

# Product data sheet

Specifications



interface pre assembled plug in  
relay with socket, Harmony  
Electromechanical Relays, 12A,  
1CO, with LED, without lockable test  
button, screw, 24V DC

RSB1A120BDPV

## Main

|                                              |                                         |
|----------------------------------------------|-----------------------------------------|
| Range of product                             | Harmony Electromechanical Relays        |
| Series name                                  | RSB series                              |
| Product or component type                    | Pre-assembled plug-in relay with socket |
| Relay type                                   | Interface relay                         |
| Contacts type and composition                | 1 C/O                                   |
| Contact operation                            | Standard                                |
| status LED                                   | With                                    |
| [Uc] control circuit voltage                 | 24 V DC                                 |
| Control type                                 | Without lockable test button            |
| [Ithe] conventional enclosed thermal current | 12 A at -40...40 °C                     |

## Complementary

|                                        |                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------|
| Average resistance                     | 1440 Ohm network: DC at 20 °C +/- 10 %                                        |
| [Ue] rated operational voltage         | 19.2...26.4 V DC                                                              |
| [Uimp] rated impulse withstand voltage | 3.6 kV conforming to IEC 61000-4-5                                            |
| [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 |
| [UI] rated insulation voltage          | 400 V conforming to IEC 60947                                                 |
| Maximum switching voltage              | 300 V DC conforming to IEC                                                    |
| Drop-out voltage threshold             | >= 0.1 Uc DC                                                                  |
| Load current                           | 12 A at 250 V AC<br>12 A at 28 V DC                                           |
| minimum switching current              | 10 mA                                                                         |
| Maximum switching capacity             | 3000 VA AC<br>336 W DC                                                        |
| minimum switching voltage              | 12 V                                                                          |
| Minimum switching capacity             | 120 mW at 10 mA, 12 V                                                         |
| Operating time                         | 20 ms operating<br>20 ms reset                                                |
| 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 |
| Safety reliability data                | B10d = 100000                                                                 |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                               |                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating rate                | <= 600 cycles/hour under load<br><= 18000 cycles/hour no-load                                                                                                                                                                                                                                                                                                        |
| Average coil consumption      | 0.45 W DC                                                                                                                                                                                                                                                                                                                                                            |
| Contact terminal arrangement  | Separate                                                                                                                                                                                                                                                                                                                                                             |
| Connections - terminals       | Connector, 1 x 0.25...1 x 2.5 mm <sup>2</sup> (AWG 22...AWG 14) flexible with cable end<br>Connector, 2 x 0.25...2 x 1 mm <sup>2</sup> (AWG 22...AWG 17) flexible with cable end<br>Connector, 1 x 0.5...1 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end<br>Connector, 2 x 0.5...2 x 1.5 mm <sup>2</sup> (AWG 20...AWG 16) solid without cable end |
| torque value                  | 0.8 N.m<br>0.8 N.m                                                                                                                                                                                                                                                                                                                                                   |
| Protection category           | RT I                                                                                                                                                                                                                                                                                                                                                                 |
| Operating position            | Any position                                                                                                                                                                                                                                                                                                                                                         |
| Test levels                   | Level A group mounting                                                                                                                                                                                                                                                                                                                                               |
| Device presentation           | Complete product                                                                                                                                                                                                                                                                                                                                                     |
| Sale per indivisible quantity | 30                                                                                                                                                                                                                                                                                                                                                                   |
| Contacts material             | Silver alloy (AgNi)                                                                                                                                                                                                                                                                                                                                                  |
| Shape of pin                  | Flat (PCB type)                                                                                                                                                                                                                                                                                                                                                      |
| Net weight                    | 0.050 kg                                                                                                                                                                                                                                                                                                                                                             |
| Compatibility code            | RSB                                                                                                                                                                                                                                                                                                                                                                  |

