

# Product datasheet

Specifications



## Harmony, Miniature plug-in relay, 12 A, 2 CO, with lockable test button, 12 V DC

RXM2AB1JD

### Main

|                               |                                  |
|-------------------------------|----------------------------------|
| Range of product              | Harmony Electromechanical Relays |
| Series name                   | Miniature                        |
| Product or component type     | Plug-in relay                    |
| Device short name             | RXM                              |
| Contacts type and composition | 2 C/O                            |
| [Uc] control circuit voltage  | 12 V DC                          |
| Status LED                    | Without                          |
| Control type                  | Lockable test button             |
| Utilisation coefficient       | 20 %                             |

### Complementary

|  |   |
|--|---|
| Shape of pin                           | Flat  |
| [Ui] rated insulation voltage          | 250 V conforming to IEC<br>300 V conforming to CSA<br>300 V conforming to UL  |
| [Uimp] rated impulse withstand voltage | 4 kV during 1.2/50 $\mu$ s  |
| Contacts material                      | AgNi  |
| [Ie] rated operational current         | 12 A at 28 V (DC) NO conforming to IEC<br>12 A at 250 V (AC) NO conforming to IEC<br>6 A at 28 V (DC) NC conforming to IEC<br>6 A at 250 V (AC) NC conforming to IEC<br>12 A at 28 V (DC) conforming to UL<br>12 A at 277 V (AC) conforming to UL |
| Continuous output current              | 10 A  |
| Maximum switching voltage              | 250 V conforming to IEC   |
| Resistive rated load                   | 12 A at 250 V AC<br>12 A at 28 V DC   |
| Maximum switching capacity             | 3000 VA/336 W   |
| Minimum switching capacity             | 170 mW at 10 mA, 17 V   |
| Operating rate                         | $\leq$ 1200 cycles/hour under load<br>$\leq$ 18000 cycles/hour no-load  |
| Mechanical durability                  | 10000000 cycles   |
| Electrical durability                  | 100000 cycles for resistive load  |

|                                  |                           |
|----------------------------------|---------------------------|
| Average coil consumption         | 0.9 W                     |
| Drop-out voltage threshold       | $\geq 0.1 U_c$            |
| Operate time                     | 20 ms                     |
| Release time                     | 20 ms                     |
| Average coil resistance          | 160 Ohm at 20 °C +/- 10 % |
| Rated operational voltage limits | 9.6...13.2 V DC           |
| Safety reliability data          | B10d = 100000             |
| Protection category              | RT I                      |
| Test levels                      | Level A group mounting    |
| Operating position               | Any position              |
| Net weight                       | 0.037 kg                  |
| Device presentation              | Complete product          |

## Environment

|                                       |  |
|---------------------------------------|--|
| Dielectric strength                   | 1300 V AC between contacts with micro disconnection<br>2000 V AC between coil and contact with basic insulation<br>2000 V AC between poles with basic insulation |
| Product certifications                | CSA<br>UL<br>GOST<br>Lloyd's<br>CE   |
| Standards                             | CSA C22.2 No 14<br>UL 508<br>IEC 61810-1   |
| Ambient air temperature for storage   | -40...85 °C  |
| Ambient air temperature for operation | -40...55 °C  |
| Vibration resistance                  | 3 gn, amplitude = +/- 1 mm (f = 10...150 Hz)5 cycles in operation<br>5 gn, amplitude = +/- 1 mm (f = 10...150 Hz)5 cycles not operating                          |
| IP degree of protection               | IP40 conforming to IEC 60529   |
| Shock resistance                      | 10 gn for in operation<br>30 gn for not operating  |
| Pollution degree                      | 3  |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 2.2 cm  |
| Package 1 Width              | 2.8 cm  |
| Package 1 Length             | 5 cm    |
| Package 1 Weight             | 36 g    |
| Unit Type of Package 2       | BB1     |
| Number of Units in Package 2 | 10      |
| Package 2 Height             | 3 cm    |
| Package 2 Width              | 10.2 cm |
| Package 2 Length             | 12.5 cm |
| Package 2 Weight             | 392 g   |
| Unit Type of Package 3       | S02     |

|                                     |          |
|-------------------------------------|----------|
| <b>Number of Units in Package 3</b> | 240      |
| <b>Package 3 Height</b>             | 15 cm    |
| <b>Package 3 Width</b>              | 30 cm    |
| <b>Package 3 Length</b>             | 40 cm    |
| <b>Package 3 Weight</b>             | 9.878 kg |

