

# Zelio Plug-In Relays

RXG interface relays

Catalog  
2014

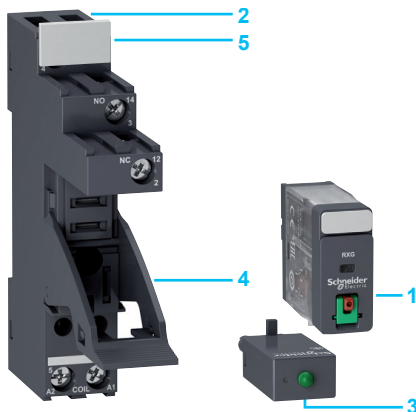


# Zelio™ Plug-In Relays

RXG interface relays

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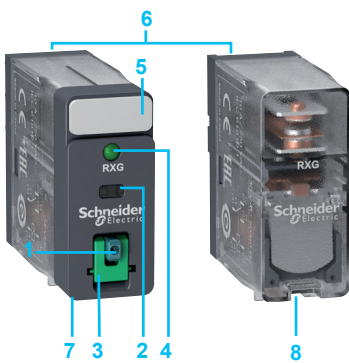
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### Introduction of the product range

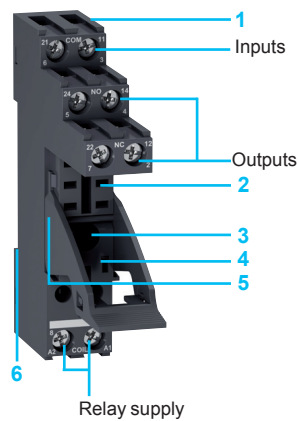
The RXG interface relay range includes:

- 1 10 A relays with 1 C/O contact and 5 A relays with 2 C/O contacts.
- 2 Sockets with separate contact terminals and screw terminal connection.
- 3 Protection modules (diode, diode + LED, RC circuit, or varistor + LED).
- 4 A plastic hold-down ejector clip for all RXG sockets.
- 5 Clip-in ID tags for all RXG sockets.



### Relay description

- 1 Spring return pushbutton for testing the contacts (green: DC coil, red: AC coil).
- 2 Mechanical "relay status" indicator.
- 3 Optional removable lock-down door enables continuous engagement of the contacts for test or maintenance purposes. During normal operation, this lock-down door must always be in the closed position.
- 4 Bipolar LED (option) indicating relay status.
- 5 Removable ID tag for relay identification.
- 6 Five or eight Quick-Connect terminals.
- 7 Standard cover versions include test button, lock-down door, mechanical indicator, and LED button.
- 8 Clear cover version.



### Socket description

#### Sockets with separate contact terminals (1)

- 1 Connection by screw terminals.
- 2 Five or eight female contacts for the relay pins.
- 3 A fixing hole for panel mounting.
- 4 Location for protection modules.
- 5 Locking components for plastic ejector clips.
- 6 Locating slot for mounting on DIN rail.

(1) The inputs and outputs are separated from the relay supply.

### General specifications

<b>Conforming to standards</b>			IEC/EN 61810-1, UL 508, CSA C22-2 n° 14
<b>Product certifications</b>			cULus File E173076 CCN NRNT, NRNT7; cURus File E173076 CCN NRNT2, NRNT8; CSA, CE; RoHS compliant
<b>Ambient air temperature</b> around the device	Storage	°C (F)	- 40 to + 85 (-40 to +185)
	Operation	°C (F)	- 40 to + 70 (-40 to +158)
<b>Vibration resistance</b> conforming to IEC/EN 60068-2-6	In operation		3 gn (10 to 150 Hz), ±1.5 mm (10 to 150 Hz)
	Not operating		5 gn (10 to 150 Hz), ±1.5 mm (10 to 150 Hz)
<b>Degree of protection</b>	Conforming to IEC/EN 60529		IP 40
<b>Shock resistance</b> conforming to IEC/EN 60068-2-27	In operation		20 gn (11 ms)
	Not operating		100 gn (11 ms)
<b>Protection category</b>			RT I
<b>Mounting position</b>			Any

