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*Selection guide for control relays and plug-in control relays*

- Universal relays ..... page 2/5
- Miniature relays ..... page 2/8
- Interface relays ..... page 2/11

2

**Applications**

**Equipment based on control relays**

**Control relays      Mini-control relays**



<b>Control voltages</b>	~
	---

12...690 V	12...690 V	24...400 V
12...440 V	12...250 V	12...72 V

<b>Functions</b>	Instantaneous relays	•
	On-delay or Off-delay relays	•
	Latching relays	•
	Pulse on energisation relays	—
	Flashing relays	—
	• Function performed	—

•	•	•
•	•	—
•	—	—
—	—	—
—	—	—
—	—	—

**Features**

Low consumption version for ---	Version with alternating contacts
Linked contacts (in accordance with INRS and BIA specifications)	
—	
—	

<b>Number of contacts</b>	On basic device
	On auxiliary contact blocks

5 N/O or 3 N/O + 2 N/C combined double break	4 N/C or N/O combined double break	2 N/C or N/O combined double break
Up to 4 N/C or N/O contacts combined double break	4 N/C or N/O combined double break	2 N/C or N/O combined double break

**Conventional thermal current**

10 A
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**Operational voltage**

Up to 690 V	Up to 660 V	Up to 690 V
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<b>Durability</b> (operating cycles)	1 A/230 V, AC-15
	1 A/24 V, DC-13

30 million	2 million	10 million
30 million	6 million	10 million

**Device type**

<b>CAD</b>	<b>CA-K</b>	<b>CA-SK</b>
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**Pages**

Please consult our catalogue "Motor starter solutions"

Equipment based on plug-in control relays

Plug-in control relays      Universal type plug-in control relays      Miniature plug-in control relays      Interface relays



12...240 V	24...230 V (other voltages available on request)	24...230 V (other voltages available on request)	24...240 V	
5...240 V	24 or 48 V (other voltages available on request)	12, 24, 48 or 110 V (other voltages available on request)	6, 12, 24, 48, 60 or 110 V	
•	•	•	•	
•	•	–	–	
•	–	–	–	
•	•	–	–	
•	•	–	–	
Low consumption as standard for ---	Manual override of contact operation possible, by means of actuator		–	
–	Version with LED to indicate relay status		–	
Version with low level contacts (gold flashed contacts)	–	–	Version with gold-flashed contacts	–
–	Other functions and connections available on request			
4 C/O (Off-delay, On-delay)	2 or 3 C/O (Off-delay, On-delay)	2 or 4 C/O (Off-delay, On-delay)	2, 3 or 4 C/O (Off-delay, On-delay)	1 or 2 C/O (Off-delay, On-delay)
–	–	–	–	–
5 A	10 A (RUN-21 and RUN-31) 4 A (RUN-33)	5 A (RXN-21)	6 A (RXL-4) 10 A (RXL-3) 12 A (RXL-2)	8 A (RSB-2A080●●) 12 A (RSB-1A120●●) 16 A (RSB-1A160●●)
Up to 250 V			Up to ~ 400 V/--- 300 V	
400 000	500 000	100 000	100 000	100 000
–	–	–	–	–
<b>RH</b>	<b>RU</b>	<b>RXN</b>	<b>RXL</b>	<b>RSB</b>
(1)	2/5	2/8	2/11	

(1) Please consult your Regional Sales Office.

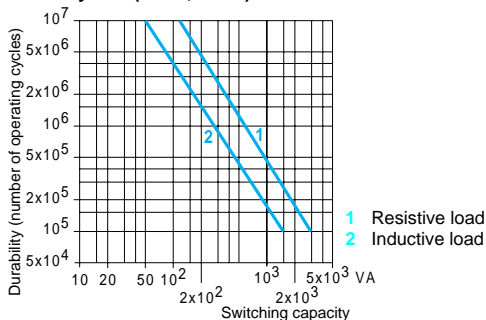
Relay type		RUN 21C	RUN 31C	RUN 21D	RUN 31A	RUN 33A
<b>Contact characteristics</b>						
<b>Number and type of contacts</b>		2 C/O	3 C/O	2 C/O	3 C/O	3 C/O linked
<b>Contact materials</b>		AgNi				Hard silver 10 μ gold-flashed
<b>Rated thermal current (I<sub>th</sub>)</b>	For temperature ≤ 40 °C	<b>A</b> 10		10		4
<b>Maximum operating rate</b> In operating cycles/h	No-load			36 000		36 000
	Under load			3600		3600
<b>Switching voltage</b>	Minimum	<b>V</b> 20		20		10
	Maximum	<b>V</b> ~ / --- 250		~ / --- 250		~ 250, --- 125
<b>Breaking capacity</b>	Minimum	<b>mA</b> 50		50		1
	Maximum	<b>VA</b> 3000		3000		1000

<b>Coil characteristics</b>						
<b>Rated voltage (Un)</b>	~	<b>V</b> 24, 48, 110, 230, 50/60 Hz (other voltages available on request)				
	---	<b>V</b> 12, 24, 48, 110 (other voltages available on request)				
<b>Average consumption</b>	Inrush	~	<b>VA</b> 3.5			
	Sealed		~ 2.3 VA, --- 1.5 W			
<b>Permissible voltage variation</b>		0.8...1.1 Un (50 Hz or ---), 0.85...1.1 Un (60 Hz)				
<b>Drop-out voltage threshold</b>		≥ ~ 0.15 Un, ≥ --- 0.05 Un				

