

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 two models:

- Basic version: No LEDs and no test button
- 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..LT versions)

RPYS - ZPYS



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 |
| | 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 and Test Button | |
|--------------------|----------------------|-----------------------|----------------------|-----------------------|
| | 1 Changeover Contact | 2 Changeover Contacts | 1 Changeover Contact | 2 Changeover Contacts |
| 12 VDC | RPYS001012D | RPYS002012D | RPYS001012DLT | RPYS002012DLT |
| 24 VDC | RPYS001024D | RPYS002024D | 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 |

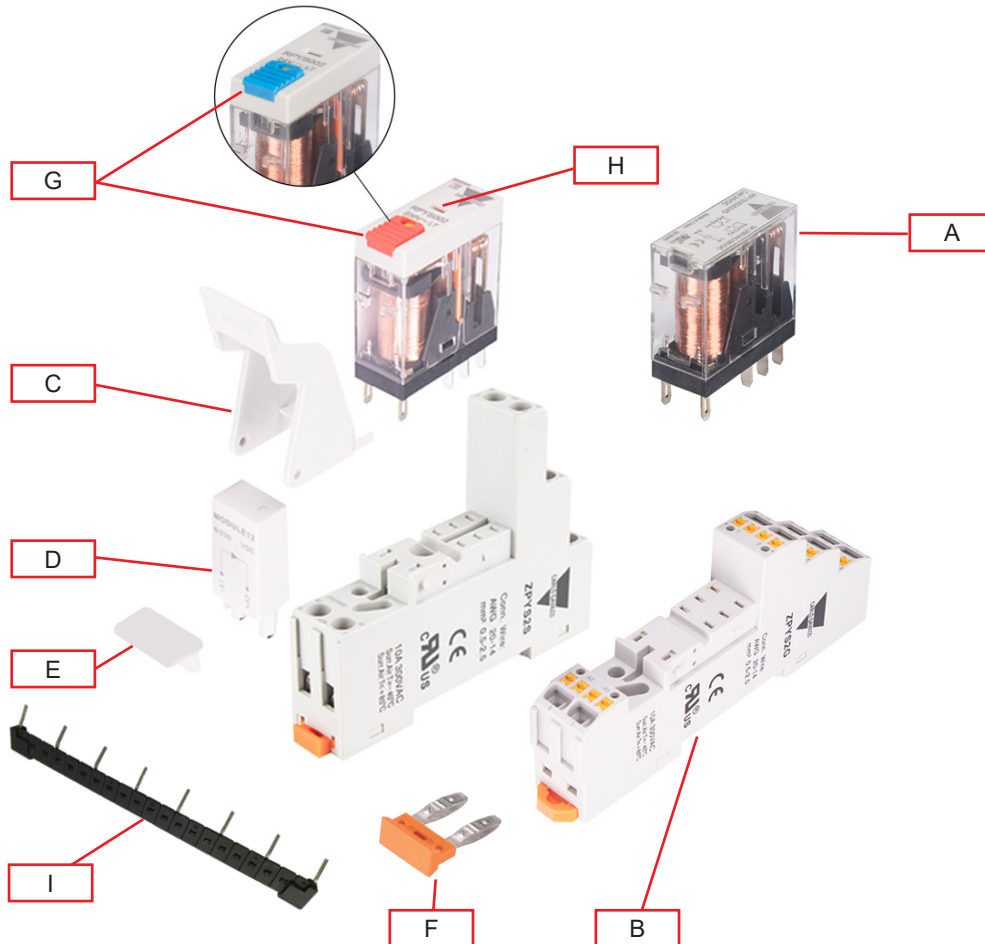
Further reading

| Information | Where to find it | QR |
|--------------------------|------------------|----|
| RPYS / ZPYS CAD drawings | | |