### Insulation specifications

<b>Rated insulation voltage (Ui)</b>		<b>V</b>	250 (IEC), 300 (UL, CSA)
<b>Rated impulse withstand voltage</b> (Uimp)	Between coil/contact	<b>kV</b>	6 (1.2/50 µs) for <b>RXG1●●●</b> and <b>RXG2●●●</b>
	Between poles	<b>kV</b>	4 (1.2/50 µs) for <b>RXG2●●●</b>
	Between contacts	<b>kV</b>	1.2 (1.2/50 µs) for <b>RXG1●●●</b> and <b>RXG2●●●</b>
<b>Dielectric strength</b> (rms voltage)	Between coil/contact	<b>Vac</b>	5000
	Between poles	<b>Vac</b>	3000 ( <b>RXG2●●●</b> only)
	Between contacts	<b>Vac</b>	1000

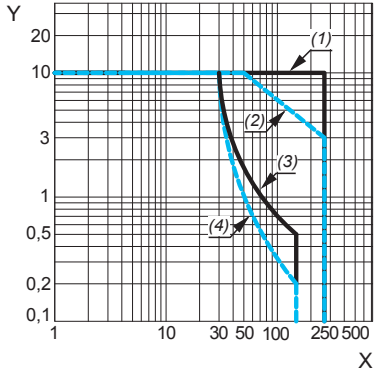
### Contact specifications

Relay type			<b>RXG1●●●</b>	<b>RXG2●●●</b>
<b>Number and type of contacts</b>			1 C/O	2 C/O
<b>Contact materials</b>			Ag alloy	
<b>Conventional thermal current (Ith)</b>	For ambient temperature ≤ 55 °C	<b>A</b>	10	5
<b>Rated operational current</b>	Conforming to IEC in utilization categories AC-1 and DC-1	N.O.	10 at 250 Vac 10 at 30 Vdc	5 at 250 Vac 5 at 30 Vdc
		N.C.	10 at 250 Vac 10 at 30 Vdc	5 at 250 Vac 5 at 30 Vdc
	Conforming to UL	Resistive	<b>A</b> 10 at 250 Vac (100K cycles) <b>A</b> 10 at 30 Vdc (100K cycles)	5 at 250 Vac (100K cycles) 5 at 30 Vdc (100K cycles)
		Motor	<b>hp</b> 1/3 at 240 Vac (6K cycles)	1/6 at 240 Vac (6K cycles)
	<b>Minimum switching requirement</b>		<b>mA</b>	100 at 5 Vdc
<b>Maximum switching voltage</b>		<b>V</b>	250 Vac / 30 Vdc (IEC and UL)	
<b>Switching capacity</b>	Maximum	AC	<b>VA</b> 2500	1250
		DC	<b>W</b> 300	150
	Minimum	<b>mW</b> 500	50	
<b>Maximum operating rate</b>	No-load		18 000	
	In operating cycles per hour Under load		1800	
<b>Utilization coefficient</b>			20 %	
<b>Mechanical durability</b>	Cycles		10 000 000	
<b>Electrical durability</b>	Resistive load		100,000 (unless otherwise specified)	
	Operating cycles Inductive load		See performance curves on page 5.	

### Performance curves

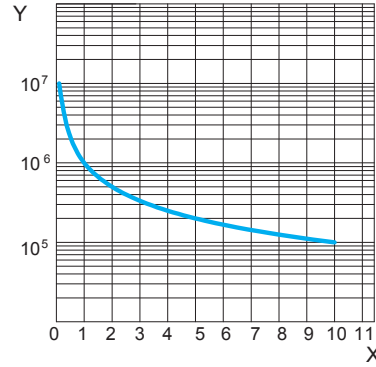
#### RXG1●●●

##### Maximum switching capacity



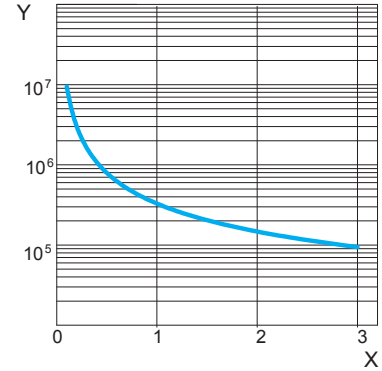
X: Switching voltage (V)  
 Y: Switching current (A)  
 (1): AC Resistive load  
 (2): AC Inductive load  $\cos \phi=0.4$   
 (3): DC Resistive load  
 (4): DC Inductive load T0.95=6P