## Environment

|                                       |                                                                                                                                                  |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Dielectric strength                   | 1000 V AC between contacts<br>5000 V AC between coil and contact                                                                                 |
| Vibration resistance                  | +/- 1 mm (f= 10...55 Hz) conforming to IEC 60068-2-6                                                                                             |
| IP degree of protection               | IP20 conforming to IEC 60529                                                                                                                     |
| Ambient air temperature for operation | -40...85 °C (DC)                                                                                                                                 |
| Standards                             | IEC 61810-1<br>CSA C22.2 No 14<br>UL 508<br>IEC 61984                                                                                            |
| Product certifications                | CE<br>UL<br>CSA<br>EAC                                                                                                                           |
| Ambient air temperature for storage   | -40...85 °C                                                                                                                                      |
| Shock resistance                      | 10 gn (duration = 11 ms) for not operating conforming to IEC 60068-2-27<br>5 gn (duration = 11 ms) for in operation conforming to IEC 60068-2-27 |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 1.600 cm |
| Package 1 Width              | 6.500 cm |
| Package 1 Length             | 8.500 cm |
| Package 1 Weight             | 48.000 g |
| Unit Type of Package 2       | BB1      |
| Number of Units in Package 2 | 30       |

|                              |           |
|------------------------------|-----------|
| Package 2 Height             | 9.000 cm  |
| Package 2 Width              | 18.200 cm |
| Package 2 Length             | 27.200 cm |
| Package 2 Weight             | 1.780 kg  |
| Unit Type of Package 3       | S03       |
| Number of Units in Package 3 | 180       |
| Package 3 Height             | 30.000 cm |
| Package 3 Width              | 30.000 cm |
| Package 3 Length             | 40.000 cm |
| Package 3 Weight             | 11.500 kg |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 Months |
|----------|-----------|

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

|  Environmental footprint |                                               |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Total lifecycle Carbon footprint                                                                          | 6                                             |
| Environmental Disclosure                                                                                  | <a href="#">Product Environmental Profile</a> |

Use Better

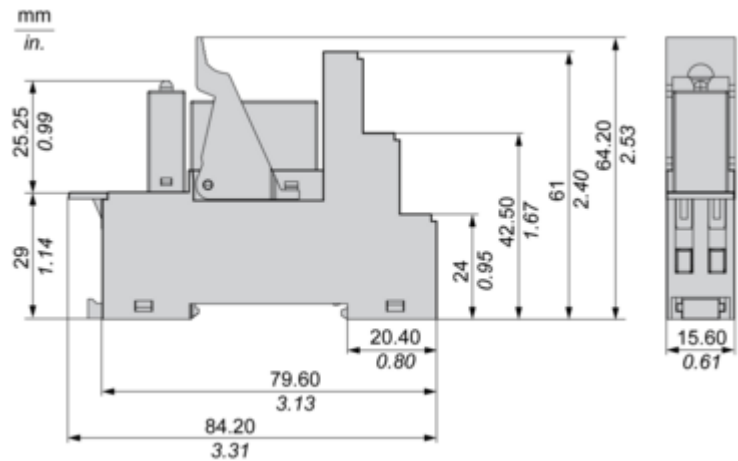
|  Materials and Substances |                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard                                                                     | Yes                                                                                                                                                                                                                                                                                                                                                                    |
| Packaging without single use plastic                                                                       | Yes                                                                                                                                                                                                                                                                                                                                                                    |
| <a href="#">EU RoHS Directive</a>                                                                          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                                                                                             |
| REACH Regulation                                                                                           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                                                                                                      |
| 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> |

Use Again

|  Repack and remanufacture |                                          |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------|
| End of life manual availability                                                                              | No need of specific recycling operations |
| Take-back                                                                                                    | No                                       |