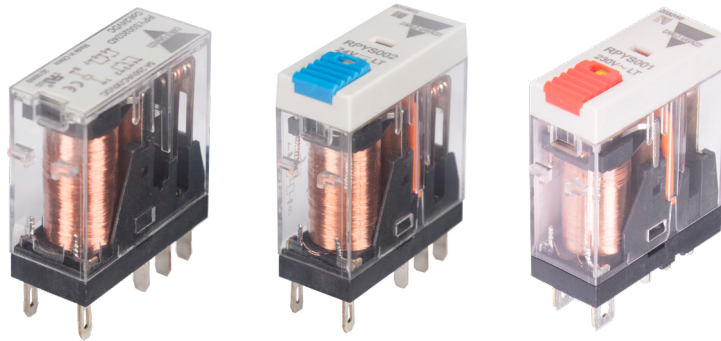
RPYS - ZPYS



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

Contacts data

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

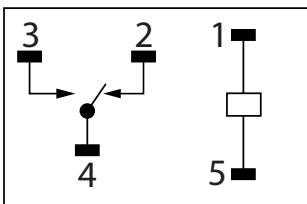
Installation

| | |
|----------|---------------------|
| Mounting | Plug-in into socket |
|----------|---------------------|

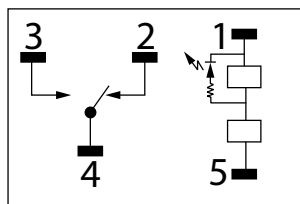
Connection diagram

Contacts layout

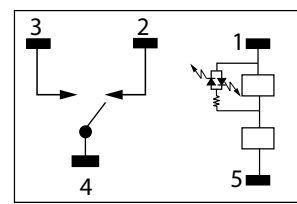
RPYS001...D/A



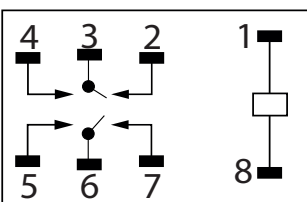
RPYS001...ALT



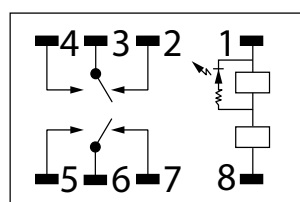
RPYS001...DLT



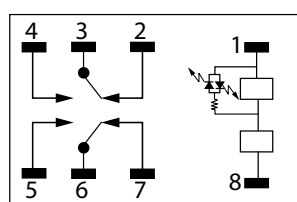
RPYS002...D/A



RPYS002...ALT



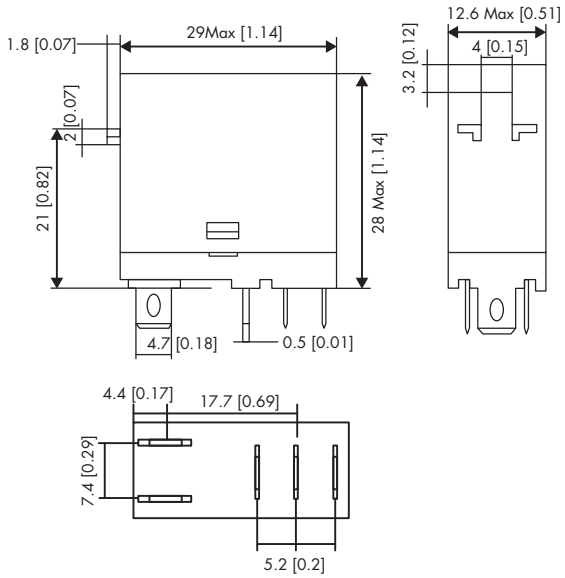
RPYS002...DLT



Dimensions

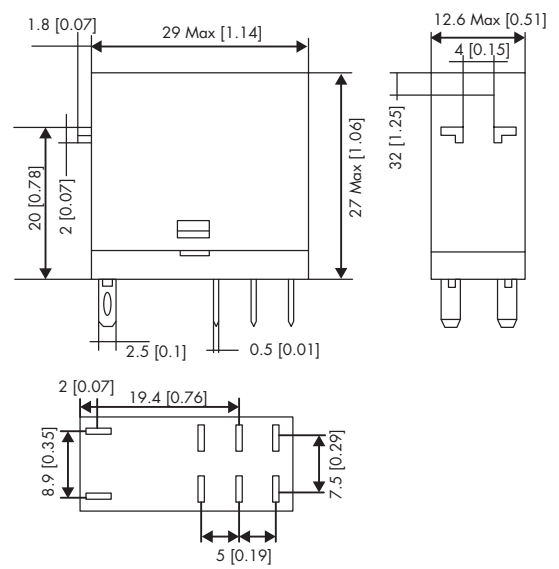
RPYS001...D/A

Unit: mm [inches]