##### Resistive load



X: Contact current (A)  
 Y: Operating cycle number

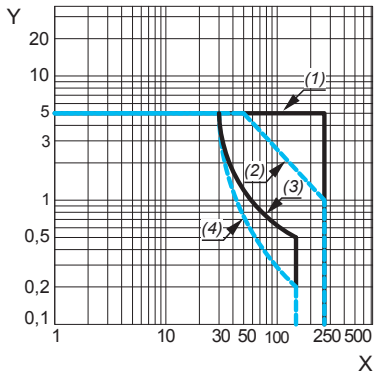
##### Inductive load



X: Contact current (A)  
 Y: Operating cycle number

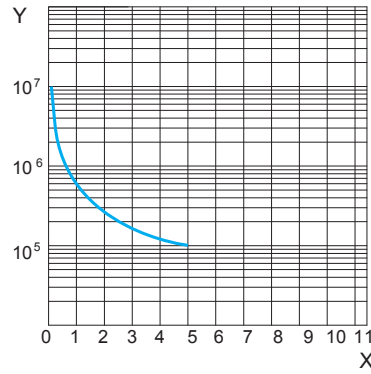
#### RXG2●●●

##### Maximum switching capacity



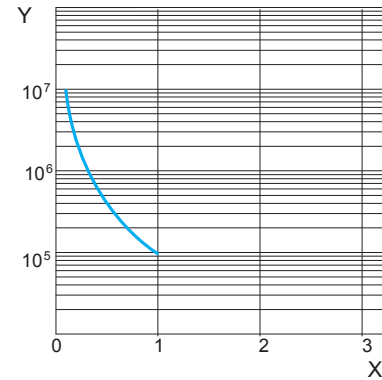
X: Switching voltage (V)  
 Y: Switching current (A)  
 (1): AC Resistive load  
 (2): AC Inductive load  $\cos \phi=0.4$   
 (3): DC Resistive load  
 (4): DC Inductive load T0.95=6P

##### Resistive load



X: Contact current (A)  
 Y: Operating cycle number

##### Inductive load



X: Contact current (A)  
 Y: Operating cycle number

### Coil specifications

Average consumption	AC	<b>VA</b>	0.82 ± 20% at 50/60 Hz									
	DC	<b>W</b>	0.53 ± 20%									
Drop-out voltage threshold	AC		≥ 0.30 U <sub>c</sub> (at -40°C)									
	DC		≥ 0.1 U <sub>c</sub> (at -40°C)									
Response time	Operate time		<b>ms</b>	20 max. (at 100% coil voltage)								
	Release time		<b>ms</b>	20 max.								
Control circuit voltage U <sub>c</sub>		<b>V</b>	<b>6</b>	<b>12</b>	<b>24</b>	<b>48</b>	<b>60</b>	<b>110</b>	<b>120</b>	<b>220</b>	<b>230</b>	
Relay control voltage codes			<b>RD</b>	<b>JD</b>	<b>BD</b>	<b>ED</b>	<b>ND</b>	<b>FD</b>	–	–	–	
DC supply	Average resistance at 20 °C <sup>(1)</sup>	Ω	68	270	1100	4400	6700	22 800	–	–	–	
	Operating voltage limits	Min.	<b>V<sub>ac</sub></b>	4.5	9	18	36	45	82.5	–	–	–
		Max.	<b>V<sub>ac</sub></b>	6.7	13.3	26.6	53.3	66.6	122.1	–	–	–
Relay control voltage codes			–	–	<b>B7</b>	<b>E7</b>	–	–	<b>F7</b>	<b>M7</b>	<b>P7</b>	
AC supply	Average resistance at 20 °C <sup>(2)</sup>	Ω	–	–	260	1100	–	–	6300	21 000	23 500	
	Operating voltage limits	Min.	<b>V<sub>dc</sub></b>	–	–	19.2	38.4	–	–	96	176	184
		Max.	<b>V<sub>dc</sub></b>	–	–	26.4	52.8	–	–	132	242	253

(1): Average coil resistance tolerance of ±10% for 6, 12, 24, 48, and 60 V<sub>dc</sub> coils, ±15% for 110 V<sub>dc</sub> coil.