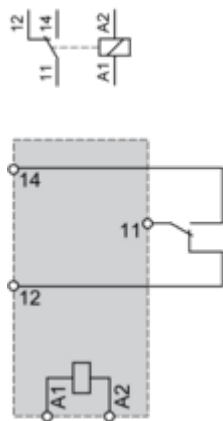
Dimensions Drawings

Dimensions



Connections and Schema

Wiring Diagram

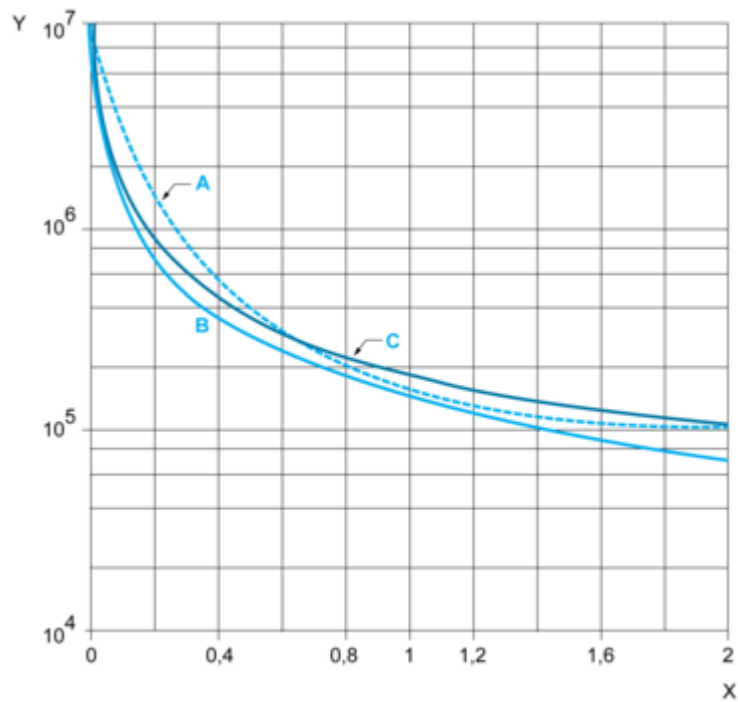


**NOTE:** For DC input, A1 have to be +, otherwise it would short circuit from protection module

Performance Curves

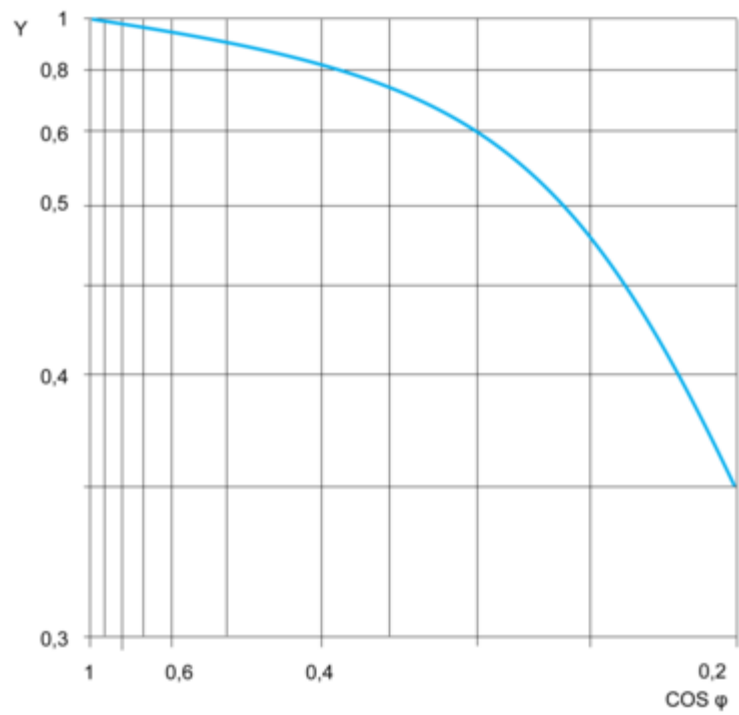
Electrical Durability of Contacts

Durability (Inductive Load) = Durability (Resistive Load) x Reduction Coefficient.  
Resistive AC Load



