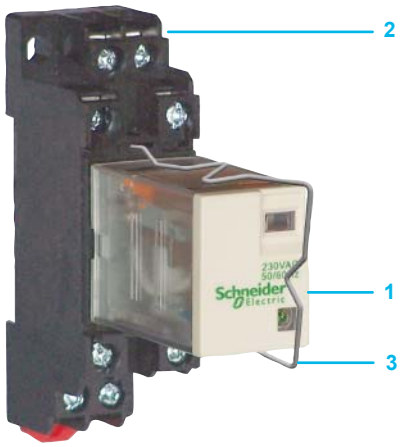
# Electromechanical Zelio Relay
## RXM Optimum miniature plug-in relays

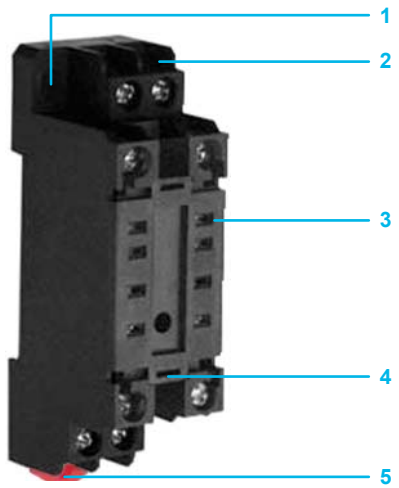



### Presentation of the range

The RXM Optimum miniature relay range comprises:
1 5 A relay with 2 C/O contacts or 3 A relays with 4 C/O contacts.
The relays have the same dimensions.
2 Socket with mixed contact terminals.
3 Metal maintaining clamps (accessories).


### Relay description

1 Area by which the product can be easily gripped.
2 Mechanical “relay status” indicator.
3 LED (depending on version) indicating the relay status.
4 Four notches for rail mounting adapter or panel mounting adapter with fixing lugs.
5 Eight or fourteen Faston type pins.




### Socket description

1 Two fixing holes for panel mounting.
2 Connection by screw clamp terminals.
3 Eight or fourteen female contacts for the relay pins.
4 Two fixing holes for metal maintaining clamp.
5 Locating slot for mounting on DIN rail with fixing clip.

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## General characteristics

| | | | |
|---|---|---|---|
| **Conforming to standards** | | | CE, ROHS, IEC/EN 61810-1 (iss.2) |
| **Product certifications** | | | None |
| **Ambient air temperature around the device** | Storage | **°C** | - 40… + 85 |
| | Operation | **°C** | - 40… + 55 |
| **Vibration resistance** conforming to IEC/EN60068-2-6 | Operating | | 3 gn (10...50 Hz) |
| | Not operating | | 6 gn (10...50 Hz) |
| **Degree of protection** conforming to IEC/EN 60529 | | | IP 40 |
| **Shock resistance** conforming to IEC/EN 60068-2-27 | Opening | | 10 gn |
| | Closing | | 5 gn |
| **Protection category** | | | RT I |
| **Mounting position** | | | Any |

## Insulation characteristics

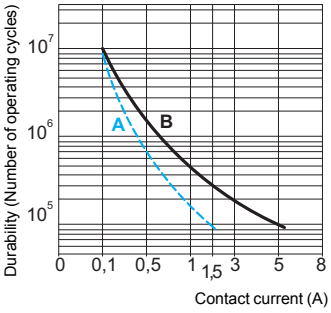
| | | | |
|---|---|---|---|
| **Rated insulation voltage (Ui)** | | **V** | 250 (IEC) |
| **Rated impulse withstand voltage (Uimp)** | | **kV** | 3.6 (1.2/50 µs) |
| **Dielectric strength** (rms voltage) | Between coil and contact | ∼ **V** | 2000 |
| | Between poles | ∼ **V** | 2000 |
| | Between contacts | ∼ **V** | 1000 |

