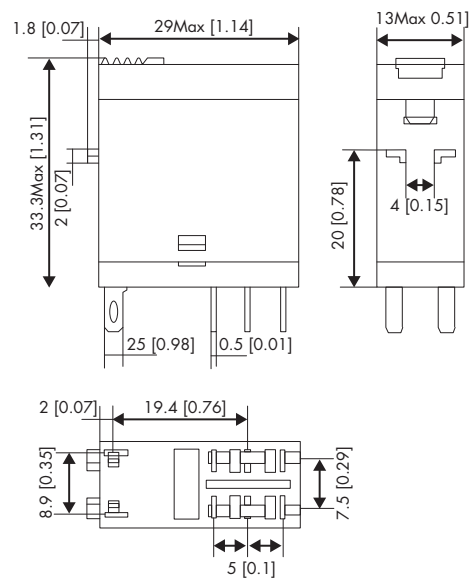
**RPYS001...DLT/ALT**

Unit: mm [inches]



**RPYS002...DLT/ALT**

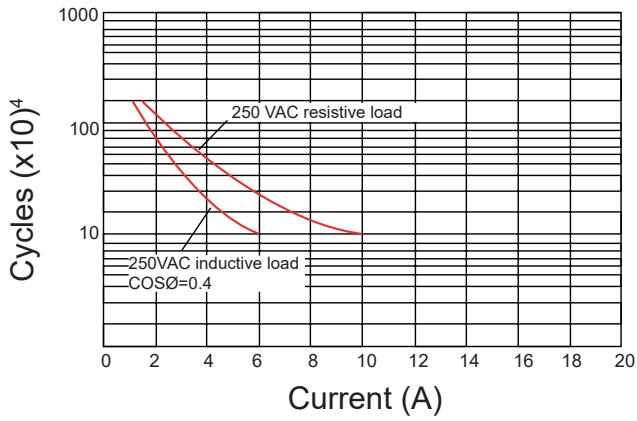
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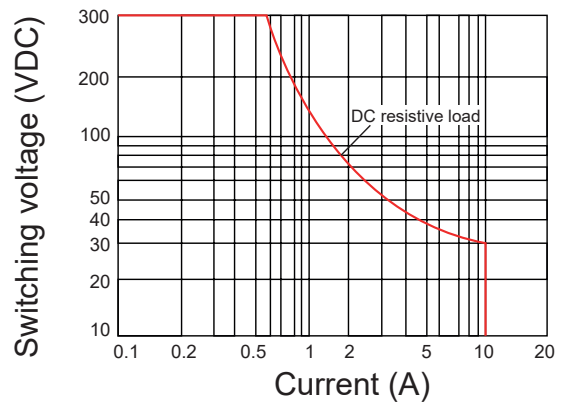
**Performance curves**