(2): Average coil resistance tolerance of ±10% for 24, 48, and 120 V<sub>ac</sub> coils, ±15% for 220 and 230 V<sub>ac</sub> coils.

### Socket specifications

Socket type	<b>RGZE1S35M</b>	<b>RGZE1S48M</b>
Relay types used	<b>RXG11●●, RXG12●●, RXG13●●, RXG15●●</b>	<b>RXG21●●, RXG22●●, RXG23●●, RXG25●●</b>
Contact terminal arrangement	Separate	
Wire connection method	Screw connector	
Product certifications	cURus File E172326 CCN SWIV2, SWIV8; CSA; CE; RoHS compliant	
Conforming to standards	IEC 61984, UL 508, CSA 22.2 No. 14	

### Electrical specifications

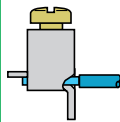
Conventional thermal current (I <sub>th</sub> )	<b>A</b>	10	5
Maximum operating voltage	<b>V<sub>ac</sub></b>	250 (IEC); 300 (UL)	

### Insulation specifications

Between adjacent output contacts	<b>V<sub>rms</sub></b>	–	3000
Between input and output contacts	<b>V<sub>rms</sub></b>	5000	
Between contacts and DIN rail	<b>V<sub>rms</sub></b>	3000	

### General specifications

Ambient air temperature around the device	Storage	<b>°C (°F)</b>	- 40 to + 85 (- 40 to + 185)
	Operation	<b>°C (°F)</b>	- 40 to + 70 (- 40 to + 158)
Degree of protection	Conforming to IEC/EN 60529		IP 20
Connection	Solid wire without cable end	1 conductor	0.5 to 2.5 mm <sup>2</sup> - AWG 20 to AWG 14
		2 conductors	0.5 to 1.5 mm <sup>2</sup> - AWG 20 to AWG 16
	Flexible wire with cable end	1 conductor	0.2 to 2.5 mm <sup>2</sup> - AWG 22 to AWG 14
		2 conductors	0.2 to 1.0 mm <sup>2</sup> - AWG 22 to AWG 17
Maximum tightening torque / Screw size	<b>N•m</b>	0.8 / M3 screw	
Maximum wire pull force	min. wire size, 0.2 mm <sup>2</sup>	<b>N</b>	10
	max. wire size, 1.5 mm <sup>2</sup>	<b>N</b>	40
	max. wire size, 2.5 mm <sup>2</sup>	<b>N</b>	50
Mounting		35 mm DIN rail / panel	
Panel mounting screw torque	<b>N•m</b>	0.8	
Panel mounting screw size (max.)	<b>mm</b>	3.5	
Mounting on DIN rail		By plastic clip	
Terminal referencing		IEC, NEMA	
Compatibility with plastic hold-down ejector clip		Yes	
Protection module compatibility		All RZM040W, RZM041●●●, RZM031●●●, and RZM021●●	
Clip-in ID tag compatibility		Yes (see page 9 for more information)	
Wire connection method		Screw connector	