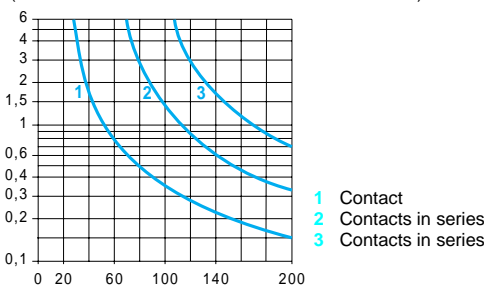
<b>Environment</b>						
<b>Conforming to standards</b>	Standard version		EN 61810-1			
<b>Product certifications (pending)</b>	Standard version		UL, CSA			
<b>Ambient air temperature</b> around the device	Storage	°C	- 40...+ 70			
	Operation	°C	~ - 20...+ 40, --- - 20...+ 60			
<b>Vibration resistance</b>	Conforming to IEC EN 68-2-6		4 gn (30...100 Hz)			
<b>Degree of protection</b>			IP 40			
<b>Shock resistance</b>			10 gn			
<b>Mechanical durability</b>	In millions of operating cycles		20			
<b>Operating time</b> (response time)	Between coil energisation and making of the On-delay contact	~	<b>ms</b> About 15			
		---	<b>ms</b> About 15			
	Between coil de-energisation and making of the Off-delay contact	~	<b>ms</b> About 15			
		---	<b>ms</b> About 15			
<b>Electrical durability</b> In millions of operating cycles/h	Resistive load		≥ 0.1 to 10 A			
	Inductive load		See curves below			

<b>Insulation characteristics</b>						
<b>Rated insulation voltage (Ui)</b>	Conforming to IEC 947	<b>V</b> 250				
<b>Insulation class</b>	Conforming to VDE 0110	C 250, B 380				
<b>Dielectric strength</b> (rms voltage)	Between coil and contact	~	<b>V</b> 2500			
	Between poles		<b>V</b> 2500			
	Between contacts	~	<b>V</b> 1000			

**Durability in N (230 V, 50 Hz)**



Switching capacity on a --- supply for minimum durability of : 10<sup>6</sup> operating cycles (resistive or inductive load with diode RVW 040BD)



Socket type		RUZ 1A	RUZ 1D	RUZ 1C	RUZ 7A	RUZ 7D
<b>Socket characteristics</b>						
<b>Conventional rated thermal current (I<sub>th</sub>)</b>	<b>A</b>	10				
<b>Insulation class</b>		C 250				
<b>Degree of protection</b>		IP 20				
<b>Product certifications</b>		CSA, UR				
<b>Connection</b>	Solid cable without cable end	2 x 2.5 mm <sup>2</sup>				
	Flexible cable with or w/o cable end	2 x 1.5 mm <sup>2</sup>				
<b>Arrangement of coil/contact terminals</b>		Mixed				
<b>Type of protection module</b>		-				RUW type E2
<b>Relay types used</b>		RUN 31A RUN 33A	RUN 21D	RUN 21C RUN 31C	RUN 31A RUN 33A	RUN 21D



RUN 31C22●● + RUZ 1C



RUN 31A21●● + RUZ 1A



RUN 33A22●● + RUW 101MW + RUZ 7A



RUZ 200

### Relays for standard applications

Number of C/O contacts	Conventional rated thermal current	LED	Pins	Sold in lots of	Unit reference, to be completed by adding the control voltage code (1)	Weight
						kg
2	10	Without	Octal	10	RUN 21D21●●	0.105
			8 flat pins	10	RUN 21C21●●	0.110
		Green	Octal	10	RUN 21D22●●	0.105
			8 flat pins	10	RUN 21C22●●	0.110
3	10	Without	Undecal	10	RUN 31A21●●	0.105
			11 flat pins	10	RUN 31C21●●	0.110
		Green	Undecal	10	RUN 31A22●●	0.105
			11 flat pins	10	RUN 31C22●●	0.110

### Relays with gold-flashed contacts

3	4	Green	Undecal	10	RUN 33A22●●	0.105
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### LED indicator modules (2)

Description	Type	Voltage	Sold in lots of	Unit reference	Weight	
						kg
"Power on" indication	-	~ 110...230	20	RUW 010P7	0.006	
		~ 6/24	20	RUW 030BD	0.006	
		With protection diode				

### Protection modules (2)

Diode	E2	~ 6...230	20	RUW 040BD	0.006
Varistor	E2	~ 24	20	RUW 042B7	0.006
		~ 230	20	RUW 042P7	0.006
RC circuit	E2	~ 110...240	20	RUW 041P7	0.006

### Timer module (2)

Multifunction	-	~ 24...240	1	RUW 101MW	0.020
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### Sockets

Protection module	Relay type	I/O	Sold in lots of	Unit reference	Weight	
						kg
Without module (indicator, protection or timer)	RUN 21 octal	Mixed	10	RUZ 1D	0.067	
	RUN 31 and RUN 33 undecal	Mixed	10	RUZ 1A	0.067	
	RUN 21C and RUN 31C	Mixed	10	RUZ 1C	0.067	
With module (indicator, protection or timer)	RUN 31A and RUN 33	Mixed	10	RUZ 7A	0.069	
	RUN 21 octal	Mixed	10	RUZ 7D	0.069	

### Accessories

Description	Sold in lots of	Unit reference	Weight	
				kg
Maintaining clamp for octal/undecal	25	RUZ 200	0.001	
Maintaining clamp for flat pin	25	RUZ 210	0.001	

(1) Standard control circuit voltage. For other voltages, please consult your Regional Sales Office.

Volts		12	24	48	110	230
~	RUN 21 and RUN 31	JD	BD	ED	FD	-
	RUN 33	-	BD	ED	-	-
~ 50/60 Hz	RUN 21, RUN 31 and RUN 33	-	B7	E7	F7	P7

(2) Modules for use with sockets RUZ 7A or RUZ 7D.

