DXM Controller Selection Guide

Product Overview

The Banner Sure Cross® DXM Wireless Controller product series provide simple communications gateway options that can be used to interface with local I/O, interface with Sure Cross Wireless I/O, transmit data wirelessly between traditional controllers, and/or facilitate Industrial Internet of Things (IIoT) through the Cloud.

Banner Wireless Value

- Low cost method for retrofits or IIoT connectivity (ability to monitor/control via the Cloud)
- High feature content allows flexibility to choose the features you need
- Small DIN-rail footprint eases panel constraints
- Standard protocol options simplify integration
- Simple menu-driven LCD display

Standard Features	DXM700-B1	DXM100-Bx	DXM150-B2	DXM150-B1
Performance or MultiHop Radio option	✓	✓	✓	✓
900 MHz or 2.4 GHz ISM Radio option	✓	✓	✓	✓
Cellular communications option	✓	✓	✓	✓
LCD User Interface and 4 LEDs	✓	✓	✓	✓
8GB Removable Micro SD Card	✓	✓	✓	✓
IP20 Rating	✓	✓	✓	✓
Battery backup option		✓	✓	✓
Solar power option		✓	✓	✓
Modbus/TCP and Ethernet/IP	✓	✓	✓	✓
Modbus RTU RS-485	✓	✓	✓	✓
RS-232		✓	✓	✓
CANBus		✓	✓	✓
USB and Ethernet Configuration	✓	✓	✓	✓
Logic Controller (Action rule or ScriptBasic programmable)	✓	✓	✓	✓
Slave Option (IO Board and Radio Only)		✓	✓	✓
Processor Speed and Memory	300 MHz, 16 MB	100 MHz, 2 MB	100 MHz, 2 MB	100 MHz, 2 MB
Sinking (NPN)/Sourcing (PNP) Outputs	4 PNP		8	
Sinking (NMOS) Outputs (up to 30 V dc at <1 A max)		4		4
Analog Outputs (0–20 mA or 0–10 V dc, 12-bit resolution)		2	2	2
Relay Outputs (SPDT Form C - 250 V ac 16 A)				2
Universal Inputs (NPN, PNP, 0–20mA, 0–10 V, 10K Thermistor, Potentiometer, NPN Raw Fast)		4	8	8
Optically Isolated Discrete Inputs (30 V ac or V dc up to 2.5 kV isolation)			2	2
Courtesy Power Out		1 (5 V, 500 mA max)	4 (2.7 V up to device power)	2 (2.7 V up to device power)
Switched Power Out		2 (5 V, 400 mA max or 16 V, 125 mA max)		
DIN Rail Width	70 mm	105 mm	155 mm	155 mm

DXM700- **B1** **R1**

B1 = Modbus controller for data aggregation of sensors and wireless networks
Power: 12–30 V dc
Comms: RS-485, Secondary RS-485
Outputs: Four PNP

Blank = None
R1 = 900 MHz, 1 W PE5 Performance Radio (North America)
R2 = 900 MHz, 1 W HE5 MultiHop Data Radio (North America)
R3 = 2.4 GHz, 65 mW PE5 Performance Radio (Worldwide)
R4 = 2.4 GHz, 65 mW HE5 MultiHop Data Radio (Worldwide)
R5 = 900 MHz, 65 mW HE5L MultiHop Data Radio (Used for M-GAGE networks)

Cellular Communication—Controllers accept Banner LTE (United States) and GSM (outside the United States) modems only. Cellular modems are ordered separately as accessories under the following part numbers:

- LTE-Verizon (United States only): SXI-LTE-001
- GSM/3G (HSPA) (International only): SXI-GSM-001

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DXM100-B1

B1 = Modbus controller for data aggregation of sensors and wireless networks
Power: 12–30 V dc/Solar/Battery
Comms: RS-485, CAN, RS-232 w/flow or secondary RS-485
Inputs: (4) universal IN
Outputs: (4) NMOS OUT, (2) analog OUT (0–10 V or 4–20 mA)
Power Out: (2) Selectable 5 V or 16 V switched power, (1) 5 V courtesy power

