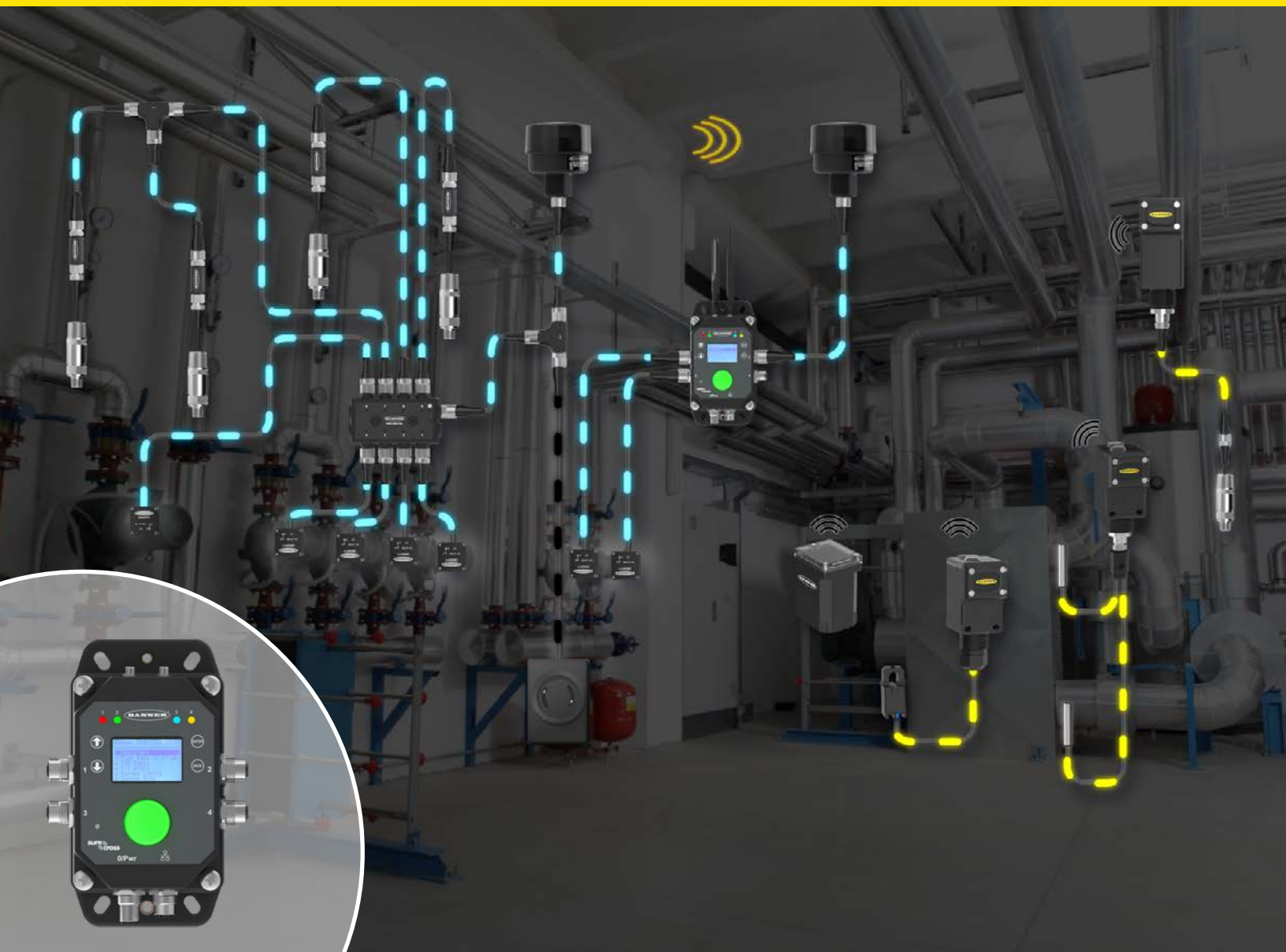


DXM1200-X2 IIoT Gateway



Simplify Condition Monitoring by Connecting Wired and Wireless Devices to One Gateway

- Harness the installation benefits of wireless devices along with the fast sample rates of wired devices
- Monitor more assets by connecting up to 200 devices to one gateway
- Quickly install the IP67-rated gateway anywhere with its rugged and sealed design
- Transform data at the edge with our DXM configuration tool or customize further with ScriptBasic or MicroPython
- Get your data where you need it by connecting to networks via Ethernet or Cellular

BANNER[®]
more sensors, more solutions

Versatile Gateways that Scale with Your Condition Monitoring Needs

The DXM1200-X2 brings condition monitoring to every part of a facility: easy-to-access areas, hard-to-reach places, and everywhere in-between, including harsh environments with its IP67-rated housing.