### Coil characteristics

Control circuit voltage U <sub>c</sub>	d.c. supply			a.c. supply 50/60 Hz		
	Average resistance at 20 °C ± 10%	Cod. Operating voltage limits		Average resistance at 20 °C ± 15 %	Cod. Operating voltage limits	
	Ω	Min.	Max.	Ω	Min.	Max.
V		V	V		V	V
12	96	JD	9.6 19.2	-	-	-
24	384	BD	19.2 26.4	73.7	B7	204 26.4
48	1336	ED	38.4 52.8	305	E7	408 54.8
110	7660	FD	88 121	1710	F7	93.5 121
230	-	-	-	7500	P7	196 253

Relay type	RXL 2A12B●●●	RXL 3A10B●●●	RXL 4A06B●●●	RXL 4G06B●●●
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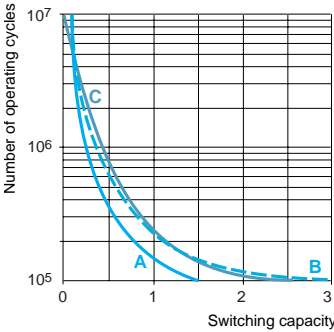
Contact characteristics						
Number and type of contacts			2 C/O	3 C/O	4 C/O	
Contact materials			AgNi			
Conventional rated thermal current (I <sub>th</sub> )		For temperature ≤ 40 °C	A 12	10	6	
Maximum operating rate		No-load	18 000			
In operating cycles/h		Under load	1200			
Switching voltage		Minimum	V 5			
		Maximum	V ~ 250, --- 250			
Breaking capacity		Minimum	mA 5	5	5	2
		Maximum	VA 3000	2500	1500	1500

Coil characteristics				
Rated voltage (U <sub>n</sub> )	~	V	24...230, 50/60 Hz	
	---	V	12...110	
Average consumption	~	VA	1.6	
	---	W	0.9	
Permissible voltage variation			0.8...1.1 U <sub>n</sub> (50/60 Hz or ---)	
Drop-out voltage threshold	~		≥ 0.15 U <sub>n</sub>	
	---		≥ 0.1 U <sub>n</sub>	

Environment					
Conforming to standards	Standard version		IEC 61810-1		
Product certifications (pending)	Standard version		UL, CSA		
Ambient air temperature around the device	Storage	°C	- 40...+ 85		
	Operation	°C	--- - 40...+ 70, ~ - 40...+ 55		
Vibration resistance	Conforming to IEC 68-2-6		> 5 gn (10...150 Hz)		
Degree of protection			IP 40		
Shock resistance			10 gn (closing), 5 gn (opening)		
Mechanical durability	In millions of operating cycles		≥ 20	≥ 20	
Operating time (response time)	Between coil energisation and making of the On-delay contact	~	ms	About 12	
		---	ms	About 12	
	Between coil de-energisation and making of the Off-delay contact	~	ms	About 12	
		---	ms	About 4	
Electrical durability	Resistive load		12 A - 250 V : ≥ 0.1	10 A - 250 V : ≥ 0.1	6 A - 250 V : ≥ 0.1
	In millions of operating cycles/h	Inductive load	See curves below		

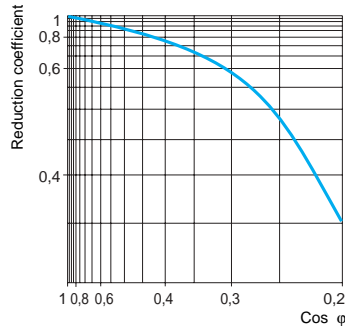
Insulation characteristics				
Rated insulation voltage (U <sub>i</sub> )	Conforming to IEC 947	V	250	
Insulation class	Conforming to VDE 0110		C 250	B 250
Dielectric strength (rms voltage)	Between coil and contact	~	V 2500	
	Between poles		V 2500	2000
	Between contacts	~	V 1500	

Electrical durability of contacts  
Resistive load ~



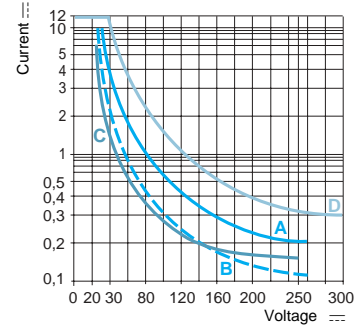
- A RXL 4
- B RXL 2
- C RXL 3

Reduction coefficient for inductive load (depending on power factor cos φ)



— RXL 2, RXL 3 et RXL 4

Breaking capacity on a resistive load ---



- A RXL 3 (T = 0 ms)
- B RXL 3 (T = 40 ms)
- C RXL 4
- D RXL 2

Durability (inductive load) = durability (resistive load) x reduction coefficient

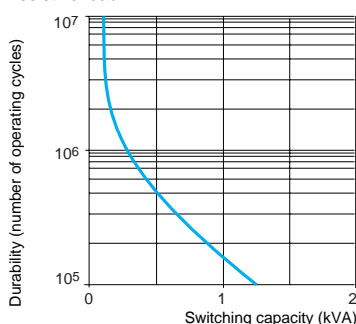


Relay type		RXN 21E1●●●	RXN 41G1●●●
<b>Contact characteristics</b>			
Number and type of contacts		2 C/O	4 C/O
Contact materials		AgNi	
Rated thermal current (I <sub>th</sub> )	For temperature ≤ 40 °C	<b>A</b>	5
Maximum operating rate In operating cycles/h	No-load		18 000
	Under load		1200
Switching voltage	Minimum	<b>V</b>	Minimum: 5, maximum: 250 ~ , 250 ---
Breaking capacity	Minimum	<b>mA</b>	10
	Maximum	<b>VA</b>	1250
<b>Coil characteristics</b>			
Rated voltage (U <sub>n</sub> )		<b>V</b>	--- 12...110, ~ 24...230, 50/60 Hz
Average consumption			--- 0.9 W, ~ 1.6 VA
Permissible voltage variation			0.8...1.1 U <sub>n</sub> (50/60 Hz or ---)
Drop-out voltage threshold			--- ≥ 0.1 U <sub>n</sub> , ~ ≥ 0.15 U <sub>n</sub>

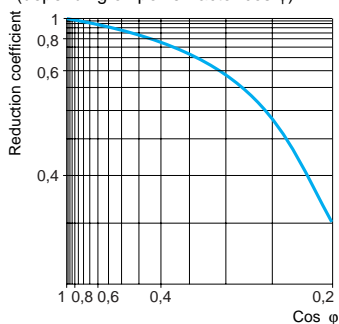
<b>Environment</b>			
Conforming to standards	Standard version		IEC 61810-1
Approvals (pending)	Standard version		CSA, UL
Ambient air temperature around the device	Storage	<b>°C</b>	- 40...+ 70
	Operation	<b>°C</b>	- 20...+ 50
Vibration resistance	Conforming to IEC 68-2-6		> 5 gn (30...150 Hz)
Degree of protection			IP 40
Shock resistance			20 gn
Mechanical durability	In millions of operating cycles		20
Operating time (response time)	Between coil energisation and making of the On-delay contact	~	<b>ms</b> About 12
		---	<b>ms</b> About 12
	Between coil de-energisation and making of the Off-delay contact	~	<b>ms</b> About 12
		---	<b>ms</b> About 4
Electrical durability In millions of operating cycles/h	Resistive load		5 A / 250 V : ≥ 0.1
	Inductive load		See curves below