# Zelio Plug-In Relays

## RXG interface relays



RXG11RD



RXG22B7

Standard cover relays with lockable test button only				
Control circuit voltage	Sold in lots of	Number and type of contacts - Thermal current (Ith)		Weight kg/lb
		1 C/O - 10 A Unit reference	2 C/O - 5 A Unit reference	
V				
6 Vdc	10	RXG11RD	RXG21RD	0.020/0.044
12 Vdc	10	RXG11JD	RXG21JD	0.020/0.044
24 Vdc	10	RXG11BD	RXG21BD	0.020/0.044
48 Vdc	10	RXG11ED	RXG21ED	0.020/0.044
60 Vdc	10	RXG11ND	RXG21ND	0.020/0.044
110 Vdc	10	RXG11FD	RXG21FD	0.020/0.044
24 Vac	10	RXG11B7	RXG21B7	0.020/0.044
48 Vac	10	RXG11E7	RXG21E7	0.020/0.044
120 Vac	10	RXG11F7	RXG21F7	0.020/0.044
220 Vac	10	RXG11M7	RXG21M7	0.020/0.044
230 Vac	10	RXG11P7	RXG21P7	0.020/0.044
Standard cover relays with lockable test button and LED				
6 Vdc	10	RXG12RD	RXG22RD	0.020/0.044
12 Vdc	10	RXG12JD	RXG22JD	0.020/0.044
24 Vdc	10	RXG12BD	RXG22BD	0.020/0.044
48 Vdc	10	RXG12ED	RXG22ED	0.020/0.044
60 Vdc	10	RXG12ND	RXG22ND	0.020/0.044
110 Vdc	10	RXG12FD	RXG22FD	0.020/0.044
24 Vac	10	RXG12B7	RXG22B7	0.020/0.044
48 Vac	10	RXG12E7	RXG22E7	0.020/0.044
120 Vac	10	RXG12F7	RXG22F7	0.020/0.044
220 Vac	10	RXG12M7	RXG22M7	0.020/0.044
230 Vac	10	RXG12P7	RXG22P7	0.020/0.044

# Zelio Plug-In Relays

## RXG interface relays



RXG13RD

Standard cover relays with LED only				
Control circuit voltage	Sold in lots of	Number and type of contacts - Thermal current (Ith)		Weight kg/lb
		1 C/O - 10 A Unit reference	2 C/O - 5 A Unit reference	
<b>V</b>				
6 Vdc	10	RXG13RD	RXG23RD	0.020/0.044
12 Vdc	10	RXG13JD	RXG23JD	0.020/0.044
24 Vdc	10	RXG13BD	RXG23BD	0.020/0.044
48 Vdc	10	RXG13ED	RXG23ED	0.020/0.044
60 Vdc	10	RXG13ND	RXG23ND	0.020/0.044
110 Vdc	10	RXG13FD	RXG23FD	0.020/0.044
24 Vac	10	RXG13B7	RXG23B7	0.020/0.044
48 Vac	10	RXG13E7	RXG23E7	0.020/0.044
120 Vac	10	RXG13F7	RXG23F7	0.020/0.044
220 Vac	10	RXG13M7	RXG23M7	0.020/0.044
230 Vac	10	RXG13P7	RXG23P7	0.020/0.044



RXG15RD

Clear cover relays				
6 Vdc	10	RXG15RD	RXG25RD	0.019/0.042
12 Vdc	10	RXG15JD	RXG25JD	0.019/0.042
24 Vdc	10	RXG15BD	RXG25BD	0.019/0.042
48 Vdc	10	RXG15ED	RXG25ED	0.019/0.042
60 Vdc	10	RXG15ND	RXG25ND	0.019/0.042
110 Vdc	10	RXG15FD	RXG25FD	0.019/0.042
24 Vac	10	RXG15B7	RXG25B7	0.018/0.040
48 Vac	10	RXG15E7	RXG25E7	0.018/0.040
120 Vac	10	RXG15F7	RXG25F7	0.018/0.040
220 Vac	10	RXG15M7	RXG25M7	0.018/0.040
230 Vac	10	RXG15P7	RXG25P7	0.018/0.040





RGZE1S48M



RZM031RB



RSZL300

### Sockets with separate contact terminal arrangement and connector connection

Description	Thermal current (Ith)	Relay type	Sold in lots of	Unit reference	Weight kg/lb
1 C/O socket with 1 pole	10 A	RXG1●●●	10	RGZE1S35M <sup>(1)</sup>	0.034/0.075
2 C/O socket with 2 poles	5 A	RXG2●●●	10	RGZE1S48M <sup>(1)</sup>	0.042/0.093

