

# Product data sheet

Specifications



## Harmony, Interface plug-in relay, 12 A, 1 CO, 24 V DC

RSB1A120BD

### 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	24 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	1440 Ohm network: AC at 20 °C +/- 10 %
[Ue] rated operational voltage	16.8...36 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 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 12 A at 28 V DC
Minimum switching capacity	120 mW at 10 mA, 12 V
Operating rate	<= 600 cycles/hour under load <= 18000 cycles/hour no-load
Mechanical durability	30000000 cycles

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

## Environment

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

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	16 g
<b>Package 1 Height</b>	1.7 cm
<b>Package 1 width</b>	2.5 cm
<b>Package 1 Length</b>	31 cm
<b>Unit Type of Package 2</b>	BB1
<b>Number of Units in Package 2</b>	10
<b>Package 2 Weight</b>	160 g
<b>Package 2 Height</b>	1.7 cm
<b>Package 2 width</b>	2.5 cm
<b>Package 2 Length</b>	31 cm
<b>Unit Type of Package 3</b>	S01
<b>Number of Units in Package 3</b>	350
<b>Package 3 Weight</b>	5.3 kg

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

## Offer Sustainability

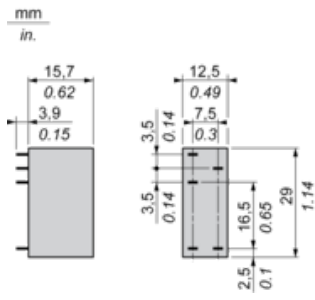
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
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
California proposition 65	WARNING: This product can expose you to chemicals including: Nickel compounds, which is known to the State of California to cause cancer, and Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Contractual warranty

Warranty	18 months
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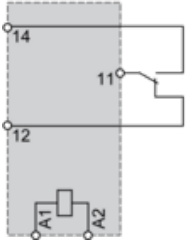
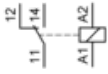
Dimensions

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## Wiring Diagram

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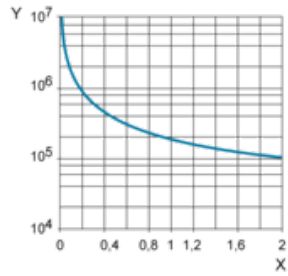
**NOTE:** For DC input, A1 have to be +, otherwise it would short circuit from protection module

**Electrical Durability of Contacts**

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

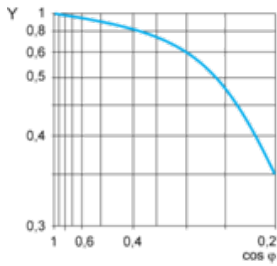
Resistive AC load



X Switching capacity (kVA)

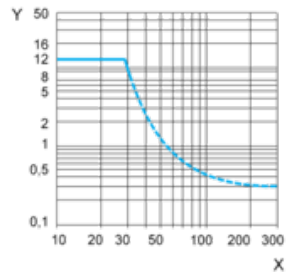
Y Durability (Number of operating cycles)

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



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.