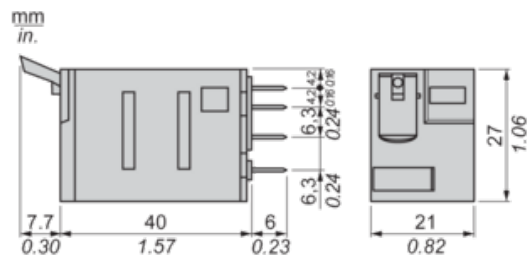
## Offer Sustainability

|                                   |   |
|-----------------------------------|---|
| <b>Sustainable offer status</b>   | Green Premium product   |
| <b>REACH Regulation</b>           | <a href="#">REACH Declaration</a>   |
| <b>REACH free of SVHC</b>         | Yes   |
| <b>EU RoHS Directive</b>          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                           |
| <b>Toxic heavy metal free</b>     | Yes   |
| <b>Mercury free</b>               | Yes   |
| <b>China RoHS Regulation</b>      | <a href="#">China RoHS declaration</a>  |
| <b>RoHS exemption information</b> | <a href="#">Yes</a>   |
| <b>Environmental Disclosure</b>   | <a href="#">Product Environmental Profile</a>   |
| <b>Circularity Profile</b>        | <a href="#">End of Life Information</a>   |
| <b>WEEE</b>                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

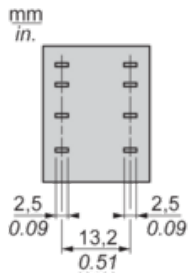
## Contractual warranty

|                 |           |
|-----------------|-----------|
| <b>Warranty</b> | 18 months |
|-----------------|-----------|

Dimensions

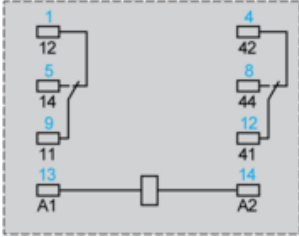
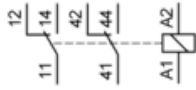


Pin Side View



## Wiring Diagram

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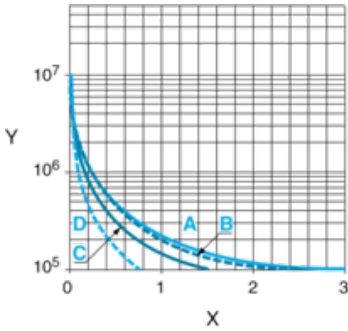


Symbols shown in blue correspond to Nema marking.

**Electrical Durability of Contacts**

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

Resistive AC load



X Switching capacity (kVA)

Y Durability (Number of operating cycles)

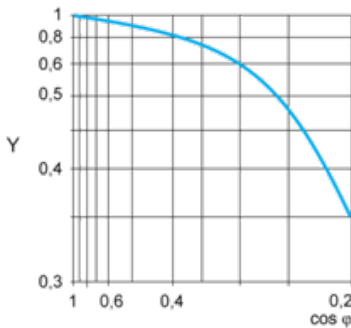
A RXM2AB...

B RXM3AB...

C RXM4AB...

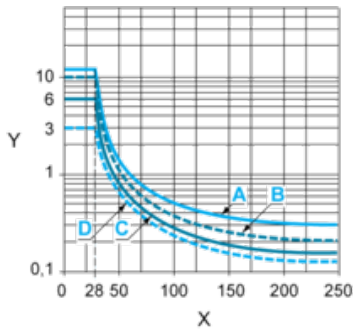
D RXM4GB...

Reduction coefficient for inductive AC load (depending on power factor  $\cos \phi$ )



Y Reduction coefficient (A)

Maximum switching capacity on resistive DC load



X Voltage DC

Y Current DC

A RXM2AB...

B RXM3AB...

C RXM4AB...

D RXM4GB...

**Note :** These are typical curves, actual durability depends on load, environment, duty cycle, etc.

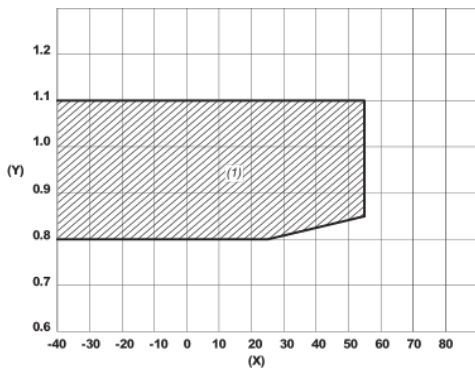
For inductive load, to increase relay life cycles, please add a proper load protection circuit (eg: RC protection/Varistor/free Wheeling diode -DC load only- ).

For low level loads (below 10mA), we recommend to use RXM\*GB series with bifurcated contacts relays instead.

**Coil Operating Range**

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**DC Coil Operating Range VS Ambient Temperature**



X : Ambient temperature (°C)

Y : AC coil voltage (U/Uc)

(1) Permitted operating range area

**Recommended replacement(s)**