Product data sheet

Specifications

interface pre assembled plug in relay with socket, Harmony Electromechanical Relays, 16A, 1CO, with LED, without lockable test button, 24V DC

RSB1A160BDPV

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	120 V DC
Control type	Without lockable test button
[Ithe] conventional enclosed thermal current	16 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	16 A (AC-1/DC-1) NO conforming to IEC 8 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	16 A at 250 V AC 16 A at 28 V DC
minimum switching current	10 mA
Maximum switching capacity	4000 VA AC 448 W DC
minimum switching voltage	12 V
Minimum switching capacity	120 mW at 10 mA, 12 V
Operating time	20 ms operating 20 ms reset
Mechanical durability	30000000 cycles
Electrical durability	70000 cycles, 16 A at 250 V, AC-1 NO 70000 cycles, 8 A at 250 V, AC-1 NC
Safety reliability data	B10d = 100000

Operating rate	<= 600 cycles/hour under load <= 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 mm² (AWG 22...AWG 14) flexible with cable end Connector, 2 x 0.25...2 x 1 mm² (AWG 22...AWG 17) flexible with cable end Connector, 1 x 0.5...1 x 2.5 mm² (AWG 20...AWG 14) solid without cable end Connector, 2 x 0.5...2 x 1.5 mm² (AWG 20...AWG 16) solid without cable end
torque value	0.8 N.m 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)
Product weight	0.050 kg
Compatibility code	RSB

Environment

Dielectric strength	1000 V AC between contacts 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 CSA C22.2 No 14 UL 508 IEC 61984
Product certifications	CE UL CSA 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 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	8.420 cm
Package 1 Width	1.560 cm
Package 1 Length	6.420 cm
Package 1 Weight	65.000 g
Unit Type of Package 2	BB1
Number of Units in Package 2	30

Package 2 Height	8.500 cm
Package 2 Width	18.500 cm
Package 2 Length	27.200 cm
Package 2 Weight	1.988 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	12.660 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	7
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
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 www.P65Warnings.ca.gov

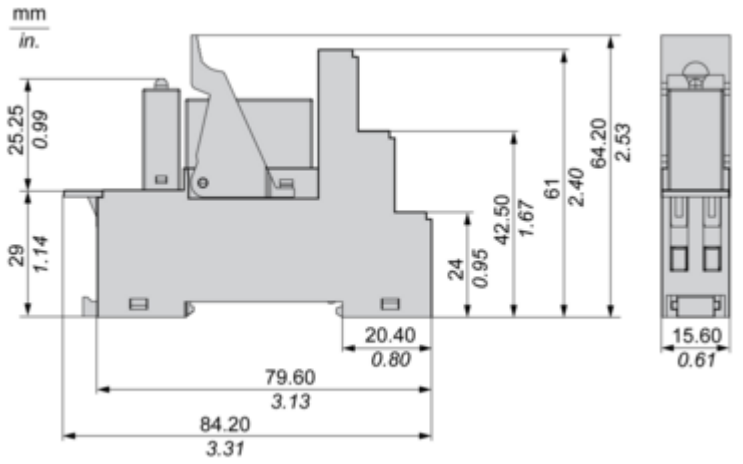
Use Again

Repack and remanufacture

End of life manual availability	No need of specific recycling operations
Take-back	No

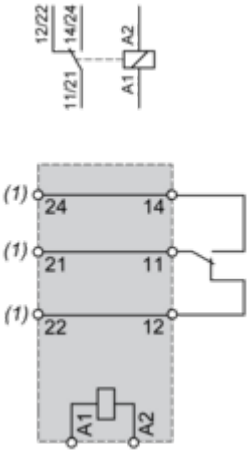
Dimensions Drawings

Dimensions



Connections and Schema

Wiring Diagram



(1) Terminals 11 and 21,14 and 24,12 and 22 must be linked for this references

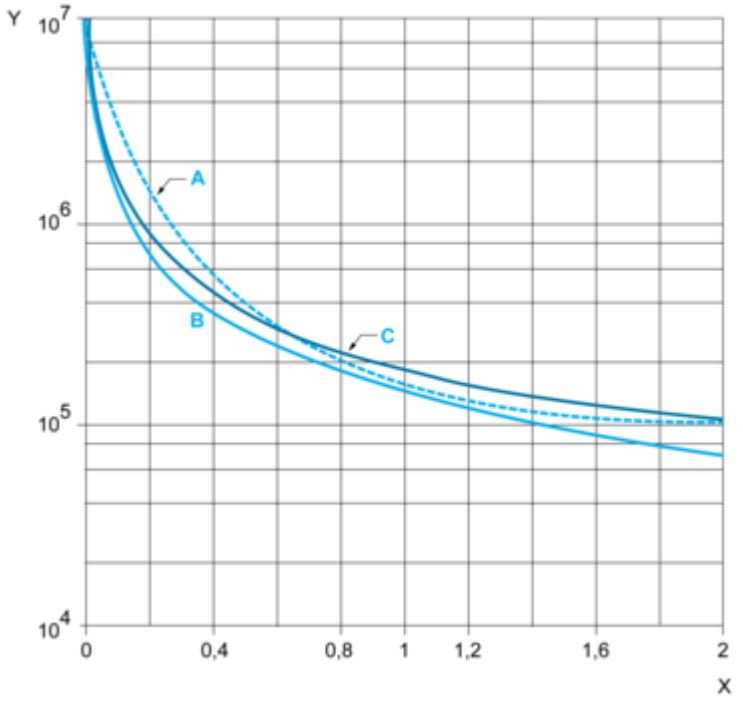
NOTE: For DC input, A1 have to be +, otherwise it would short circuit from protection module