<b>Insulation characteristics</b>			
Rated insulation voltage (U <sub>i</sub> )	Conforming to IEC 947	<b>V</b>	250
Insulation class	Conforming to VDE 0110		A 250
Dielectric strength (rms voltage)	Between coil and contact ~	<b>V</b>	2000
	Between poles	<b>V</b>	2000
	Between contacts ~	<b>V</b>	1500

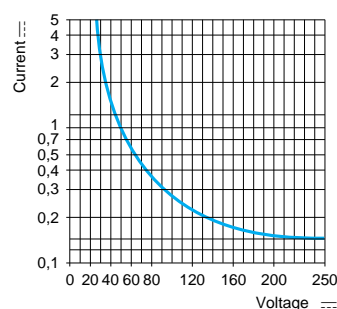
**Electrical durability of contacts**  
Resistive load ~



Reduction coefficient for inductive load  
(depending on power factor cos φ)



Breaking capacity on a resistive load ---



Durability (inductive load) = durability (resistive load) x reduction coefficient

Socket type		RXZ	E1S108M	E1S111M	E1S114M	E1M114M	E1M114	7G	
<b>Socket characteristics</b>									
Conventional rated thermal current (I <sub>th</sub> )		<b>A</b>	12			12	7	6	
Insulation class			C 250						
Degree of protection			IP 20						
Product certifications			CSA, UR						
Connection	Solid cable without cable end		2 x 2.5 mm <sup>2</sup>			2 x 1.5 mm <sup>2</sup>		2 x 2.5 mm <sup>2</sup>	
	Flexible cable with or w/o cable end		2 x 1.5 mm <sup>2</sup>						
Arrangement of coil/contact terminals			Separate				Mixed		
Type of protection module			RZM type E				-		RXW type L
Relay types used			RXL 2 RXN 21	RXL 3	RXL 4 RXN 4	RXL 4 RXN 4	RXL 4 RXN 4	RXL 2 (1), RXN 21 RXL 4, RXN 41	RXN 21 RXN 41

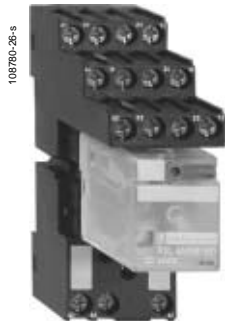
(1) Limited to 7 A in operation.

# Zelio Relay - plug-in relays

## Miniature relays



RXN 21E12BD + RXZ E1M114



RXL 4A06B1BD + RXZ E1S114M



RXL 2A12B2BD + RXZ P20 + RXZ E1S108M



RXL 3A10B2BD + RZM 031RB + RXZ P10 + RXZ E1S111M

### References

#### Relays for standard applications (1)

Number of C/O contacts	Conventional rated thermal current	LED	Sold in lots of	Unit reference, to be completed by adding the control voltage code (2)	Weight
					kg
2	5	Red	10	RXN 21E12●●	0.035
		Without	10	RXN 21E11●●	0.034
	12	Green	10	RXL 2A12B2●●	0.036
		Without	10	RXL 2A12B1●●	0.035
3	10	Green	10	RXL 3A10B2●●	0.036
		Without	10	RXL 3A10B1●●	0.035
4	5	Red	10	RXN 41G12●●	0.035
		Without	10	RXN 41G11●●	0.034
	6	Green	10	RXL 4A06B2●●	0.036
		Without	10	RXL 4A06B1●●	0.035

#### Relays with gold-flashed contacts (1)

4	6	With	10	RXL 4G06B2●●	0.036
		Without	10	RXL 4G06B1●●	0.035

#### Protection modules for sockets RXZ 7G

Description	Type	Voltage	Sold in lots of	Unit reference	Weight
					kg
Diode	L	--- 12...250	10	RXW 040MD	0.010

#### Protection modules for relay/sockets RXZ E●●●●M

Diode		--- 6...230	10	RZM 040W	0.003
Diode + green LED	E	--- 6...24	10	RZM 031RB	0.004
		--- 24...60	10	RZM 031BN	0.004
		--- 110...230	10	RZM 031FPD	0.004
Varistor + green LED	E	--- or ~ 6...24	10	RZM 021RB	0.005
		--- or ~ 24...60	10	RZM 021BN	0.005
		--- or ~ 110...230	10	RZM 021FP	0.005
RC circuit	E	~ 24...60	10	RZM 041BN7	0.010
		~ 110...240	10	RZM 041FU7	0.010

(2) Standard control circuit voltages

Volts	12	24	48	110	120	230
---	JD	BD	ED	FD	--	--
~ (50/60 Hz)	RXN	B7	E7	F7	--	P7
	RXL	B7	E7	--	F7	P7

For other voltages, please consult your Regional Sales Office.

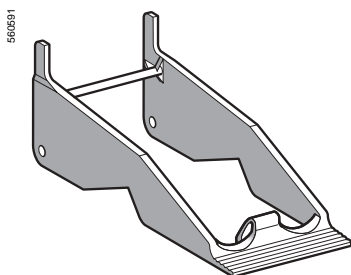
#### Coil characteristics

Control circuit voltage U <sub>c</sub>	d.c. supply		a.c. supply 50/60 Hz				
	Average resistance at 20 °C ± 10%	Cod. Operating voltage limits	Min.	Max.	Average resistance at 20 °C ± 15 %	Min.	Max.
V	Ω	V	V	V	Ω	V	V
<b>RXN relays</b>							
12	160	JD	9.6	13.2	--	--	--
24	640	BD	19.2	26.4	150	B7	19.2 26.4
48	2600	ED	38.4	52.8	635	E7	38.4 52.8
110	13 600	FD	88	121	--	F7	-- --
230	--	--	--	--	15 400	P7	184 253
<b>RXL relays</b>							
12	160	JD	9.6	13.2	--	--	--
24	640	BD	19.2	26.4	158	B7	19.2 26.4
48	2600	ED	38.4	52.8	640	E7	38.4 52.8
110	13 600	FD	88	121	--	--	--
120	--	--	--	--	3770	F7	96 132
230	--	--	--	--	16 100	P7	184 253

(1) These relays have a lockable Test button on their front face, which can be converted to non-lockable or can be eliminated; see accessories on page opposite.



