

# Product datasheet

Specifications



## Interface plug-in relay, 12 A, 1 CO, 12 V DC

Local distributor code: 403003905    RSB1A120JD

### Main

|                                              |                                  |
|----------------------------------------------|----------------------------------|
| Range of product                             | Harmony Electromechanical Relays |
| Series name                                  | Interface relay                  |
| Product or component type                    | Plug-in relay                    |
| Device short name                            | RSB                              |
| Contacts type and composition                | 1 C/O                            |
| Contact operation                            | Standard                         |
| [Uc] control circuit voltage                 | 12 V DC                          |
| [Ithe] conventional enclosed thermal current | 12 A at -40...40 °C              |
| Status LED                                   | Without                          |
| Control type                                 | Without push-button              |

### Complementary

|                                        |                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------|
| Shape of pin                           | Flat (PCB type)                                                               |
| Average coil resistance                | 360 Ohm network: DC at 20 °C +/- 10 %                                         |
| [Ue] rated operational voltage         | 8.4...18 V DC                                                                 |
| [Ui] rated insulation voltage          | 400 V conforming to EN/IEC 60947                                              |
| [Uimp] rated impulse withstand voltage | 3.6 kV conforming to IEC 61000-4-5                                            |
| Contacts material                      | Silver alloy (AgNi)                                                           |
| [Ie] rated operational current         | 12 A (AC-1/DC-1) NO conforming to IEC<br>6 A (AC-1/DC-1) NC conforming to IEC |
| Minimum switching current              | 10 mA                                                                         |
| Maximum switching voltage              | 300 V DC conforming to IEC                                                    |
| Minimum switching voltage              | 12 V                                                                          |
| Maximum switching capacity             | 3000 VA/336 W                                                                 |
| Resistive rated load                   | 12 A at 250 V AC<br>12 A at 28 V DC                                           |
| Minimum switching capacity             | 120 mW at 10 mA, 12 V                                                         |
| Operating rate                         | <= 600 cycles/hour under load<br><= 18000 cycles/hour no-load                 |
| Mechanical durability                  | 30000000 cycles                                                               |

|                               |                                                                               |
|-------------------------------|-------------------------------------------------------------------------------|
| Electrical durability         | 100000 cycles, 12 A at 250 V, AC-1 NO<br>100000 cycles, 6 A at 250 V, AC-1 NC |
| Operating time                | 20 ms operating<br>20 ms reset                                                |
| Average coil consumption      | 0.45 W DC                                                                     |
| Drop-out voltage threshold    | >= 0.1 Uc DC                                                                  |
| Safety reliability data       | B10d = 100000                                                                 |
| Protection category           | RT I                                                                          |
| Test levels                   | Level A group mounting                                                        |
| Operating position            | Any position                                                                  |
| Net weight                    | 0.014 kg                                                                      |
| Sale per indivisible quantity | 10                                                                            |
| Device presentation           | Complete product                                                              |

### Environment

|                                       |                                                                                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dielectric strength                   | 1000 V AC between contacts<br>2500 V AC between poles<br>5000 V AC between coil and contact                                                            |
| Standards                             | CSA C22.2 No 14<br>UL 508<br>EN/IEC 61810-1                                                                                                            |
| Product certifications                | EAC<br>UL<br>CSA                                                                                                                                       |
| Ambient air temperature for storage   | -40...85 °C                                                                                                                                            |
| Vibration resistance                  | +/- 1 mm (f= 10...55 Hz) conforming to EN/IEC 60068-2-6                                                                                                |
| IP degree of protection               | IP40 conforming to EN/IEC 60529                                                                                                                        |
| Shock resistance                      | 10 gn (duration = 11 ms) for not operating conforming to EN/IEC 60068-2-27<br>5 gn (duration = 11 ms) for in operation conforming to EN/IEC 60068-2-27 |
| Ambient air temperature for operation | -40...85 °C (DC)                                                                                                                                       |

### Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Weight             | 15.0 g   |
| Package 1 Height             | 2.1 cm   |
| Package 1 width              | 2.5 cm   |
| Package 1 Length             | 31.1 cm  |
| Unit Type of Package 2       | BB1      |
| Number of Units in Package 2 | 10       |
| Package 2 Weight             | 158.0 g  |
| Package 2 Height             | 2.1 cm   |
| Package 2 width              | 2.5 cm   |
| Package 2 Length             | 31.1 cm  |
| Unit Type of Package 3       | S01      |
| Number of Units in Package 3 | 350      |
| Package 3 Weight             | 5.405 kg |

|                  |       |
|------------------|-------|
| Package 3 Height | 15 cm |
| Package 3 width  | 15 cm |
| Package 3 Length | 40 cm |

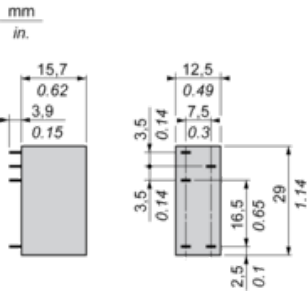
Offer Sustainability

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

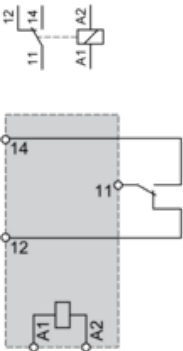
Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Dimensions



Wiring Diagram

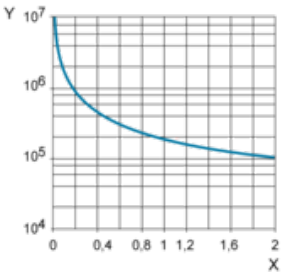


**NOTE:** For DC input, A1 have to be +, otherwise it would short circuit from protection module

Electrical Durability of Contacts

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

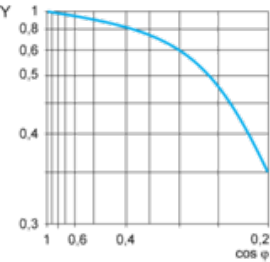
Resistive AC load



X Switching capacity (kVA)

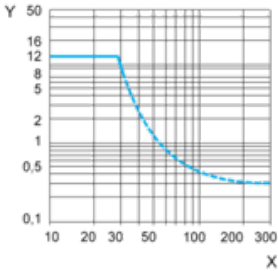
Y Durability (Number of operating cycles)

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



Y Reduction coefficient (A)

Maximum switching capacity on resistive DC load



X Voltage DC

Y Current DC

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