Performance Curves

Electrical Durability of Contacts

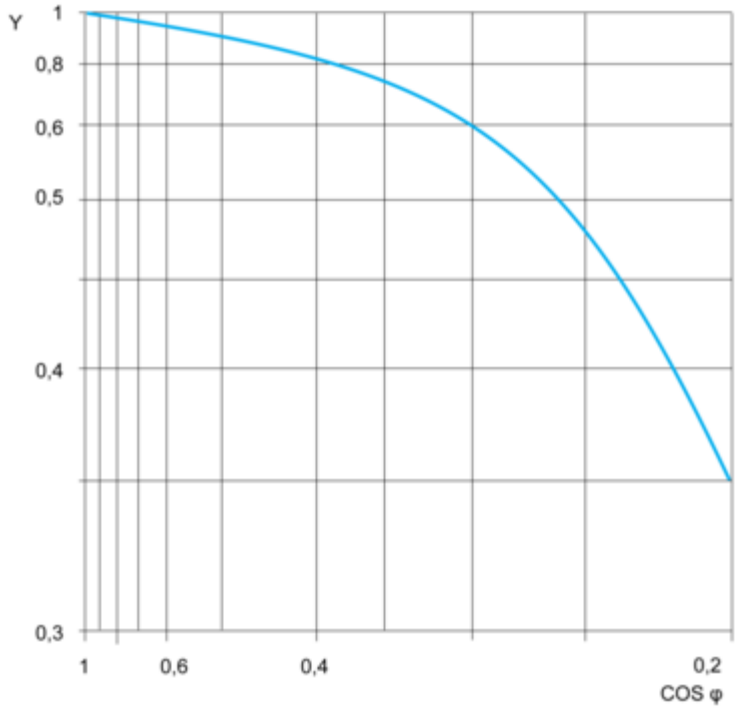
Durability (Inductive Load) = Durability (Resistive Load) x Reduction Coefficient.

Resistive AC Load



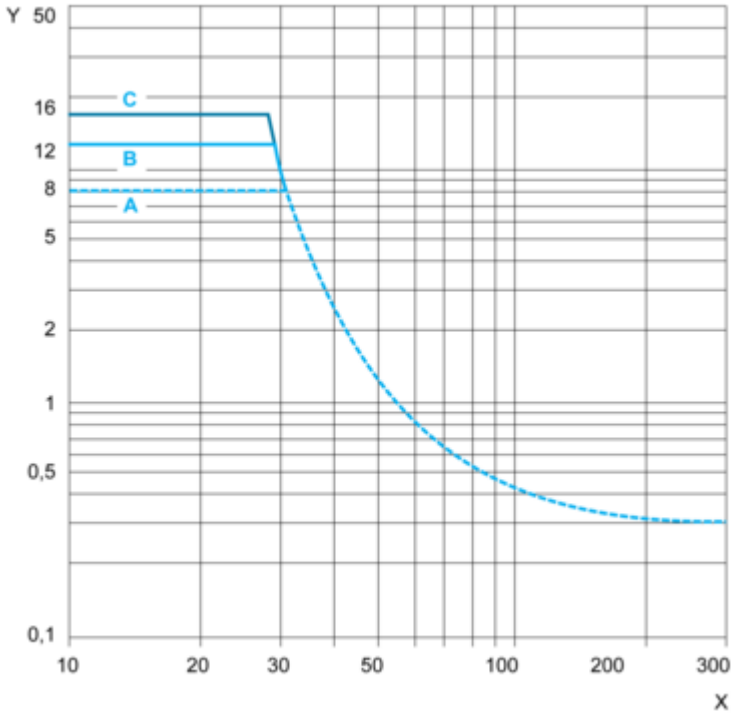
(y) Durability (Number of operating cycles)
(x) Switching capacity (kVA)
A : RSB2A080●●
B : RSB1A160●●
C : RSB1A120●●