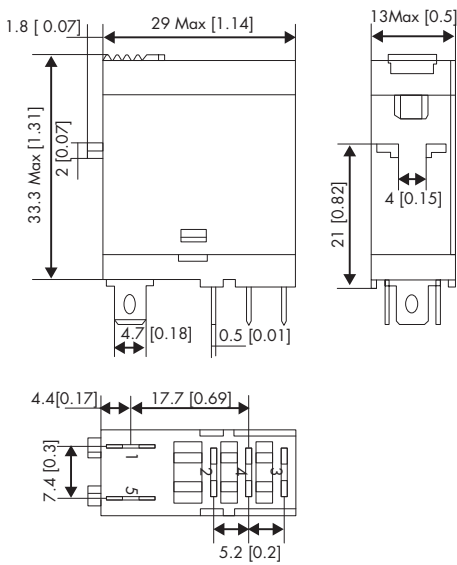
RPYS002...D/A

Unit: mm [inches]



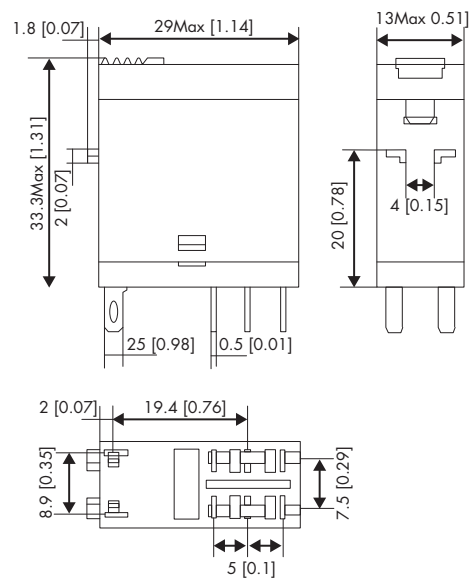
RPYS001...DLT/ALT

Unit: mm [inches]



RPYS002...DLT/ALT

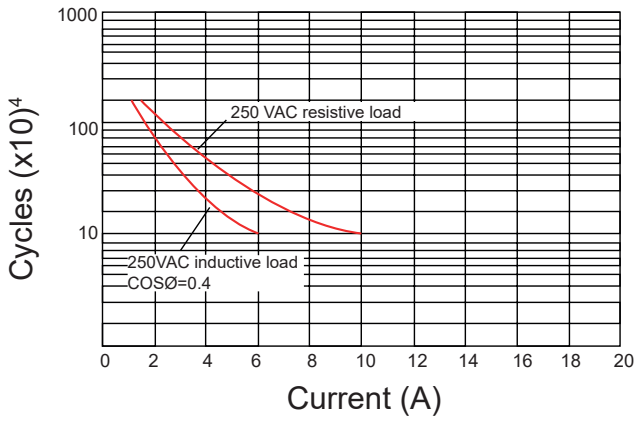
Unit: mm [inches]