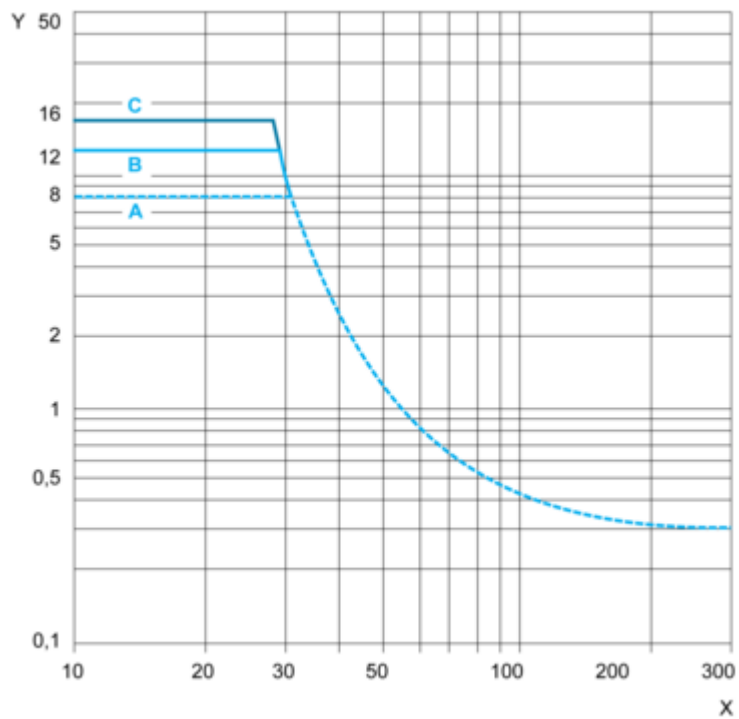
(y) Durability (Number of operating cycles)  
(x) Switching capacity (kVA)  
A : RSB2A080●●  
B : RSB1A160●●  
C : RSB1A120●●

Reduction Coefficient for Inductive AC Load (Depending on Power Factor cos φ)



(y) Reduction coefficient (A)

Maximum Switching Capacity on Resistive DC Load



(y) Current DC  
(x) Voltage DC  
A : RSB2A080●●  
B : RSB1A160●●  
C : RSB1A120●●