RXZ 200



RXZ R235

### Sockets (1)

Protection module	Application	Type	I/O	Sold in lots of	Unit reference	Weight kg
Without	RXN 21, RXN 41, – RXL 2A12 and RXL 4	–	Mixed	10	RXZ E1M114	0.048
With	RXN 21, RXN 41	L	Mixed	10	RXZ 7G	0.055
	RXN 21, RXL 2	E	Separate	10	RXZ E1S108M	0.058
	RXL 3A10	E	Separate	10	RXZ E1S111M	0.065
	RXN 4, RXL 4	E	Separate	10	RXZ E1S114M	0.070
		E	Mixed (2)	10	RXZ E1M114M	0.070

### Accessories

Description	Application	Sold in lots of	Unit reference	Weight kg
Button	For non-lockable Test function	20 (3)	RXZ P20	0.001
Blanking cover	For elimination of Test function	20 (3)	RXZ P10	0.001
Metal maintaining clamps	For use on all sockets	10	RXZ 200	0.001
Plastic maintaining clamps	RXZ E	10	RXZ R235	0.005
Legends	Clip-in fixing on socket RXZ-7G	10	RXZ 300	0.010
	Clip-in fixing on socket RXZ-7 in place of module RXW 040MD	10	RXZ 310	0.011
	Clip-in fixing on socket RXZ-E	10	RXZ L320	0.001

(1) A bag containing ten **RXZ 300** legends is supplied with sockets **RXZ 7G**.

**RXZ E1M114** : 7 A, ~ 300 V.

**RXZ 7G** : 6 A, ~ 300 V.

**RXZ E1S108M** : 12 A, ~ 300 V.

(2) Each socket **RXZ E1M114M** is delivered with a legend **RXZ L320**.

(3) 10 red and 10 green.

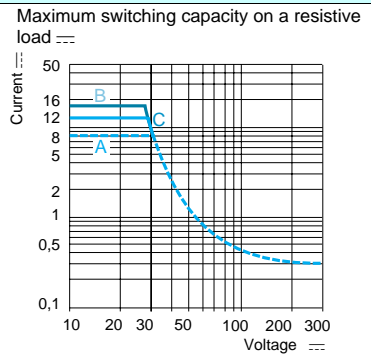
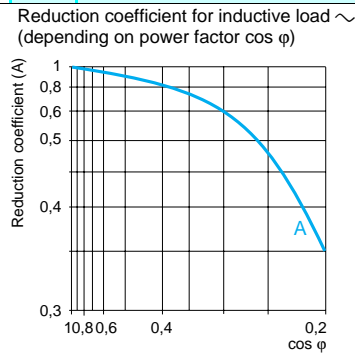
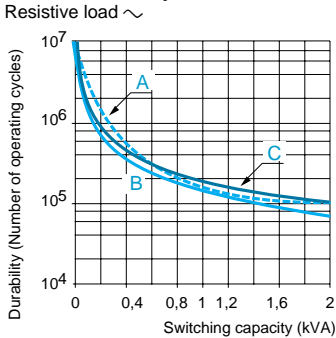
2

Relay type		RSB 2A080●●	RSB 1A120●●	RSB 1A160●●
<b>Contact characteristics</b>				
Number and type of contacts		2 C/O	1 C/O	1 C/O
Contact materials		AgNi		
Rated thermal current (I <sub>th</sub> )	For temperature ≤ 40 °C	A 8	12	16
Maximum operating rate	No-load	72 000		
	In operating cycles/h	600		
Switching voltage	Minimum	V 5		
	Maximum	V ~ 400, --- 300		
Breaking capacity	Minimum	mA 5		
	Maximum	VA 2000	3000	4000
<b>Coil characteristics</b>				
Rated voltage (U <sub>n</sub> )		V --- 6...110, ~ 24...240, 50/60 Hz		
Average consumption		--- 0.45 W, ~ 0.75 VA		
Permissible voltage variation		0.8...1.1 U <sub>n</sub> (50/60 Hz or ---) at 20 °C		
Drop-out voltage threshold		≥ --- 0.1 U <sub>n</sub> , ≥ ~ 0.15 U <sub>n</sub>		

<b>Environment</b>				
Conforming to standards	Standard version	IEC 61810-1		
Product certifications (pending)	Standard version	UL, CSA		
Ambient air temperature around the device	Storage	°C - 40...+ 85		
	Operation	°C --- - 40...+ 85, ~ - 40...+ 70		
Vibration resistance	Conforming to IEC 68-2-6	> 10 gn (10...150 Hz)		
Degree of protection		IP 40		
Shock resistance		10 gn (closing), 5 gn (opening)		
Mechanical durability	In millions of operating cycles	≥ 30		
Operating time (response time)	Between coil energisation and making of the On-delay contact	~ ms	About 12	
		--- ms	About 9	
	Between coil de-energisation and making of the Off-delay contact	~ ms	About 10	
		--- ms	About 4	
Electrical durability	Resistive load	8 A - 250 V : ≥ 0.1	12 A - 250 V : ≥ 0.1	16 A - 250 V : ≥ 0.07
	In millions of operating cycles/h	Inductive load	See curves below	

<b>Insulation characteristics</b>				
Rated insulation voltage (U <sub>i</sub> )	Conforming to IEC 947	V 400		
Insulation class	Conforming to VDE 0110	C 250		
Dielectric strength (rms voltage)	Between coil and contact ~	V 5000		
	Between poles	V 2500		
	Between contacts ~	V 1000		

**Electrical durability of contacts**



A RSB 2A080●● B RSB 1A160●● C RSB 1A120●●

Durability (inductive load) = durability (resistive load) x reduction coefficient.

