DATA SHEET

Communications - SPC Communication interfaces

ABB Ability™ Symphony® Plus Hardware Selector

Symphony Plus Controllers (SPC) can be extended to support multiple industrial protocols available through different communication interfaces. The communication interfaces can be single or redundant and have different Master-Slave configurations depending on what industrial protocol they are intended for.

The communication interfaces belong to the ABB Ability Symphony Plus Control and I/O family: The SD Series – a green portfolio of completely scalable control and I/O products that deliver a total plant automation solution for your process regardless of application type, size, or physical setting. Energy efficient, compact, and providing digital infrastructure to integrate smart field devices seamlessly makes SD Series the best automation solution for your new installation, upgrade, or expansion.

Below is an outline of the range of different SD communication interfaces available.




Specific feature [1]	CI850K01	HRBX01K02	HRBX01K04	PIO800K02
General info				
Article number	CI850K01	2VAA009321R1	2VAA009363R1	PIO800K02
Life cycle status	ACTIVE			
Protocol	IEC 61850 MMS client IEC 61850 GOOSE	HN800		PROFIBUS DP V0, V1, V2
Communication type	F. O. Repeater			Master
Capacity	60 HN800 devices (SD Series IO or Communications modules)	60 HN800 devices (SD Series IO or Communications modules)		Up to 125 slave devices
Transmission speed	100 MBps	4 MBps		From 9.6 kBps to 12 MBps
Communication connection(s)	2x RJ45 Ethernet ports on module front plate	2x ST style connectors with right angle strain relief, 40 mm (1.5 inches) bend radius		
Communication physical layer	100 MPS Ethernet TCP	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			Mini USB on PDP800 module front plate
Line redundancy	No	Yes		
Module redundancy	No			Yes
Hot Swap	Yes			
Form factor	Full-size (190mm)	Compact (127mm)	Compact (127 mm)	xA Style (186mm)
Mounting	Horizontal Row			
HN800 bus length	150 mm	175 mm	175 mm (on each electrical bus)	175 mm
MTBF (per MIL-HDBK-217-FN2)	CI850 PR: B = 85,543 hours, MB855 PR: B = 9,411,178 hours	cRBX01 PR: A = 73,170 hours, RMU610 PR: A = 10,808,478 hours		PDP800 PR: K = 261,051 hours, PTU810 PR: C = 2,583,516 hours
MTTR (Hours)	CI850 MTTR = 1 hour, MB855 MTTR = 8 hours	cRBX01 MTTR = 1 hour, RMU610 MTTR = 8 hours		PDP800 MTTR = 1 hour, PTU810 MTTR = 8 hours
Dimensions				
Width	45 mm	90 mm		124 mm
Height	190 mm	127 mm		186 mm
Depth	135 mm	147 mm		127 mm
Weight (include base)	630 g	634 g		790 g
Environment and certification				
RoHS compliance	RoHS Directive 2015/863			
WEEE compliance	DIRECTIVE/2012/19/EU			

[1] For detailed information on each module, please visit: **symphonyplushardwareselector.automation.abb.com**




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Specific feature [1]	PNI800K01	RBX01e	SCI200K01	VRBX01K02
General info				
Article number	PNI800K01	7PAA008926R11	SCI200K01	2VAA009320R1
Life cycle status	Active		ACTIVE	
Protocol	Harmony API (based on Ethernet TCP)	HN800	IEC 60870-5-104 DNP 3.0 Ethernet IP	HN800
Communication type	Realtime Data Server	F. O. Repeater	Master/Slave	F. O. Repeater
Capacity	Up to 10 SPE client connections Up to 30,000 HMI tags	60 HN800 Devices (I/O Modules or Gateway Communications Modules)	IEC60870-5-104 Master or Slave up to 16 Devices and 1500 points TOTAL DNP 3.0 Master [only] up to 16 outstations and 1500 points TOTAL Ethernet IP up to 1500 points TOTAL	60 HN800 devices (SD Series IO or Communications modules)
Transmission speed	100 MBps	4.0 MBps	4 MBps	
Communication connection(s)	Ethernet 2x RJ45 connectors on MB805 base	2x ST style connectors with right angle strain relief, 40 mm (1.5 inches) bend radius	Ethernet 2x RJ45 connectors on MB605 or MB610 bases	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	10/100 MPS Ethernet TCP	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	USB-C	1x mini USB form factor on module front plate	
Line redundancy	Yes			
Module redundancy	No	Yes	No	
Hot Swap	Yes			
Form factor	xA Style (186mm)	Compact (127mm)		
Mounting	Horizontal Row	RMU610, VMU610 or EMB01S-RBX	Horizontal Row	Vertical Column
HN800 bus length	n/a	90 mm		225 mm
MTBF (per MIL-HDBK-217-FN2)	PNI800 PR: G = 135,873 hours, MB805 PR: E = 2,583,516 hours	RBX01e PR: A 336,182 Hours @ 30 °C 242,930 Hours @ 45 °C 89,501 Hours @ 70 °C	SCI200 PR: E = 296,291 hours, MB605 PR: D = 2,382,599 hours	cRBX01 PR: A = 73,170 hours, VMU610 PR: A = 10,808,478 hours
MTTR (Hours)	PNI800 MTTR = 1 hour, MB805 MTTR = 8 hours	RBX01e MTTR = 8 hours	SCI200 MTTR = 1 hour, MB605 MTTR = 8 hours	cRBX01 MTTR = 1 hour, VMU610 MTTR = 8 hours
Dimensions				
Width	59 mm	27 mm	45 mm	103 mm
Height	186 mm	110 mm	127 mm	145 mm
Depth	127 mm	110 mm	135 mm	147 mm
Weight (include base)	500 g	170 g	450 g	650 g
Environment and certification				
RoHS compliance	RoHS Directive 2015/863			
WEEE compliance	DIRECTIVE/2012/19/EU			

[1] For detailed information on each module, please visit: **symphonyplushardwareselector.automation.abb.com**

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Specific feature [1]	VRBX01K04
General info	
Article number	2VAA009362R1
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	Vertical Column
HN800 bus length	225 mm (on each electrical bus)
MTBF (per MIL-HDBK-217-FN2)	cRBX01 PR: A = 73,170 hours, VMU610 PR: A = 10,808,478 hours
MTTR (Hours)	cRBX01 MTTR = 1 hour, VMU610 MTTR = 8 hours
Dimensions	
Width	103 mm
Height	145 mm
Depth	147 mm
Weight (include base)	650 g
Environment and certification	
RoHS compliance	RoHS Directive 2015/863
WEEE compliance	DIRECTIVE/2012/19/EU

[1] For detailed information on each module, please visit: **symphonyplushardwareselector.automation.abb.com**

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