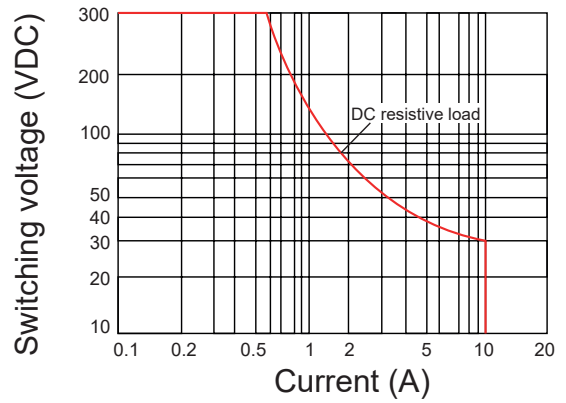
Performance curves

RPYS001

Electrical durability curve

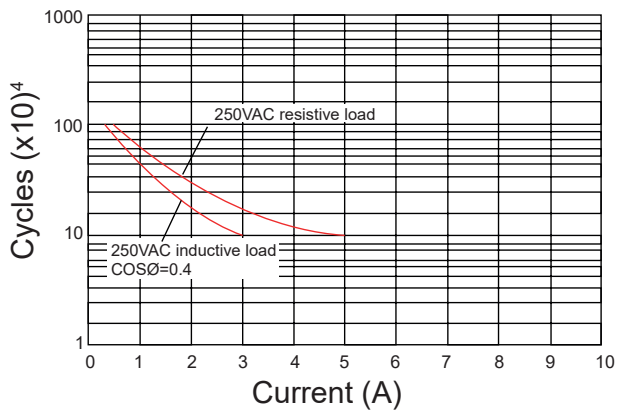


Maximum switching capacity

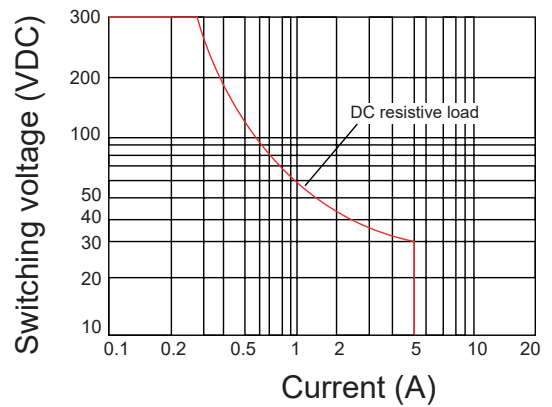


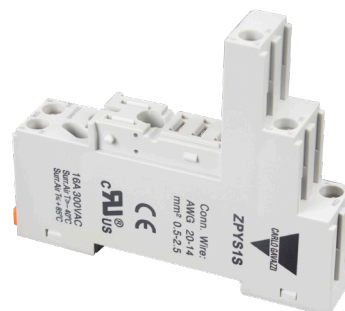
RPYS002

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) | |

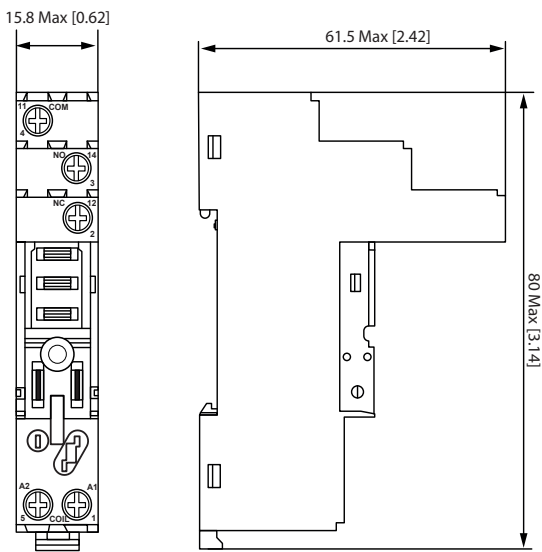
Connection specification

| | ZPYS.S | ZPYS.G |
|-------------------------------------|---|-------------------------|
| Terminal type | | |
| Applicable terminal | | |
| Tightening torque | 0.8 Nm | - |
| Press strength for push-in terminal | - | ≤ 75 N (suggested 40 N) |
| Conductor cross section | 0.5 - 2.5 mm ² (20 - 14 AWG) | |