Socket type		RSZ E1S48M	RSB E1S35M
<b>Socket characteristics</b>			
Conventional rated thermal current (I <sub>th</sub> )		A 12	
Insulation class		C 250	
Degree of protection		IP 20	
Product certifications		CSA, UR	
Connection	Solid cable without cable end	2 x 2.5 mm <sup>2</sup>	
	Flexible cable with or w/o cable end	2 x 1.5 mm <sup>2</sup>	
Arrangement of coil/contact terminals		Separate	
Type of protection module		RZM type E	
Relay types used		RSB 2A080 and RSB 1A160 (contacts to be wired in parallel)	RSB 1A120

560582



RSB 2A080BD + RSZ E1S48M

560583



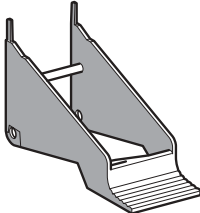
RSB 1A120JD + RZM 031FPD + RSZ E1S35M

560584



RSB 1A160BD + RSZ E1S48M

560585



RSZ R215

Relays for standard applications				
Number of C/O contacts	Conventional rated thermal current	Sold in lots of (2)	Unit reference, to be completed by adding the control voltage code (1) (2)	Weight
	A			kg
2	8	10	RSB 2A080●●	0.014
1	12	10	RSB 1A120●●	0.014
	16	10	RSB 1A160●●	0.014

Protection modules					
Description	Type	Voltage	Sold in lots of	Unit reference	Weight
		V			kg
Diode	E	≡ 6...230	10	RZM 040W	0.003
Diode + LED	E	≡ 6...24	10	RZM 031RB	0.004
		≡ 24...60	10	RZM 031BN	0.004
		≡ 110...230	10	RZM 031FPD	0.004
Varistor + LED	E	≡ or ~ 6...24	10	RZM 021RB	0.005
		≡ or ~ 24...60	10	RZM 021BN	0.005
		≡ or ~ 110...230	10	RZM 021FP	0.005
RC circuit	E	~ 24...60	10	RZM 041BN7	0.010
		~ 110...240	10	RZM 041FU7	0.010

Sockets - 12 A, ~ 300 V			
Application	Sold in lots of	Unit reference	Weight
RSB 2A080 and RSB 1A160	10	RSZ E1S48M	0.050
RSB 1A120	10	RSZ E1S35M	0.060

Accessories			
Application	Sold in lots of	Unit reference	Weight
Maintaining clamp	10	RSZ R215	0.002
Legend	10	RSZ L300	0.001

(1) Standard control circuit voltages

Volts	6	12	24	48	60	110	120	220	230	240	
≡		RD	JD	BD	ED	ND	FD	-	-	-	
~ 50/60 Hz		-	-	B7	E7	-	-	F7	M7	P7	U7

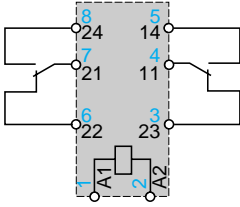
For other voltages, please consult your Regional Sales Office.

(2) To order a relay complete with socket (sold in lots of 20): add suffix **S** to the references selected above. Example: **RSB 2A080●●** becomes **RSB 2A080●●S**

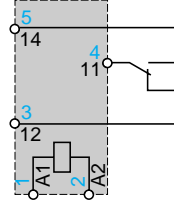
Coil characteristics						
Control circuit voltage U <sub>c</sub>	d.c. supply			a.c. supply 50/60 Hz		
	Average resistance at 20 ° ± 10%	Cod. Operating voltage limits		Average resistance at 20 °C ± 15 %	Cod. Operating voltage limits	
V	Ω	Min.	Max.	Ω	Min.	Max.
6	90	RD	4.2	15.3	-	-
12	360	JD	8.4	30.6	-	-
24	1440	BD	16.8	61.2	400	B7 19.2 26.4
48	5700	ED	33.6	122.4	1550	E7 38.4 57.6
60	7500	ND	42	153	-	-
110	25 200	FD	77	280	-	-
120	-	-	-	-	10 200	F7 96 144
220	-	-	-	-	35 500	M7 176 264
230	-	-	-	-	38 500	P7 184 276
240	-	-	-	-	42 500	U7 192 288

### Interface relays (1)

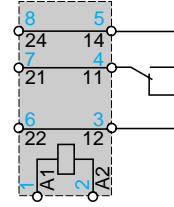
**RSB 2A080●●**



**RSB 1A120●●**



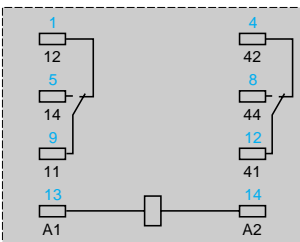
**RSB 1A160●●**



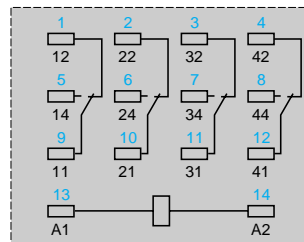
When using relay RSB 1A160●● with socket RSZ E1S48M : terminals 11 and 21, 14 and 24, 12 and 22 must be linked.