B2 = Smart valve control and/or SDI-12 data collection
Power: 12–30 V dc/Solar/Battery
Comms: RS-485, (1) SDI-12 sensor interface
Inputs: (4) universal IN
Outputs: (4) NMOS OUT, (2) 0–10 V analog, (2) DC Latching
Power Out: (2) Adjustable 5 V to 24 V switched power, (1) SDI-12 switched power, (1) 5 V courtesy power

S1 = Modbus slave I/O device for MultiHop wireless networks or wired networks
Power: 12–30 V dc/Solar/Battery
Comms: RS-485
Inputs: (4) Universal IN
Outputs: (4) NMOS OUT, (2) Analog OUT (0–10 V or 4–20 mA)
Power Out: (2) Selectable 5 V or 16 V switched power, (1) 5 V courtesy power

S2 = Modbus slave device for valve control, SDI-12 data collection for MultiHop wireless networks or wired networks
Power: 12–30 V dc/Solar/Battery
Comms: RS-485, (1) SDI-12 sensor interface
Inputs: (4) universal IN
Outputs: (4) NMOS OUT, (2) 0–10 V analog, (2) DC Latching
Power Out: (2) Adjustable 5 V to 24 V switched power, (1) SDI-12 switched power, (1) 5 V courtesy power

R1

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R2 = 900 MHz, 1 W HE5 MultiHop Data Radio (North America)
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R4 = 2.4 GHz, 65 mW HE5 MultiHop Data Radio (Worldwide)
R5 = 900 MHz, 65 mW HE5L MultiHop Data Radio (Used for M-GAGE networks)
R8 = 900 MHz, Performance Radios approved for Australia/New Zealand
R9 = 900 MHz, MultiHop Radio approved for Australia/New Zealand

S1 and S2 are slave devices that only work with MultiHop radios R2, R4, R5, R9

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DXM150-B1

B1 = Modbus controller designed for applications with high I/O count, isolated inputs or integrated relays
Power: 12–30 V dc/Solar/Battery
Comms: RS-485 and RS-232/CAN or secondary RS-485
Inputs: (2) Isolated discrete, (8) Universal
Outputs: (2) Relay, (4) NMOS, (2) Analog
Power Out: (2) Jumper selectable between 2.7 V or battery, 4.2 V or incoming power

B2 = Modbus controller for high I/O count applications
Power: 12–30 V dc/Solar/Battery
Comms: RS-485 and RS-232 w/flow control or secondary RS-485
Inputs: (2) Isolated discrete, (8) Universal
Outputs: (8) PNP/NPN Selectable, (2) Analog
Power Out: (2) Courtesy or power out; (2) Jumper selectable between 2.7 V or battery, 4.2 V or incoming power

S1 = Modbus slave I/O device for MultiHop wireless networks or wired networks
Power: 12–30 V dc/Solar/Battery
Comms: RS-485
Inputs: (2) Isolated discrete, 8 Universal
Outputs: (2) Relay, (4) NMOS Discrete, (2) Analog
Power Out: (2) Jumper selectable between 2.7 V or battery, 4.2 V or incoming power

S2 = Modbus slave I/O device for MultiHop wireless networks or wired networks
Power: 12–30 V dc/Solar/Battery
Comms: RS-485
Inputs: (2) Isolated discrete, (8) Universal
Outputs: (8) PNP/NPN Selectable, (2) Analog
Power Out: (2) Courtesy or power out; (2) Jumper selectable between 2.7 V or battery, 4.2 V or incoming power

R1

Blank = None
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R5 = 900 MHz, 65 mW HE5L MultiHop Data Radio (Used for M-GAGE networks)
R8 = 900 MHz, Performance Radios approved for Australia/New Zealand
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