## Contact characteristics

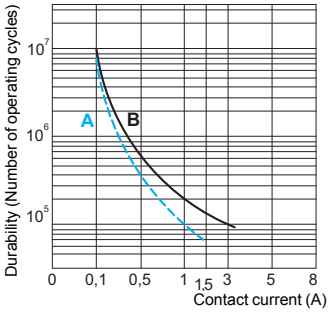
| **Relay type** | | | | **RXM 2LB●●●** | **RXM 4LB●●●** |
|---|---|---|---|---|---|
| **Number and type of contacts** | | | | 2 C/O | 4 C/O |
| **Contact materials** | | | | Silver Alloy | Silver Alloy |
| **Conventional thermal current (Ith)** | For ambient temperature ≤55 °C | | **A** | 5 | 3 |
| **Rated operational current** in utilisation categories AC-1 and DC-1 | Conforming to IEC | N/O | | 5 | 3 |
| | | N/C | | 2.5 | 1.5 |
| **Minimum switchable current** | | | **mA** | 10 | |
| **Switching voltage** | Maximum | | **V** | ⎓/∼ 250 | |
| | Minimum | | **V** | 17 | |
| **Rated load (resistive)** | | | **A** | 5 / 250 VAC | 3 / 250 VAC |
| | | | **A** | 5 / 28 VDC | 3 / 28 VDC |
| **Switching capacity** | Maximum | ∼ | **VA** | 1250 | 750 |
| | | ⎓ | **W** | 140 | 84 |
| | Minimum | | **mW** | 170 | 170 |
| **Maximum operating rate In operating cycles/hour** | No-load | | | 18 000 | |
| | Under load | | | 1200 | |
| **Utilisation coefficient** | | | | 20 % | |
| **Mechanical durability** | In millions of operating cycles | | | 10 | |
| **Electrical durability** In millions of operating cycles | Resistive load | | | 0.1 | |
| | Inductive load | | | See curves below | |

**Electrical durability of contacts**

For 2 poles relay



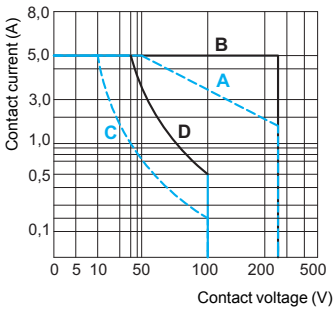

For 4 poles relay



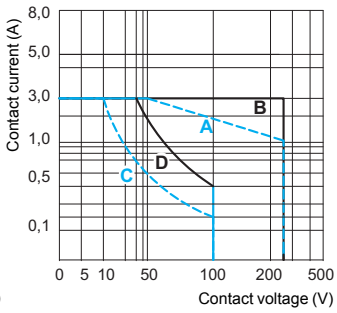

**A** Inductive load
**B** Resistive load

**Maximum switching capacity**

For 2 poles relay




For 4 poles relay




**A** Inductive load ∼
**B** Resistive load ∼
**C** Inductive load ⎓
**D** Resistive load ⎓

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

## Coil characteristics

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Average consumption** | | ∼ | **VA** | 1.2 | | | | | | |
| | | ⎓ | **W** | 0,9 | | | | | | |
| **Drop-out voltage threshold** | | ∼ | | ≥ 0.15 Uc | | | | | | |
| | | ⎓ | | ≥ 0.1 Uc | | | | | | |
| **Operating time** (response time) | Between coil energisation and making of the On-delay contact | ∼ | **ms** | 20 | | | | | | |
| | | ⎓ | **ms** | 20 | | | | | | |
| | Between coil de-energisation and making of the Off-delay contact | ∼ | **ms** | 20 | | | | | | |
| | | ⎓ | **ms** | 20 | | | | | | |
| **Control circuit voltage Uc** | | | **V** | **12** | **24** | **36** | **48** | **110** | **120** | 230 |
| **Relay control voltage codes** | | | | **JD** | **BD** | **CD** | **ED** | **FD** | **–** | – |
| **DC supply** | Average resistance at 20 °C ± 10% | | **Ω** | 160 | 630 | 1500 | 2600 | 11000 | – | – |
| | Operating voltage limits | Min. | **V** | 9.6 | 19.2 | 28.8 | 38.4 | 88 | – | – |
| | | Max. | **V** | 13.2 | 26.4 | 39.6 | 52.8 | 121 | – | – |
| **Relay control voltage codes** | | | | **–** | **B7** | **–** | **–** | **–** | **F7** | **P7** |
| **AC supply** | Average resistance at 20 °C ± 15% | | **Ω** | – | 160 | – | – | – | 4500 | 15000 |
| | Operating voltage limits | Min. | **V** | – | 19.2 | – | – | – | 96 | 184 |
| | | Max. | **V** | – | 26.4 | – | – | – | 132 | 253 |