**RPYS001**

**Electrical durability curve**

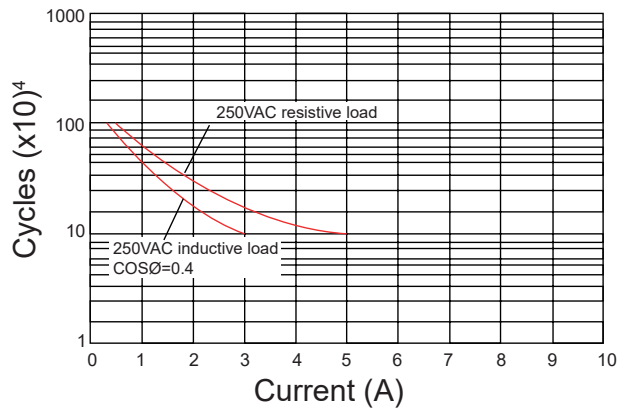


**Maximum switching capacity**

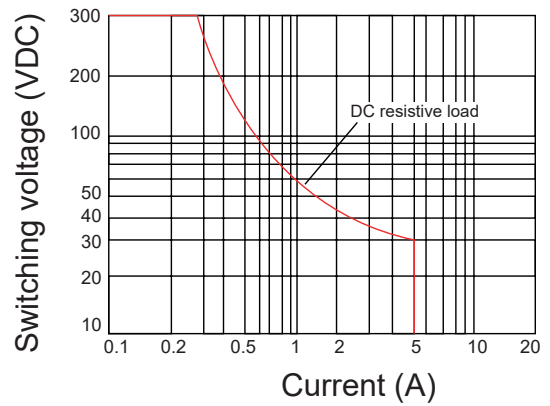


**RPYS002**

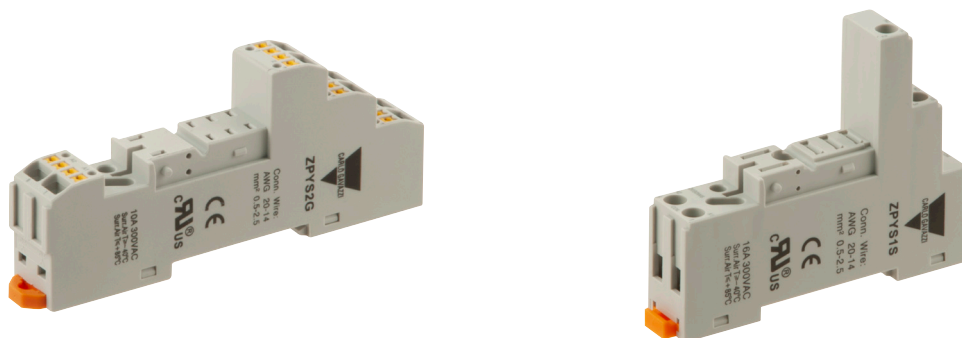
**Electrical durability curve**



**Maximum switching capacity**







## Features

### Contact data

Socket code	ZPYS1.	ZPYS2.
Rated load current	16 A	10 A
Rated load voltage	300 V	
Dielectric strength Between coil and contact Between contacts	4000 V / min 2500 V / min	
Insulation resistance	100 M Ω	

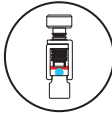
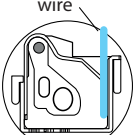
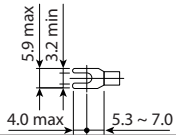
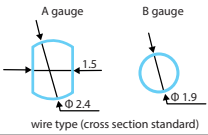
### Environmental specifications

	ZPYS1.	ZPYS2.
Ambient temperature	-40 ~ 85 °C (-40 ~ 185 °F)	
Storage temperature		
Vibration resistance	10 - 55 Hz, Amplitude 1 mm	
Protection degree	IP 20	
Pollution degree	2	
Weight	35 g	43 g

### Compatibility and conformity

	ZPYS1.	ZPYS2.
CE (RoHS, LVD)	IEC 61984	
UL certification	UL508a (cURus)	

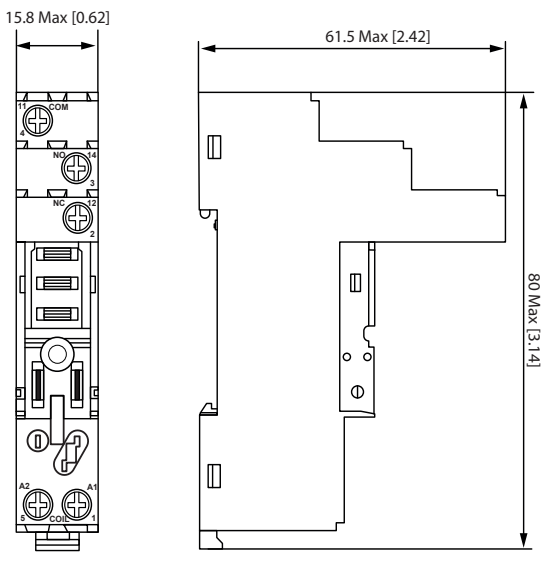
**Connection specification**

	ZPYS.S	ZPYS.G
Terminal type		
Applicable terminal		
Tightening torque	0.8 Nm	-
Press strength for push-in terminal	-	≤ 75 N (suggested 40 N)
Rigid (solid or stranded)	0.14 - 1.5 mm <sup>2</sup> (26 - 16 AWG)	
Flexible with end sleeve (ferrule with insulated cover)	0.14 - 1.0 mm <sup>2</sup> (26 - 18 AWG)	
Flexible with end sleeve (ferrule with non-insulated cover)	0.5 - 1.5 mm <sup>2</sup> (20 - 16 AWG)	

