RBX01e
ABB Ability™ Symphony® Plus Hardware Selector

RBX01e is the enhanced Remote Bus eXtender fiber optic repeater module for the HN800 I/O bus of Symphony Plus.

RBX01e fiber optic repeater modules transparently extend the HN800 I/O bus of SPCxxx controllers beyond the cabinet enclosure. RBX01e repeaters need no configuration. REMOTE I/O modules have the same function, performance and capacity as LOCAL modules that are directly connected to the electrical HN800 bus of the SPCxxx controller.

Features and benefits

- **RBX01e** enhanced fiber optic repeater modules support up to 60 HN800 devices (I/O modules or communications gateways) per remote link.
- Fiber optic HN800 bus is a star (point-to-point) topology with up to eight (8) remote links per SPCxxx controller.
- A redundant pair of RBX01e modules provides both module & line redundancy.
- Using **OM1 62.5/125 µm** Multi-Mode fiber optic cable with RBX01e each link can be up to 3.0 km long.
- Using **OM4 50/125 µm** Multi-Mode fiber optic cable with RBX01e each link can be up to 1.0 km long.

General info

Article number	7PAA008926R11
Life cycle status	Active
Protocol	HN800
Communication type	F. O. Repeater
Capacity	60 HN800 Devices (I/O Modules or Gateway Communications Modules)
Transmission speed	4.0 MBps
Communication connection(s)	2x ST style connectors with right angle strain relief, 40 mm (1.5 inches) bend radius
Communication physical layer	OM1 (62.5/125 µm) or OM4(50/125 µm) Multi-mode, -3.5 dB/km, graded index, 840 nm wavelength, 160 MHz/km Fiber Optic cable
Diagnostics port	USB-C
Line redundancy	Yes
Module redundancy	Yes
Hot Swap	Yes
Form factor	Compact (127mm)
Mounting	RMU610, VMU610 or EMB01S-RBX
HN800 bus length	90 mm
MTBF (per MIL-HDBK-217-FN2)	RBX01e PR: A 336,182 Hours @ 30 °C 242,930 Hours @ 45 °C 89,501 Hours @ 70 °C
MTTR (Hours)	RBX01e MTTR = 8 hours

Detailed data

Processor type	32-Bit Arm Cortex-M0+ MCU
Memory	16-MBit Flash
Module power requirements	1.25 W, 52 mA @ 24 VDC ±10%
Module power connection(s)	Power TB on cHBX0L when mounted on RMU610 Power TB on VBX01T when mounted on VMU610 Power TB on back side of EMC_B0x when mounted on EMB01S-RBX
Overvoltage category	Category 1 for power. Tested according to IEC/EN 61010-1
Mounting details	DIN-Rail (RMU610 or VMU610), EMC (EMB01S-RBX)

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
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 G3 compliant
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 61000-6-2, IEC/EN 61000-4-6, Severity level 3
Conducted emission	Tested according to IEC/EN 61000-6-4, CISPR 11 + A1, CISPR 16-1-1, Group 1, Class A, ISM equipment
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 2004/108/EC & Low Voltage Directive 2006/95/EC
RoHS compliance	RoHS Directive 2015/863
WEEE compliance	DIRECTIVE/2012/19/EU

Dimensions

Width	27 mm
Height	110 mm
Depth	110 mm
Weight (include base)	170 g

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