### Miniature relays (1)

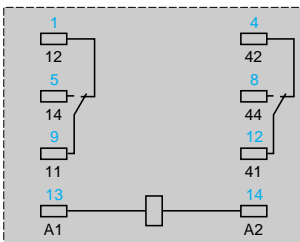
**RXN 21E1●●●**



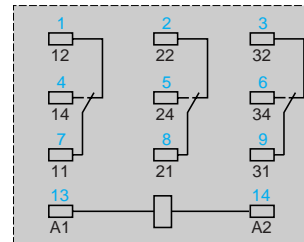
**RXN 41G**



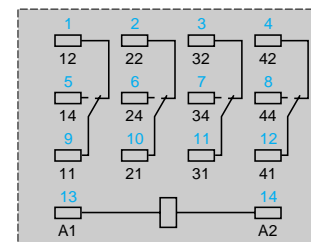
**RXL 2●●**



**RXL 3●●**

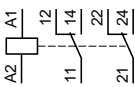


**RXL 4●●**

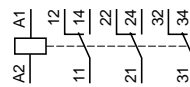


### Universal relays (1)

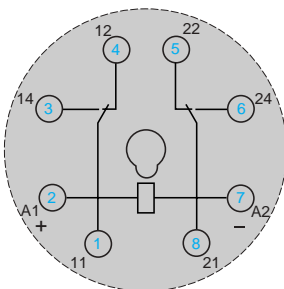
**RUN 21D2●●●, RUN 21C2●●●**



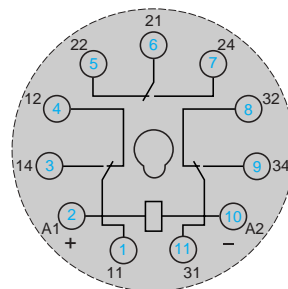
**RUN 31A2●●●, RUN 33A2●●●  
RUN 31C2●●●**



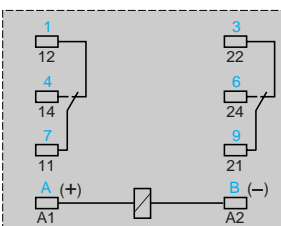
**RUN 21D2●●●**



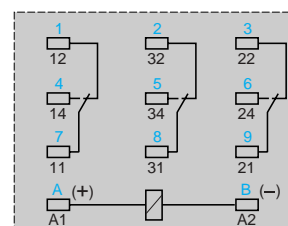
**RUN 33A2●●●, RUN 31A2●●●**



**RUN 21C2●●●**



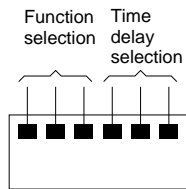
**RUN 31C2●●●**



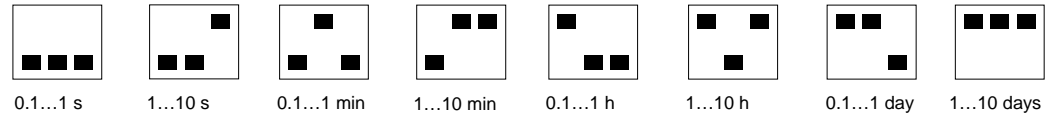
(1) Blue references are those marked on the relay .

### Multifunction timer module RUW 101MW

Programming



Timing range selection



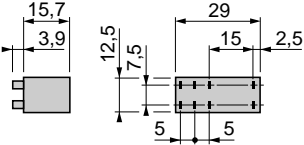
Function selection

Selection	Function	Control	Function diagram	Control scheme
	<b>On-delay timer</b> E	Series control		
	<b>Monostable with maintained control</b> Wu	Series control		
	<b>Flashing relay, starting On-delay phase</b> Bi	Series control		
	<b>Flashing relay, starting Off-delay phase</b> Bp	Series control		
	<b>Off-delay timer</b> R	Control by external contact (S)		
	<b>Monostable with pulse control</b> Ws	Control by external contact (S)		
	<b>Monostable starting on de-energisation</b> Wa	Control by external contact (S)		
	<b>On-delay timer</b> Es	Control by external contact (S)		

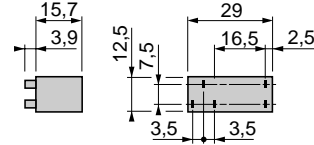
Power off      Contact open      U : voltage      S : external control  
 Power on      Contact closed      R : relay RUN●●●      t : adjustable time delay

**Interface relays (references: page 2/11)**

RSB 2A080●●, RSB 1A160●●

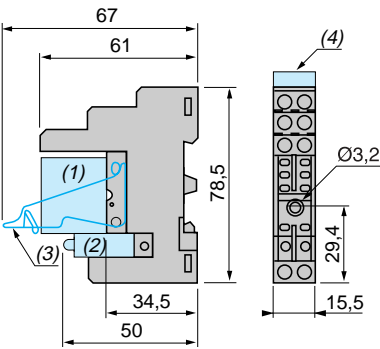


RSB 1A120●●

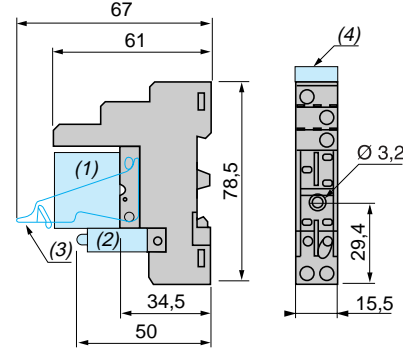


**Sockets (references: page 2/11)**

RSZ E1S48M

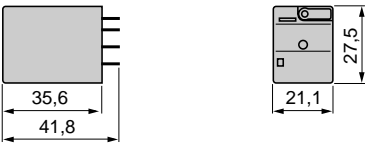


RSZ E1S35M



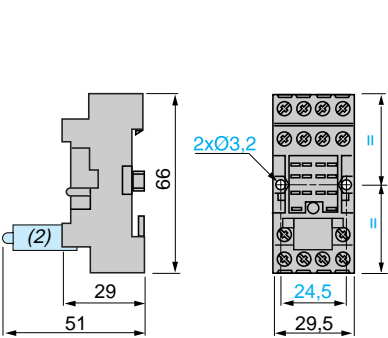
**Miniature relays (references: pages 2/8)**