**Dimensions**

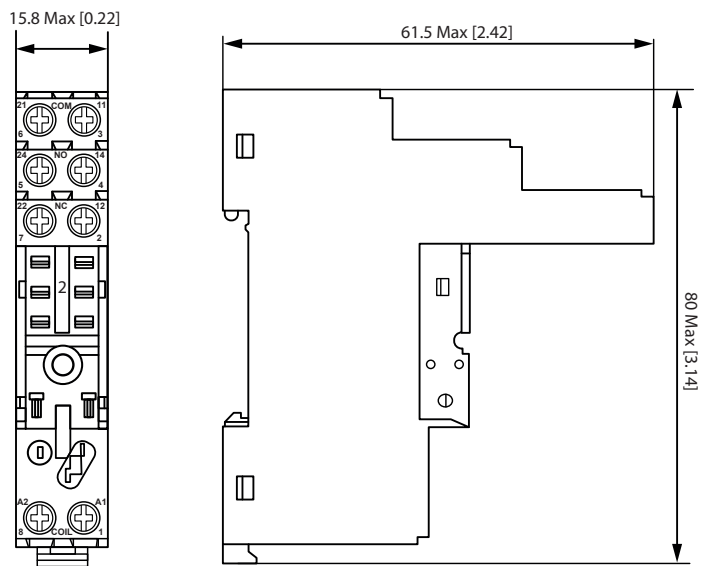
**ZPYS1S**

Units: mm [inches]

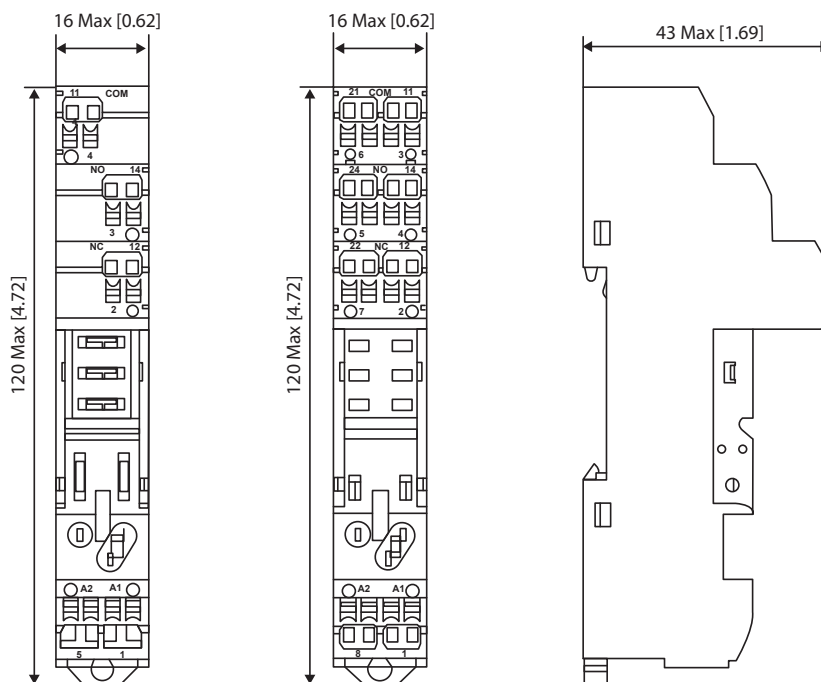


**ZPYS2S**

Units: mm [inches]

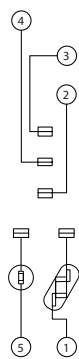


**ZPYS1G, ZPYS2G**  
Units: mm [inches]



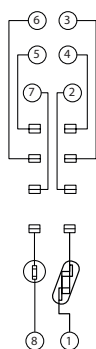
**Contacts layout**

**ZPYS1.**




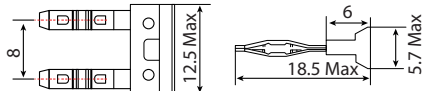
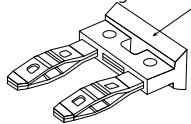

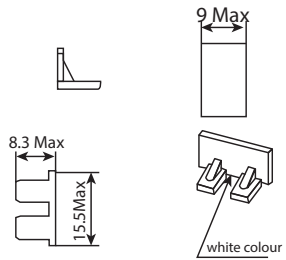
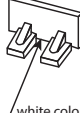