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



Technical Illustration

Dimensions

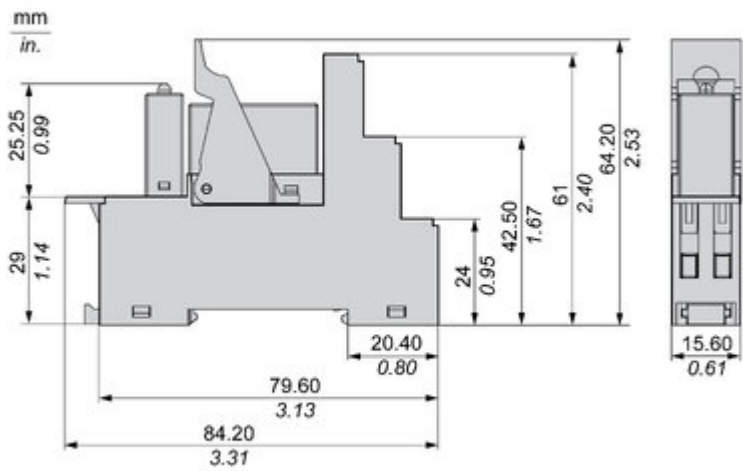
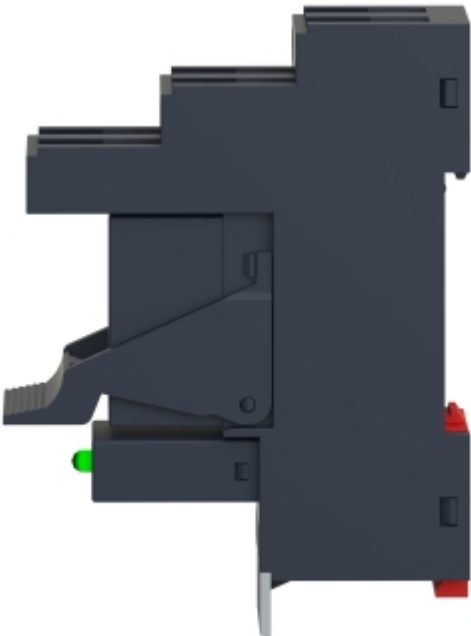
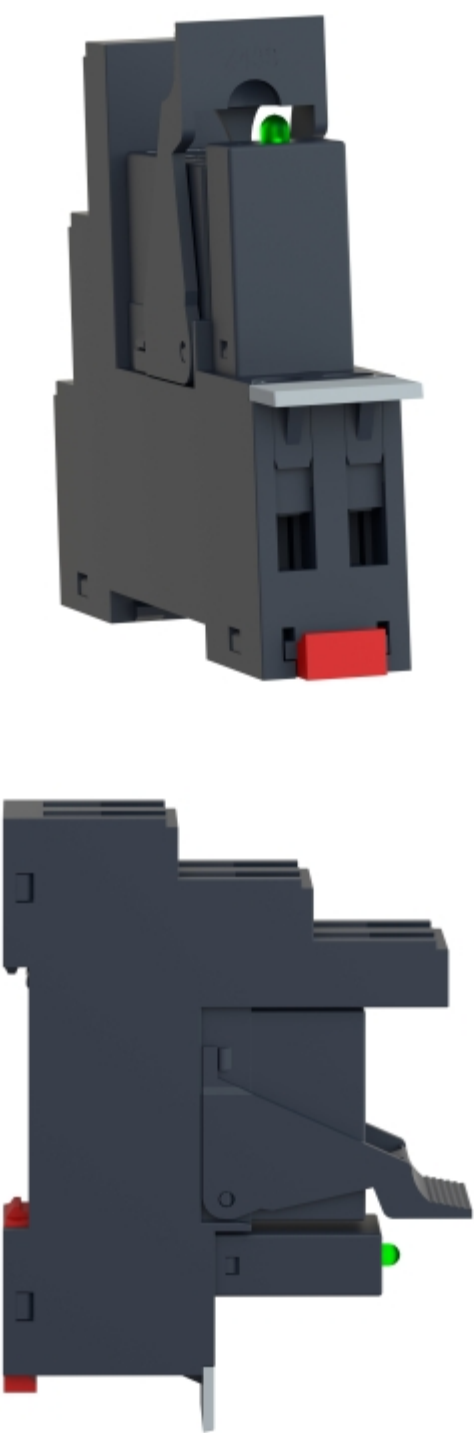


Image of product / Alternate images

Alternative

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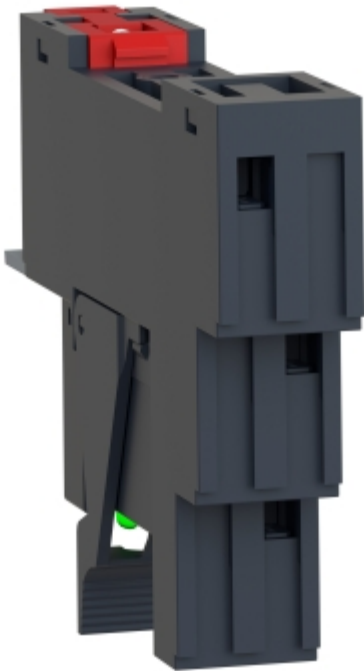


Image of product in real life situation