Cellular antenna connection for 4G LTE-M network connectivity

ISM radio antenna connection for 900 MHz or 2.4 GHz frequency

Four configurable LEDs

LCD screen

Four Modbus client connections

Four Modbus client connections

30 mm configurable RGB status indicator

M12 power and Modbus client/server connection

M12 D-coded Ethernet connection

Compatible Wired Sensors

Vibration and Temperature Sensors



Input	Output	Housing Type	Connection	Models
Vibration and temperature	Modbus	Aluminum	2 m cable with M12 male quick disconnect	QM30VT2
			150 mm cable with M12 male quick disconnect	QM30VT2-QP

Accessories



Curved surface magnet mount

BWA-QM30-CMAL



Flat surface magnet mount

BWA-QM30-FMSS



Flat surface screw mount with rapid release set screw

BWA-QM30-FSALR

Infrared Non-Contact Temperature Sensor



Input	Output	Measurement Range	Connection	Model
Temperature	Modbus	-20 to +320 °C (-4 to +608 °F)	Integral M12 male quick disconnect	S15S-T-MQ

Brackets



Stainless steel mounting flange with M5 screw holes

SMB-S15S-SWIVEL



Stainless steel mounting flange with M5 screw holes and mounting magnets included

SMB-S15S-SWIVEL-MAG

In-Line Converter with Thermistor



Input	Output	Measurement Range	Connection	Model
Thermistor	Modbus	-20 to 105 °C (-4 to +221 °F) (+/-1.5C, 10K ohm thermistor, Beta Constant = 3575K (G-Curve))	2.9 m cable with M12 male quick disconnect	S15C-TMS-MQ
2 x Thermistor				S15C-DTMS-MQ

Temperature and Humidity Sensor



Input	Output	Measurement Range	Connection	Model
Temperature and humidity	Modbus	Temperature: -40 to +85 °C (-40 to +185 °F) Humidity: 0 to 100%	Integral M12 male quick disconnect	S15S-TH-MQ
				M12FTH3Q



Dew Point Sensor

Input	Output	Measurement Range	Connection	Model
Temperature and humidity	Modbus	Temperature: -40 to +85 °C (-40 to +185 °F) Humidity: 0 to 100% Dew point: -116 to +85 °C (-176 to +185 °F)	Integral M12 male quick disconnect	S24AS-D-MQP

Differential Pressure Sensors



Input	Output	Measurement Range	Connection	Models
Pressure	Modbus	±1 inches water column	2.09 m M12 pigtail quick disconnect	QM42-DPS1-2Q
		±5 inches water column		QM42-DPS5-2Q
		±20 inches water column		QM42-DPS20-2Q

Brackets



Magnetic bracket with screws

BWA-BK-001



Center mounting bracket with screws

BWA-BK-005

Pressure Sensor



Input	Output	Measurement Range	Connection	Models
Pressure sensor	Modbus	0–150 PSI*	M12 male quick disconnect, 1/4-inch NPT fitting	S15C-PS150C-MQ

*Ceramic element intended for gas media only

Current Transformers



Input	Output	Measurement Range	Connection	Model
Current transformer	Modbus	0–20A	1 m cable with M12 male quick disconnect	S15C-CT20A-MQ
		0–150A		S15C-CT150A-MQ
		0–600A		S15C-CT600A-MQ

Rogowski Coil Current Sensors



AC Current Range (A)	Coil Diameter (mm)	Models
500	50	S15S-R500-MQ
1000		S15S-R1000-MQ
3000	200	S15S-R3000-MQ
6000		S15S-R6000-MQ



Ultrasonic Sensors

Input	Output	Range	Frequency	Connection	Models
Ultrasonic level	Modbus	300 mm to 3 m	114 kHz	230 mm integral 5-pin M12 male quick disconnect	K50UX2CRA
		100 mm to 1 m	224 kHz		K50UX2ARA

Brackets



Mounts the K50U Ultrasonic sensor

BWA-BK-004



Right-angle, low profile

LMB30LP

In-Line Converters

Can be used to collect signals from other devices currently on or planning to be used with your equipment.