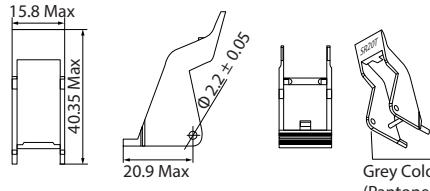
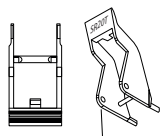

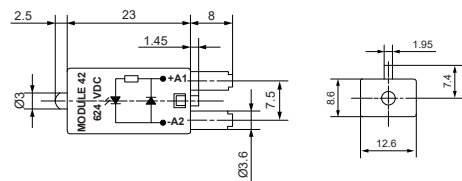


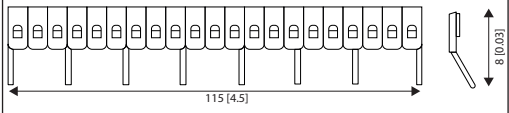

Terminal Marking		Function
1	A1	Coil voltage
2	12	Normally closed (NC)
3	14	Normally open (NO)
4	11	Common
5	A2	Coil voltage

**ZPYS2.**



Terminal Marking		Function
1	A1	Coil voltage
2	12	Normally closed (NC)
3	11	Common
4	14	Normally Open (NO)
5	24	Normally Open (NO)
6	21	Common
7	22	Normally Closed (NC)
8	A2	Coil voltage

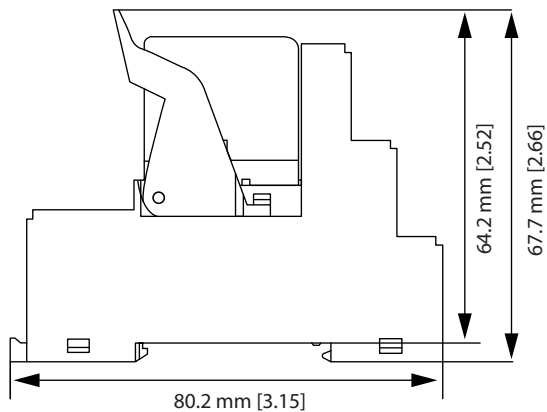
## Accessories

Item code	Image	Dimensional Diagram
ZGBJ		 <p>Orange colour (code RAL2000)</p> 
ZPYSID		 <p>white colour</p> 
ZPYSPC		 <p>Grey Colour (Pantone 427C)</p> 
MODULE42		 
ZDBB		 

**Dimensions**

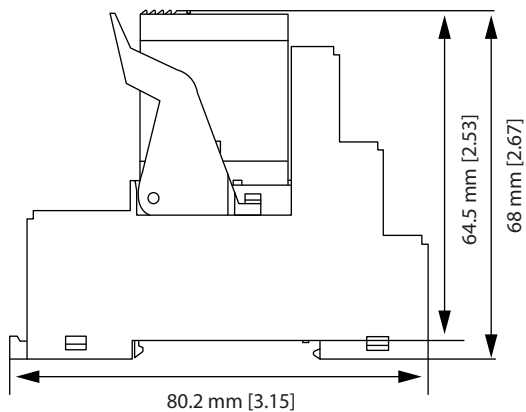
**RPYS + ZPYS.S**

Units: mm [inches]



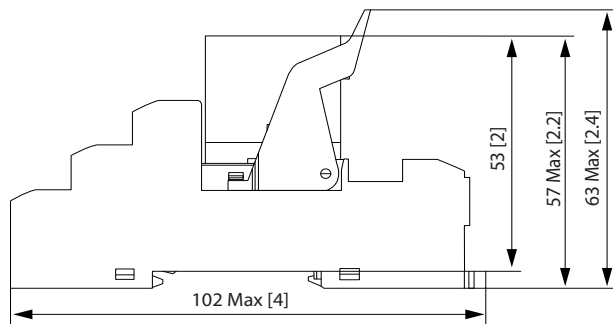
**RPYS.LT + ZPYS.S**

Units: mm [inches]



**RPYS + ZPYS.G**

Units: mm [inches]



**RPYS.LT + ZPYS.G**

Units: mm [inches]