RXN 21E1●●●, RXN 41G1●●●, RXL●●●

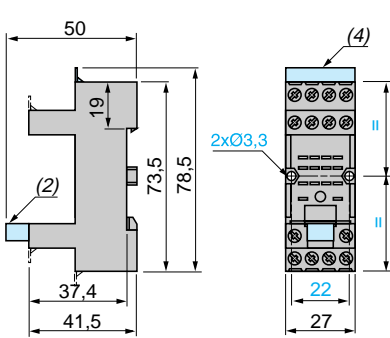


**Sockets (references: page 2/9)**

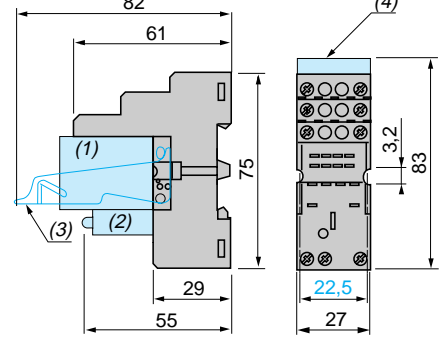
RXZ E1M114



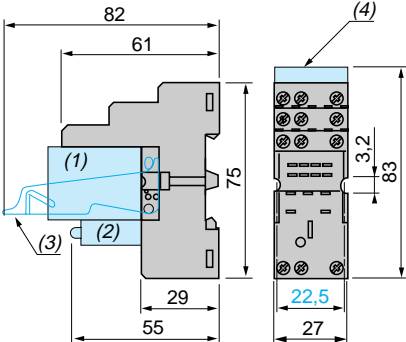
RXZ 7G



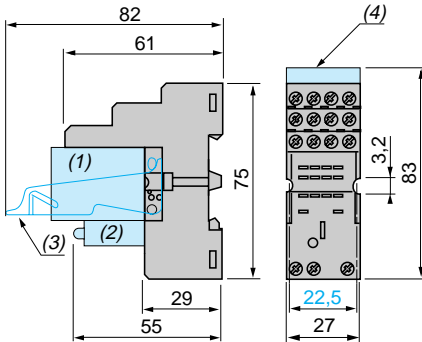
RXZ E1S108M



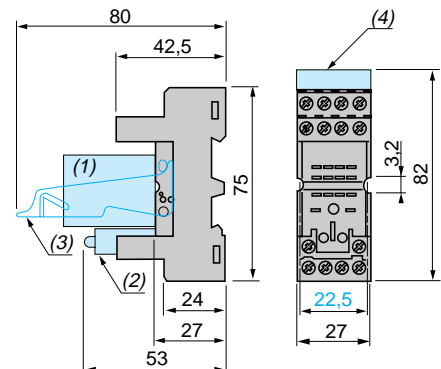
RXZ E1S111M



RXZ E1S114M



RXZ E1M114M



(1) Relays, (2) Add-on protection module, (3) Maintaining clamp, (4) Legend.

References: pages 28042/4, 28042/5 and 2/

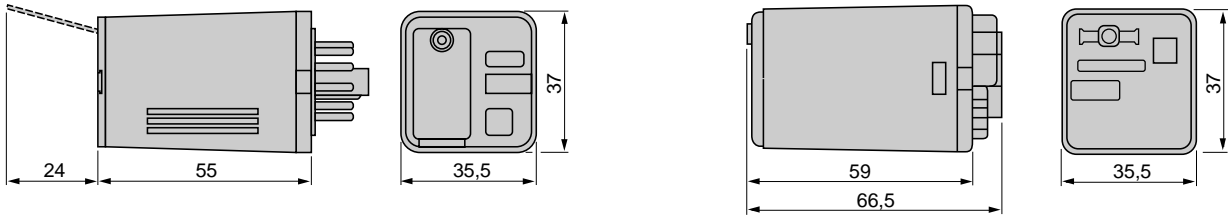
Schemes: page 2/12



**Universal relays (references: page 2/5)**

RUN 21D2●●●, RUN 31A2●●●, RUN 33A2●●●

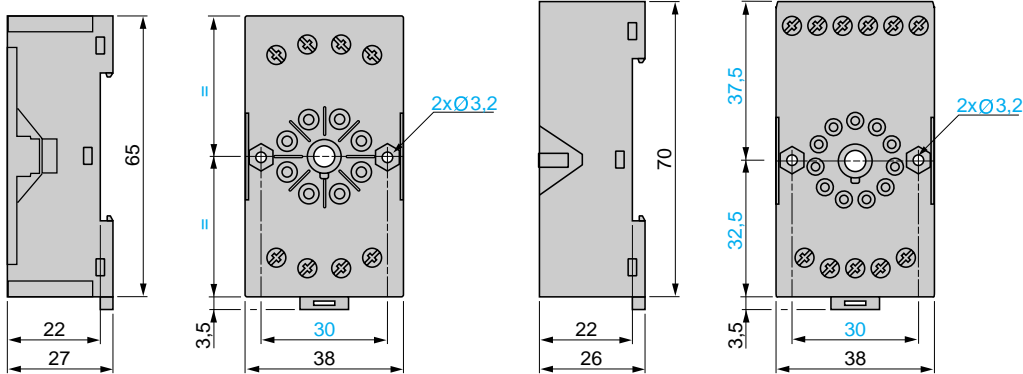
RUN 21C2●●●, RUN 31C2●●●



**Sockets (references: page 2/5)**

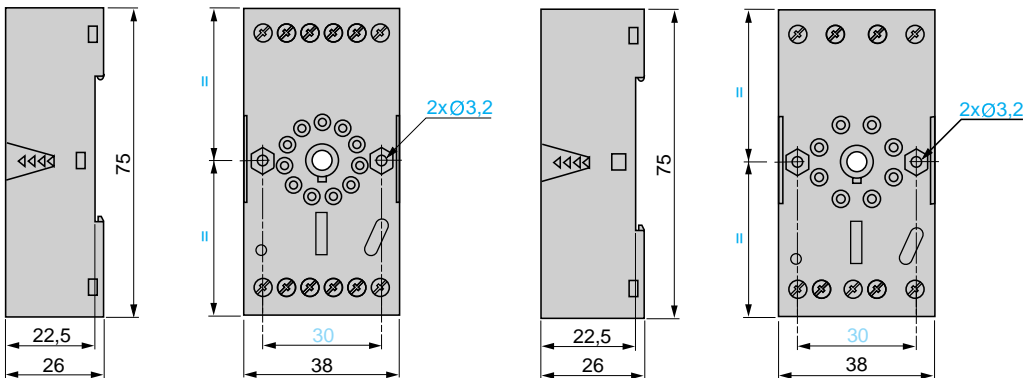
**RUZ 1D**

**RUZ 1A**



**RUZ 7A**

**RUZ 7D**



**RUZ 1C**