## Socket characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Socket Type** | | | | **RXZ E1M2C** | **RXZ E1M4C** |
| **Relay Type** | | | | **RXM 2●●●●●** | **RXM 2●●●●●, RXM 4●●●●●** |
| **Contact terminal arrangement** | | | | Mixed | |
| **Wire connection method** | | | | Screw clamp | |
| **Width** | | | **mm** | 22.5 | 29 |
| **Product certifications** | | | | None | |
| **Conformity to standards** | | | | CE, ROHS, IEC 61984 | |
| **Electrical Ratings** | | | | | |
| **Conventional Thermal Current (Ith)** | | | **A** | 7 | |
| **Nominal Voltage Rating** | | | **V** | 250 (IEC) | |
| **Dielectric Strength** | | | | | |
| **Output to Adjacent Output Terminals** | | | **Vrms** | 2 500 | |
| **Output to Input Terminals** | | | **Vrms** | 2 500 | |

## General Characteristics

| | | | | |
|---|---|---|---|---|
| **Temperature range** | | Operating | **°C** | - 40…+ 55 |
| | | Storage | **°C** | - 55…+ 85 |
| **Degree of protection** | Conforming to IEC/EN 60529 | | | IP 20 |
| **Connection** | Solid cable without cable end | 1 conductor | **mm²** | 0.5…1.5 |
| | | | **AWG** | 20…16 |
| | | 2 conductors | **mm²** | 0.5…1.5 |
| | | | **AWG** | 20…16 |
| | Flexible cable with cable end | 1 conductor | **mm²** | 0.25…1 |
| | | | **AWG** | 22…17 |
| | | 2 conductors | **mm²** | 0.25…1 |
| | | | **AWG** | 22…17 |
| **Screw Size** | | | **mm** | M3 |
| **Maximum tightening torque** | | | **Nm** | 0.8 (M3 Screw) |
| **Mounting** | | | | 35 mm DIN Rail / Panel |
| **DIN Rail locking method** | | | | Red Plastic Clip |
| **Terminal Marking** | | | | IEC, NEMA |
| **Relay fixing plastic clip compatible** | | | | No / No |
| **Relay fixing metal clip compatible** | | | | Yes / Yes |
| **Protection modules** | | | | No / No |
| **Clip-In legend** | | | | No / No |

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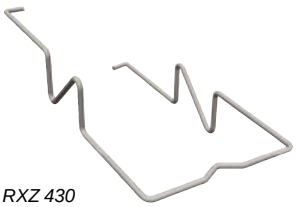
*RXM ●LB●●●*

*RXZ E1M●C*

*RXZ 420*



*RXZ 430*

## References

### Miniature relays without lockable test-button, with LED
(sold in lots of 10)

| Control circuit voltage | Number and type of contacts - Thermal current (Ith) | | | |
|---|---|---|---|---|
| | 2 C/O - 5 A | | 4 C/O - 3 A | |
| | Unit reference | Weight | Unit reference | Weight |
| V | | kg | | kg |
| ⎓ 12 | **RXM 2LB2JD** | 0.033 | **RXM 4LB2JD** | 0.035 |
| ⎓ 24 | **RXM 2LB2BD** | 0.032 | **RXM 4LB2BD** | 0.034 |
| ⎓ 36 | **RXM 2LB2CD** | 0.034 | **RXM 4LB2CD** | 0.036 |
| ⎓ 48 | **RXM 2LB2ED** | 0.033 | **RXM 4LB2ED** | 0.035 |
| ⎓ 110 | **RXM 2LB2FD** | 0.031 | **RXM 4LB2FD** | 0.033 |
| ∿ 24 | **RXM 2LB2B7** | 0.033 | **RXM 4LB2B7** | 0.035 |
| ∿ 120 | **RXM 2LB2F7** | 0.032 | **RXM 4LB2F7** | 0.033 |
| ∿ 230 | **RXM 2LB2P7** | 0.031 | **RXM 4LB2P7** | 0.032 |