Dimensions

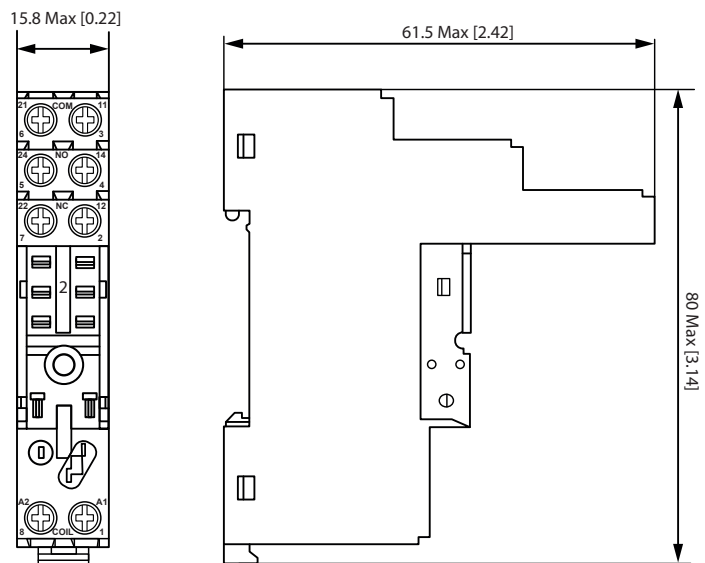
ZPYS1S

Units: mm [inches]



ZPYS2S

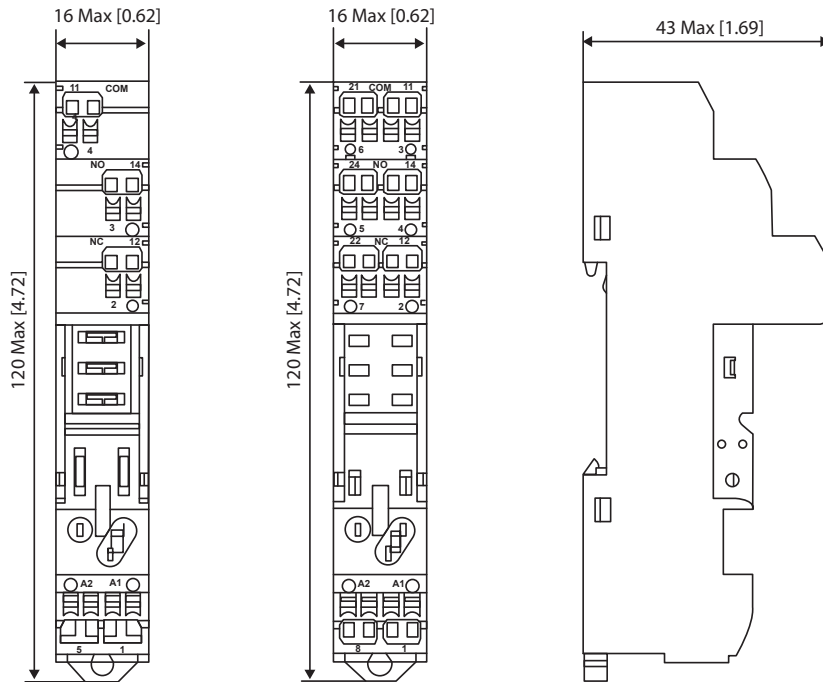
Units: mm [inches]



ZPYS

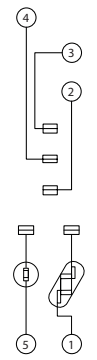


ZPYS1G, ZPYS2G
Units: mm [inches]



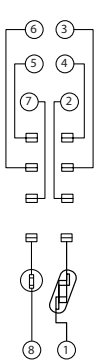
Contacts layout

ZPYS1.