### Protection modules

Description	For use with	Voltage	Sold in lots of	Unit reference	Weight kg/lb
<b>V</b>					
Diode	All sockets	6 to 230 Vdc	10	RZM040W	0.003/0.007
		24 to 60 Vac	10	RZM041BN7	0.010/0.022
RC circuit	All sockets	110 to 240 Vac	10	RZM041FU7	0.010/0.022
		6 to 24 Vdc	10	RZM031RB	0.004/0.009
		24 to 60 Vdc	10	RZM031BN	0.004/0.009
Diode + green LED	All sockets	110 to 230 Vdc	10	RZM031FPD	0.004/0.009
		6 to 24 Vdc/Vac	10	RZM021RB	0.005/0.011
		24 to 60 Vdc/Vac	10	RZM021BN	0.005/0.011
Varistor + green LED	All sockets	110 to 230 Vdc/Vac	10	RZM021FP	0.005/0.011

### Accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg/lb
Plastic ejector clip	All sockets	10	RGZR215 <sup>(1)</sup>	0.002/0.004
Socket ID tags	All sockets	10	RSZL300	0.001/0.002
Relay ID tags	All relays	10	RGZL520	0.001/0.002

(1) Please note that RGZE1S35M and RGZE1S48M sockets both come with RGZR215 ejector clip as standard.

# Zelio Plug-In Relays

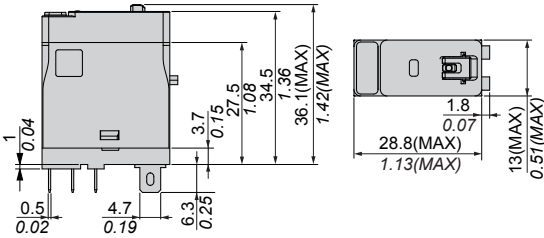
## RXG interface relays

### Dimensions: mm (in.)

#### Interface relays

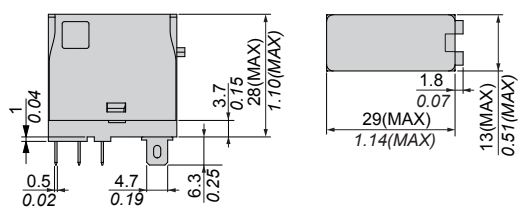
RXG11●●, RXG12●●, RXG13●●, RXG21●●, RXG22●●, RXG23●●