Female	Male	Connection	Models
Discrete input	Modbus	5-pin M12 male quick disconnect	S15C-B22-MQ
Analog current			S15C-I-MQ
Analog voltage		4-pin M12 female/male quick disconnect	S15C-U-MQ
RTD			S15C-RTD-MQ

Compatible Wire Replacement

If you are ever unable to run cable between two devices, use our R70 serial data radios for simple wire replacement. These radios are pre-bound and ready to connect to the end point of each network you are trying to join. For individual units, refer to instruction manual 234288 for wireless configuration and implementation. External power supply (PSW-24-1) required.

Description	Frequency	Models
Pre-bound client/server pair	900 MHz ISM band	R70KSR9MQ
	2.4 GHz ISM band	R70KSR2MQ
One individual unit	900 MHz ISM band	R70SR9MQ
	2.4 GHz ISM band	R70SR2MQ

Brackets



Right-angle, low profile

LMB30LP



All-in-One Vibration Sensor Node

Vibration and temperature sensors monitor the health and performance of motors, pumps, and similar equipment with rotating motion. Available accessories are shown below.

Radio Frequency	Power Supply	Inputs	Models
900 MHz ISM band	C cell lithium battery (included)	Vibration and temperature detection	DX80N9Q45VAC
2.4 GHz ISM band	C cell lithium battery (sold separately)		DX80N2Q45VAC NB

Includes mounting bracket BWA-Q45VAC-FESS.

Accessories

	Curved-surface magnet mount	BWA-Q45VAC-CMSS
	Flat-surface epoxy mount	BWA-Q45VAC-FESS
	3.6 V C cell lithium replacement battery	BWA-BATT-013



All-in-One Temperature and Humidity Sensor Node

Temperature and humidity wireless nodes monitor environmental conditions in a variety of applications, such as refrigerators or chillers, warehouses, cleanrooms, incubators, storage rooms, and distribution centers. Available accessories are shown below.

Radio Frequency	Power Supply	Measurement Range	Inputs	Models
900 MHz ISM band	AA lithium cell batteries	-40 to +85 °C (-40 to +185 °F)	Temperature and relative humidity (%)	DX80N9Q45THA
2.4 GHz ISM band	AA lithium cell batteries (sold separately)	0 to 100% relative humidity		DX80N2Q45THA NB

Accessories

	Right-angle, low profile	LMB30LP
	Backside magnet mount	BWA-Q45VA-FMSSB
	2 x 3.6 V 2.4 Ah AA lithium cell replacement batteries	BWA-BATT-006



Wireless Node and Compact Vibration Sensor

Vibration and temperature sensors monitor the health and performance of motors, pumps, and similar equipment. Available accessories are shown below.

Radio Frequency	Power Supply	Bracket	Models
900 MHz ISM band	D cell lithium battery	Aluminum flat-surface tape mount (BWA-QM30-FTAL)	DX80N9Q45VTPD-QM30
2.4 GHz ISM band	D cell lithium battery (sold separately)		DX80N2Q45VTPD-QM30 NB

Accessories

	Right-angle, low profile bracket	LMB30LP
	Back-side magnet mount	BWA-Q45VA-FMSSB
	Curved-surface magnet mount for sensor	BWA-QM30-CMAL
	Flat-surface magnet mount for sensor	BWA-QM30-FMSS
	Flat-surface screw mount with rapid-release set screw for sensor	BWA-QM30-FSALR
	3.6 V D cell lithium replacement battery	BWA-BATT-011



All-in-One Temperature Probe Sensor Node

Thermistor nodes measure temperature in key areas or processes like air- and liquid-handling applications. Available accessories are shown below.

Radio Frequency	Power Supply	Measurement Range	Inputs	Models
900 MHz ISM band	AA lithium cell batteries	-20 to +105 °C (-4 to +221 °F)	Temperature	DX80N9Q45TA
2.4 GHz ISM band	AA lithium cell batteries (sold separately)			DX80N2Q45TA NB

Accessories

	Right-angle, low profile	LMB30LP
	Backside magnet mount	BWA-Q45VA-FMSSB
	2 x 3.6 V 2.4 Ah AA lithium cell replacement batteries	BWA-BATT-006

Compatible Wireless Sensor Nodes






All-in-One Dual Temperature Probe Sensor Node

Dual Thermistor nodes measure two temperatures in key areas of processes like air- and liquid-handling applications and also report the differential between them. Available accessories are shown below.