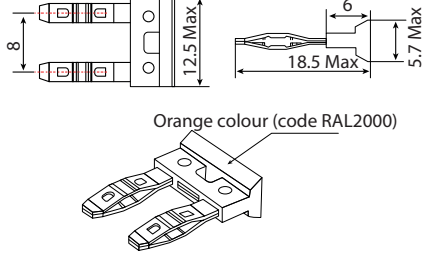

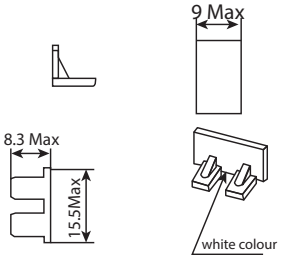

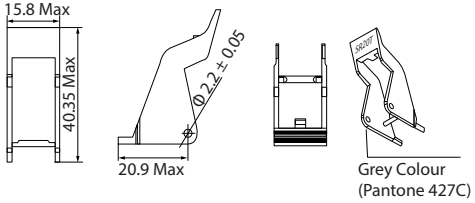

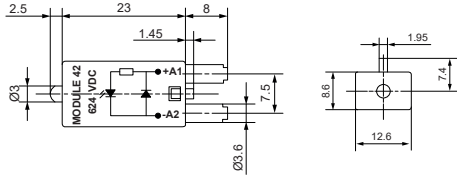

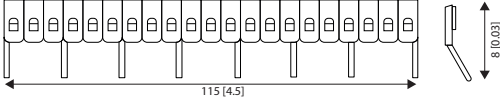
| Terminal Marking | | Function |
|------------------|----|----------------------|
| 1 | A1 | Coil voltage |
| 2 | 12 | Normally closed (NC) |
| 3 | 14 | Normally open (NO) |
| 4 | 11 | Common |
| 5 | A2 | Coil voltage |

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 |

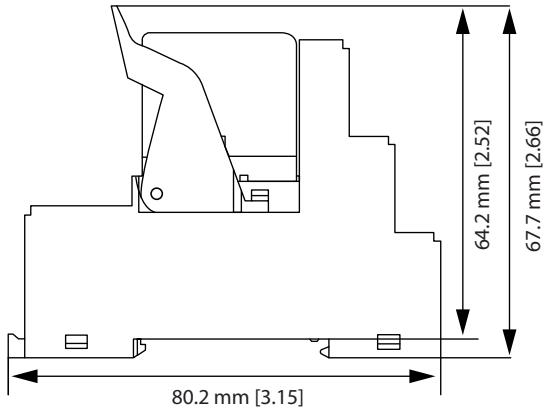
Accessories

| Item code | Image | Dimensional Diagram |
|-----------|---|--|
| ZGBJ |  |  |
| ZPYSID |  |  |
| ZPYSPC |  |  |
| MODULE42 |  |  |
| ZDBB |  |  |

Dimensions

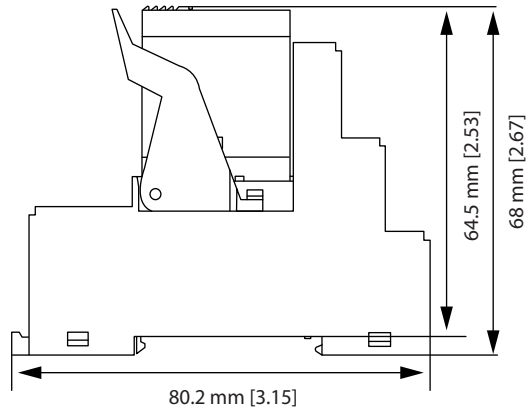
RPYS + ZPYS.S

Units: mm [inches]



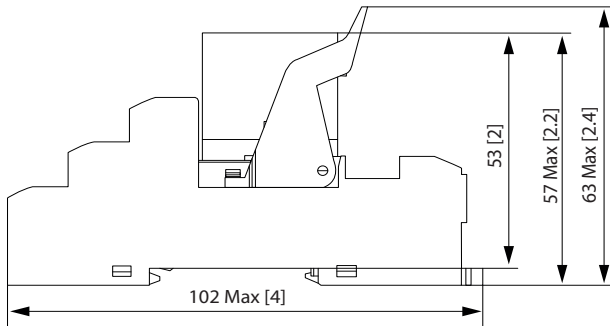
RPYS.LT + ZPYS.S

Units: mm [inches]



RPYS + ZPYS.G

Units: mm [inches]



RPYS.LT + ZPYS.G

Units: mm [inches]