Common view



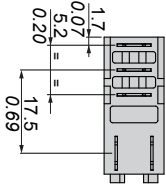
RXG15●●, RXG25●●,

Common view



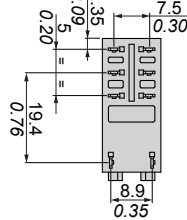
RXG1●●●

Pin side view



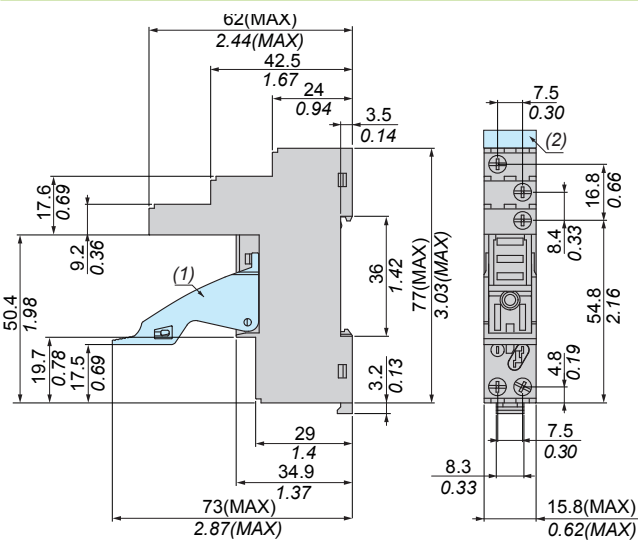
RXG2●●●

Pin side view

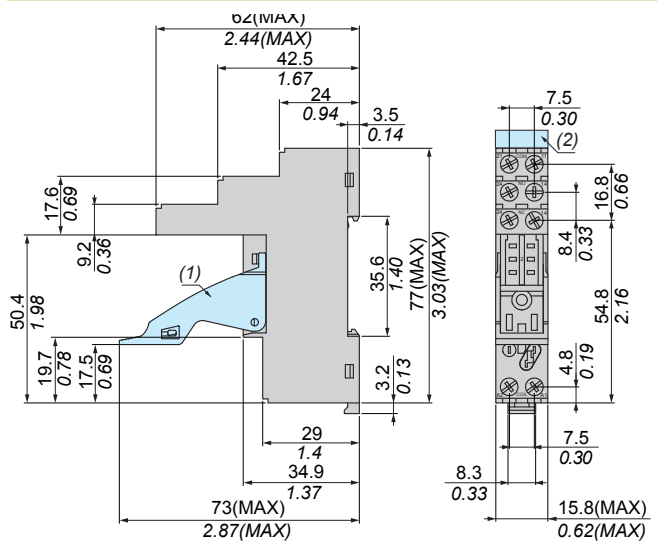


#### Sockets

RGZE1S35M



RGZE1S48M

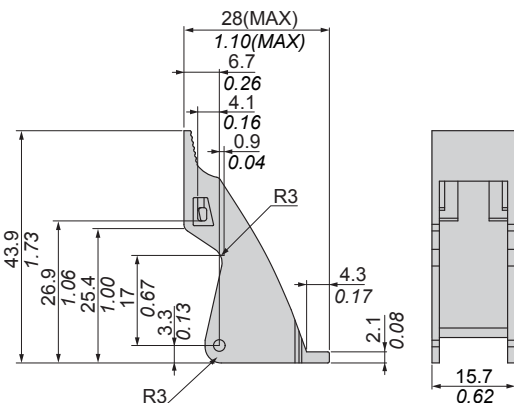


(1): RGZR215 ejector clip  
(2): RSZL300 socket ID tag

(1): RGZR215 ejector clip  
(2): RSZL300 socket ID tag

#### Plastic ejector clip

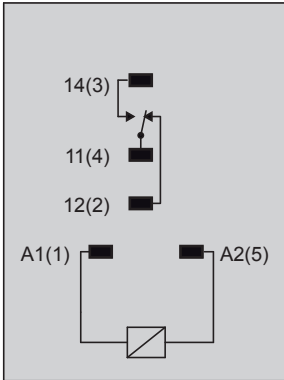
RGZR215



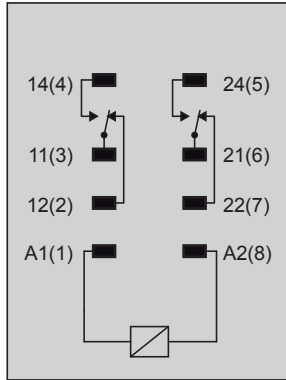
**Wiring diagrams: IEC numbering (NEMA numbering)**

**Interface relays**

**RXG1...**

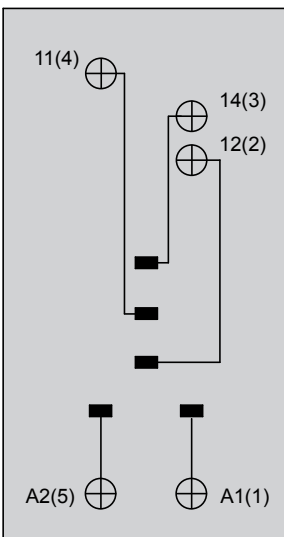


**RXG2...**

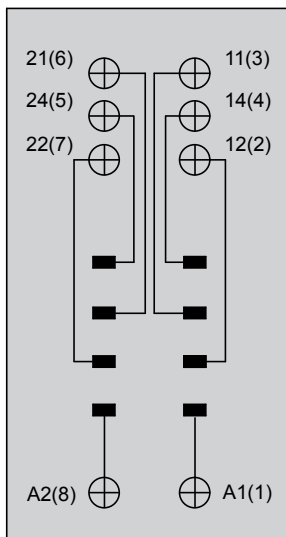


**Sockets**

**RGZE1S35M**

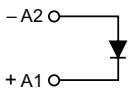


**RGZE1S48M**

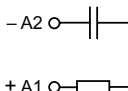


**Protection modules**

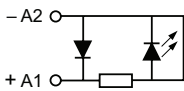
**RZM040W**



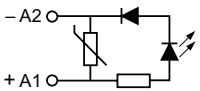
**RZM041...**



**RZM031...**



**RZM021...**



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Replaces 8501CT0301R07/08, 08/2008