

HRBX01K02

ABB Ability™ Symphony® Plus Hardware Selector



The cRBX01 Compact Remote Bus eXtender is the fiber optic repeater module for the redundant HN800 IO bus of Symphony Plus.

cRBX01 fiber optic repeaters transparently extend the HN800 IO bus of SPCxxx controllers. cRBX01 repeaters need no configuration and remote IO or communication module have the same function, performance and capacity as local modules.

HRBX01K02 is a redundant repeater kit that includes: 2x cRBX01 modules + 1x RMU610 base.

Features and benefits

- cRBX01 fiber optic repeater module supports up to 60 HN800 devices per remote link.
- Fiber optic HN800 bus is a star topology (point-to-point) with up to 8 remote links per controller.
- Each remote link supports up to 60 HN800 devices (SD Series IO or communication modules).
- Using 62.5/125 μm Multi-Mode fiber optic cable with cRBX01 each link can be up to 3.0 km long.

General info	
Article number	2VAA009321R1 (HRBX01K02)
Life cycle status	ACTIVE
Protocol	HN800
Communication type	F. O. Repeater
Capacity	60 HN800 devices (SD Series IO or Communications modules)
Transmission speed	4 MBps
Communication connection(s)	2x ST style connectors with right angle strain relief, 40 mm (1.5 inches) bend radius
Communication physical layer	62.5/125 μm Multi-mode, -3.5 dB/km, graded index, 840 nm wavelength, 160 MHz/km Fiber Optic cable
Diagnostics port	1x mini USB form factor on module front plate
Line redundancy	Yes
Module redundancy	No
Hot Swap	Yes
Form factor	Compact (127mm)
Mounting	Horizontal Row
HN800 bus length	175 mm
MTBF (per MIL-HDBK-217-FN2)	cRBX01 PR: A = 73,170 hours, RMU610 PR: A = 10,808,478 hours
MTTR (Hours)	cRBX01 MTTR = 1 hour, RMU610 MTTR = 8 hours

Detailed data	
Processor type	None
Module power requirements	90 mA (typical) 100 mA (max) @ 24 VDC (+16%/-10%) per module
Module power connection(s)	POWER TB on cHBX01L
Overvoltage category	Category 1 for power. Tested according to IEC/EN 61010-1
Mounting details	RMU610 mounting base for 2 cRBX01 modules

Environment and certification	
Temperature, Operating	-40 to +70 °C Tested according to IEC/EN 60068-2-1, IEC/EN 60068-2-2
Temperature, Storage	-40 to +85 °C Tested according to MIL-STD-810G
Relative humidity	20% to 95% @ 40°C non-condensing. Tested according to IEC/EN 60068-2-78, IEC/EN 61298-3
Protection class	IP20 according to EN 60529, IEC 529
Vibration (operational sinusoidal)	5 to 60 Hz 0.137 mm (0.0054 in.), 60 to 150 Hz 1.0 G. Tested according to IEC/EN 60068-2-6
Vibration (transportation)	10 to 500 Hz. Tested according to MIL-STD-810G
Shock (storage)	15 G, 11 msec. Tested according to IEC/EN 60068-2-27
Drop	100 mm. Tested according to IEC/EN 60068-2-31
Altitude (operational)	Sea level to 3,048 meters (10,000 ft.) Tested according to MIL-STD-810G
Altitude (storage)	Sea level to 12,192 meters (40,000 ft.) Tested according to MIL-STD-810G
Air quality	ISA S71.04 G1 (Standard), cRBX01A (Enhanced) ISA S71.04 G3 compliant version modules are also available
ESD immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-2, Severity level 3
Surge immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-5, Severity level 3
Electrical fast transient immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-4, Severity level 3
Radiated RFI immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-3, Severity level 3
Conducted Immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Magnetic field immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-8, Severity level 4
Radiated emission	Tested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1, Class A, ISM equipment
Conducted emission	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Voltage dips and interruption immunity	Tested according to IEC/EN 61000-6-2, IEC/EN 61000-4-11
CSA non-hazardous locations	Certified for use as process control equipment in an ordinary (non-hazardous) location
CSA hazardous, nonincendive locations	Class I, Division 2, Groups A, B, C, D
CE Mark	CE Mark EMC directive 2014/30/EU & Low voltage directive 2014/35/EU
RoHS compliance	RoHS Directive 2015/863
WEEE compliance	DIRECTIVE/2012/19/EU

Dimensions	
Width	90 mm
Height	127 mm
Depth	147 mm
Weight (include base)	634 g

solutions.abb.com/symphonyplus
solutions.abb.com/controlsystems

800xA and Symphony Plus is a registered trademark of ABB. All rights to other trademarks reside with their respective owners.

We reserve the right to make technical changes to the products or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not assume any responsibility for any errors or incomplete information in this document.

We reserve all rights to this document and the items and images it contains. The reproduction, disclosure to third parties or the use of the content of this document – including parts thereof – are prohibited without ABB's prior written permission.

Copyright© 2025 ABB All rights reserved