Radio Frequency	Power Supply	Measurement Range	Inputs	Models
900 MHz ISM band	AA lithium cell batteries	-20 to +105 °C (-4 to +221 °F)	Temperature	DX80N9Q45DT
2.4 GHz ISM band	AA lithium cell batteries (sold separately)			DX80N2Q45DT NB

Accessories

	Right-angle, low profile	LMB30LP
	Backside magnet mount	BWA-Q45VA-FMSSB
	2 x 3.6 V 2.4 Ah AA lithium cell replacement batteries	BWA-BATT-006



All-in-One Ultrasonic Sensor Node

Ultrasonic sensor nodes monitor the level or position of fluid or dry assets in tanks, totes, and containers. Available accessories are shown below.



Radio Frequency	Power Supply	Ultrasonic Input Range and Frequency	Inputs	Models
900 MHz ISM band	AA lithium cell batteries	Range: 100 mm to 1 m (3.94 in to 39.4 in) Frequency: 240 kHz	One ultrasonic input and one thermistor input	DX80N9Q45UAA
2.4 GHz ISM band	AA lithium cell batteries (sold separately)			DX80N2Q45UAA NB
900 MHz ISM band	AA lithium cell batteries	Range: 300 mm to 3 m (11.8 in to 118 in) Frequency: 114 kHz		DX80N9Q45UAC
2.4 GHz ISM band	AA lithium cell batteries (sold separately)			DX80N2Q45UAC NB

Accessories

	Backside magnet mount	BWA-Q45VA-FMSSB
	2 x 3.6 V 2.4 Ah AA lithium cell replacement batteries	BWA-BATT-006




All-in-One Current Sensor Node

This wireless node uses a current transformer to measure current draw, helping to reveal issues with critical motor performance. Available accessories are shown below.



Radio Frequency	Power Supply	Measurement Range	Inputs	Models
900 MHz ISM band	AA lithium cell batteries	0–20 or 0–150 Amps	Amperage (two current transformers included)	DX80N9Q45CT
2.4 GHz ISM band	AA lithium cell batteries (sold separately)			DX80N2Q45CT NB

Accessories

	Right-angle, low profile	LMB30LP
	Backside magnet mount	BWA-Q45VA-FMSSB
	2 x 3.6 V 2.4 Ah AA lithium cell replacement batteries	BWA-BATT-006



Wireless Node and Pressure Sensor

Wireless node and pressure transducers measure air, gas, and liquid pressure systems and equipment. Available accessories are shown below.



Communication	Power Supply	Pressure Range	Inputs	Models
900 MHz ISM band	D cell lithium battery	0–150 PSI	Pressure	DX80N9Q45UPSD-PS150
2.4 GHz ISM band	D cell lithium battery (sold separately)			DX80N2Q45UPSD-PS150 NB

Accessories

	Right-angle, low profile	LMB30LP
	3.6 V D lithium cell replacement battery	BWA-BATT-011



Wireless Node and Differential Pressure Sensor

Wireless node and differential pressure sensors provide the ability to monitor low-pressure applications such as filter and vacuum lines, HVAC and duct pressure, dust collectors, clean rooms, and fume hoods. Available accessories are shown below.



Communication	Power Supply	Pressure Range	Inputs	Models
900 MHz ISM band	D cell lithium battery	±1 inches of water column	Low-pressure differential sensor	DX80N9Q45DPSD-DP1
2.4 GHz ISM band	D cell lithium battery (sold separately)			DX80N2Q45DPSD-DP1 NB
900 MHz ISM band	D cell lithium battery	±5 inches of water column		DX80N9Q45DPSD-DP5
2.4 GHz ISM band	D cell lithium battery (sold separately)			DX80N2Q45DPSD-DP5 NB
900 MHz ISM band	D cell lithium battery	±20 inches of water column	DX80N9Q45DPSD-DP20	
2.4 GHz ISM band	D cell lithium battery (sold separately)		DX80N2Q45DPSD-DP20 NB	

Accessories

	Right-angle, low profile	LMB30LP
	3.6 V D lithium cell replacement battery	BWA-BATT-011