### Miniature relays without lockable test-button, without LED
(sold in lots of 10)

| Control circuit voltage | Number and type of contacts - Thermal current (Ith) | | | |
|---|---|---|---|---|
| | 2 C/O - 5 A | | 4 C/O - 3 A | |
| | Unit reference | Weight | Unit reference | Weight |
| V | | kg | | kg |
| ⎓ 12 | **RXM 2LB1JD** | 0.032 | **RXM 4LB1JD** | 0.034 |
| ⎓ 24 | **RXM 2LB1BD** | 0.032 | **RXM 4LB1BD** | 0.033 |
| ⎓ 48 | **RXM 2LB1ED** | 0.033 | **RXM 4LB1ED** | 0.034 |
| ∿ 24 | **RXM 2LB1B7** | 0.033 | **RXM 4LB1B7** | 0.034 |
| ∿ 120 | **RXM 2LB1F7** | 0.031 | **RXM 4LB1F7** | 0.033 |
| ∿ 230 | **RXM 2LB1P7** | 0.030 | **RXM 4LB1P7** | 0.032 |

### Sockets
(sold in lots of 10)

| Contact terminal arrangement | Connection | Relay type | Unit reference | Weight kg |
|---|---|---|---|---|
| **Mixed** | Screw clamp | RXM2 | **RXZ E1M2C** | 0.034 |
| | Screw clamp | RXM2 RXM4 | **RXZ E1M4C** | 0.053 |

### Accessories
(sold in lots of 10)

| Description | For use with | Unit reference | Weight kg |
|---|---|---|---|
| **Metal maintaining clamp** | RXZ E1M2C | **RXZ 420** | 0.001 |
| | RXZ E1M4C | **RXZ 430** | 0.001 |

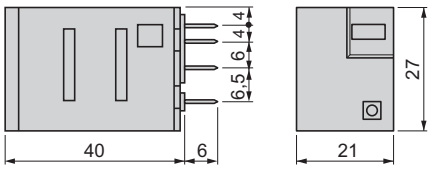
*nota: If protection module needed, please used the RZE2● sockets with the associated protection module RXM0. You can find all the details in the RXM●AB range.*

## Dimensions

### Miniature relays

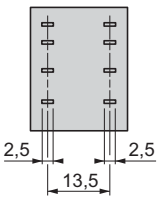
#### RXM ●●●●●●●●●●

Common view

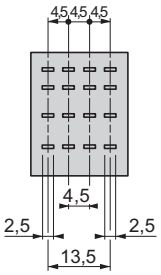



#### RXM 2●●●●●

Pin side view

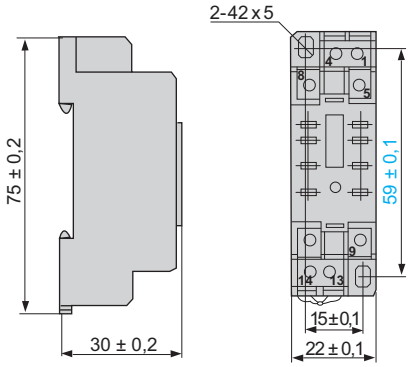



#### RXM 4●●●●●

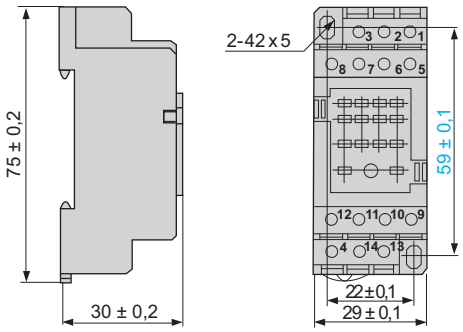



### Sockets

#### RXZ E1M2C




#### RXZ E1M4C



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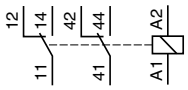
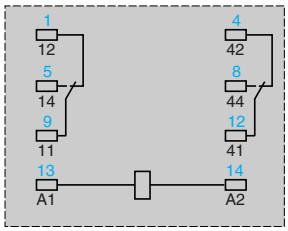
## Schemes

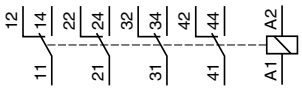
### Miniature relays

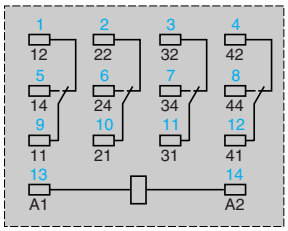
**RXM 2●●●●●**




**RXM 4●●●●●**




*Symbols shown in blue correspond to Nema marking.*