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

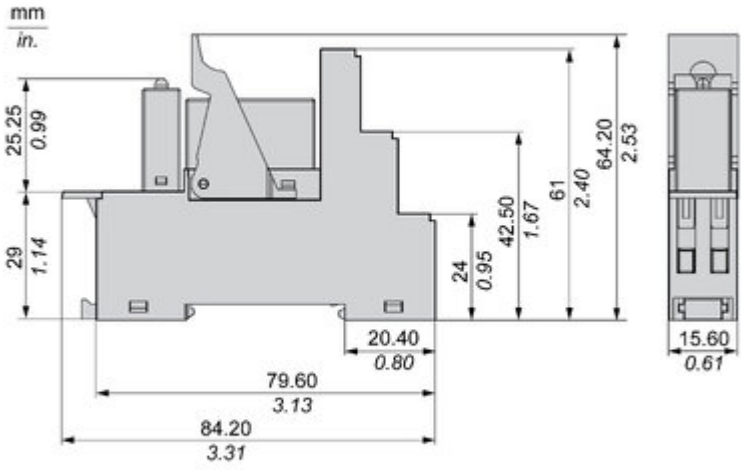
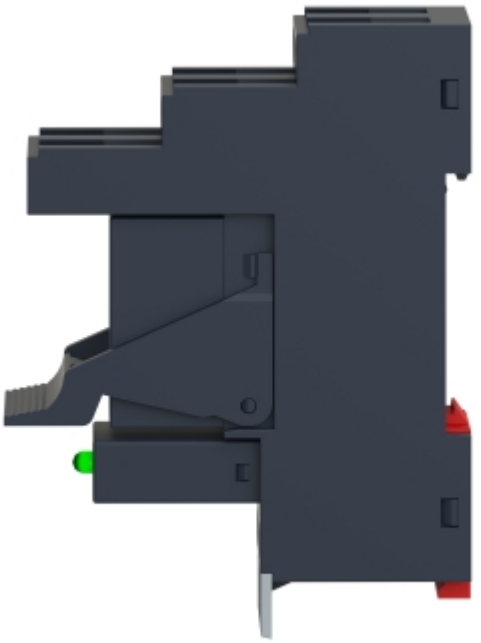
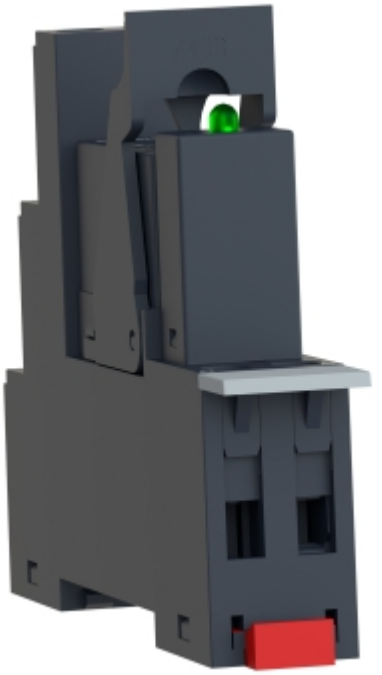
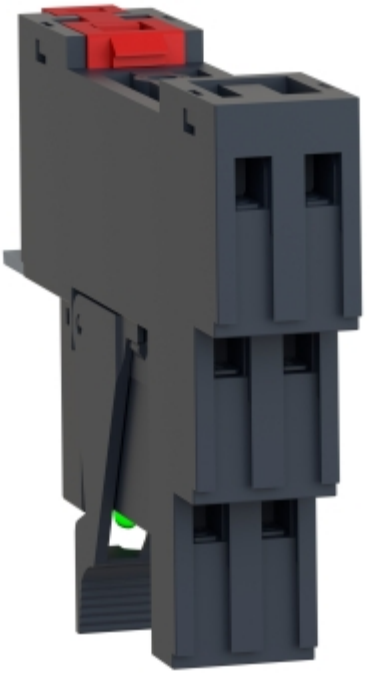


Image of product / Alternate images

Alternative








21
11
24
14
22
12
Schneider Electric
A2
A1

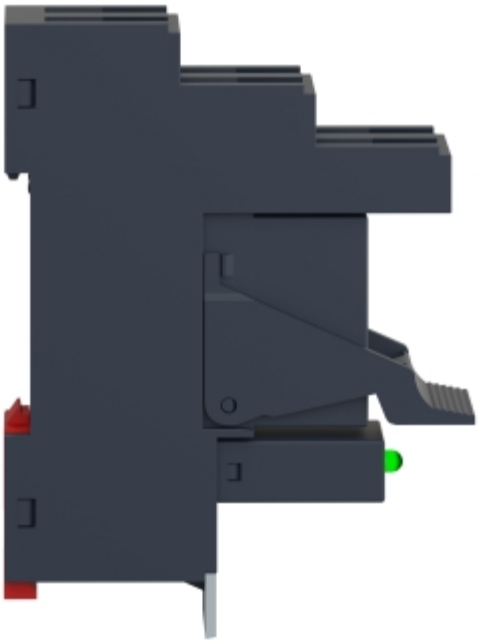


Image of product in real life situation