DX80 Performance Wireless Nodes

Radio Frequency	I/O	Power Supply	Housing	Models
900 MHz ISM band	Up to 12 discrete PNP I/O	10-30 V DC	IP67	DX80N9X6S-P8
2.4 GHz ISM band				DX80N2X6S-P8
900 MHz ISM band			IP20	DX80N9X6S-P8C
2.4 GHz ISM band				DX80N2X6S-P8C
900 MHz ISM band	Input: 4 discrete, 2 analog Output: 4 discrete, 2 analog 0-20 mA	10-30 V DC	IP67	DX80N9X6S-P2
2.4 GHz ISM band				DX80N2X6S-P2
900 MHz ISM band			IP20	DX80N9X6S-P2C
2.4 GHz ISM band				DX80N2X6S-P2C
900 MHz ISM band	Input: 1 configurable discrete, 1 analog voltage (configurable to current), 1 thermistor, 1 asynchronous counter, 1 switch power output	Internal battery	IP67	DX80N9X1S-P14
2.4 GHz ISM band				DX80N2X1S-P14
900 MHz ISM band	Input: 2 selectable discrete, 2 0-10 V analog Output: 2 AC/DC relay (SPDT), 2 PNP discrete, 2 0-10 V analog	100-277 V AC, field wireable 25W supply	IP67	DX80N9X7S-P15E
2.4 GHz ISM band				DX80N2X7S-P15E
900 MHz ISM band	Input: 2 discrete, 2 analog, 2 thermistor Output: 2 discrete NMOS	Flex power, 10-30 V DC or 3.6-5.5 V DC	IP67	DX80N9X2S-P1
2.4 GHz ISM band				DX80N2X2S-P1



P8, P2, P1



P8C, P2C





P14



P15E

Accessories



	Two 80 lb magnetic mounts	BWA-BK-020
	DIN rail bracket	SMBDX80DIN

Direct Select Wireless Operator Interface Nodes

Radio Frequency	Display	Input	Housing	Models
900 MHz ISM band	LCD 0-999, multicolor capacitive touch	Internal battery	IP65	DX80N9DSTS
2.4 GHz ISM band				DX80N2DSTS



Accessories

	Two 80 lb magnetic mounts	BWA-BK-020
	3.6 V C cell lithium replacement battery	BWA-BATT-013

DX80 MultiHop Data Radios

The following list of models does not represent a comprehensive list of available products that can be used to build a solution with this gateway. Please visit Banner Engineering website for more information.

Radio Frequency	I/O	Power Supply	Housing	Models
900 MHz ISM band	Input: 4 discrete, 2 analog, 1 thermistor, 1 counter Outputs: 2 discrete NMOS	Flex power, 10-30 V DC or 3.6-5.5 V DC	IP67	DX80DR9M-H1
2.4 GHz ISM band				DX80DR2M-H1
900 MHz ISM band	Inputs: 4 discrete, 2 analog Outputs: 4 discrete, 2 analog	10-30 V DC	IP67	DX80DR9M-H2
2.4 GHz ISM band				DX80DR2M-H2
900 MHz ISM band	Inputs: 2 discrete, 2 event counters Output: DC latch (H-Bridge)	Flex power, 10-30 V DC or 3.6-5.5 V DC	IP67	DX80DR9M-DCLATCHE
900 MHz ISM band				DX80DR9M-H10
2.4 GHz ISM band	1-wire serial interface	10-30 V DC	IP67	DX80DR2M-H10




H1, H2



H10

Accessories

	3.6 V D lithium cell replacement battery	BWA-BATT-011
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DXM1200-X2 IIoT Gateway

Series

DXM1200-X2

Radio Configuration

R1

Blank = None

R1 = 900 MHz, 500 mW PE5 Performance Radio (North America)

R2 = 900 MHz, 500 mW 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)

Specifications



Supply Voltage

12 to 30 V DC

Communication Protocols

Modbus RTU, Modbus TCP, Ethernet/IP, and PROFINET

Construction

Polycarbonate

Operating Conditions

-20 to +60 °C (-4 to +140 °F)

Environmental Rating

IP67

Accessories



PSD-24-4

Desktop power supply,
3.9 A, 24 V DC



PSW-24-1

Wall plug power supply,
100–240 V AC 50/60 Hz input,
24 V DC output

Cellular Communications

Controllers accept Banner LTE-M (CATM1) modems only. Cellular modems are ordered separately.

SXI-CATM1ATT-001

AT&T (North America only)

SXI-CATM1VZW-001

Verizon (United States only)

SXI-CATM1WW-001

Multi-Carrier (Europe only)



5-Pin M12

Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC1-506RA)

MQDC1-506

2 m (6.5')

MQDC1-515

5 m (15')

MQDC1-530

9 m (30')



RJ45 to 4-Pin M12

Straight male
D-code

STP-M12D-406

2 m (6.5')

STP-M12D-415

5 m (15')

STP-M12D-430

9 m (30')



Banner Engineering Corp.

9714 10th Avenue North • Minneapolis, MN 55441 • 1-888-373-6767 • www.bannerengineering.com