

sure cross™

Industrial Wireless
I/O Network



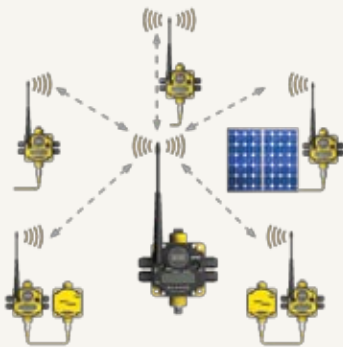
more sensors, more solutions

What's Inside?

This brochure provides you with a complete list of our standard offerings. However, the SureCross family is constantly evolving. For new products or custom solutions, contact the factory at bannerengineering.com.



DX70 Point-to-Point Wireless I/O Pairs page 3



DX80 Wireless I/O Network

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From simple to advanced, Banner solves more applications in your plant!



Sensors

Vision

Wireless

Indicator Lights

Machine Safety

Specify Your Wireless Solution in 3 Simple Steps

1. Radio and Antenna Options
2. Wireless Network Architectures
3. SureCross Wireless family features

1. Radio and Antenna Options

Banner recommends conducting a site survey to verify range in your facility.



900 MHz — recommended for use in North America



2.4 GHz — Global wireless standard



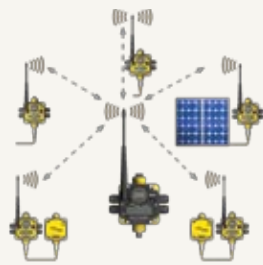
Antenna Options
Internal
External
Remote

2. Wireless Network Architectures

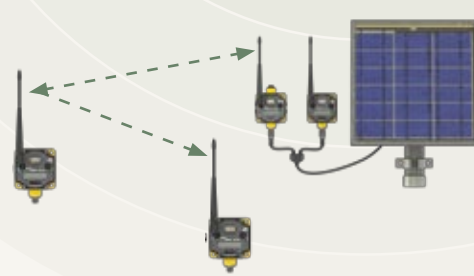
DX70 Point-to-Point



DX80 and DX99 Point-to-Multipoint



Data Radio-to-Data Radio



3. SureCross Wireless Family Features

DX70 IP67	DX80 IP67	DX80..C IP20 CID2	DX80 IP67	DX80..C IP20 CID2	DX99 IP67 CID1	Serial Data Radio IP67 CID2
Power: 10 to 30V dc	Gateways FlexPower: 10 to 30V dc Solar		Nodes FlexPower: 10 to 30V dc Battery Solar		Intrinsically Safe Nodes FlexPower: Battery	FlexPower: 10 to 30V dc Solar
I/O: Discrete Analog	I/O: Discrete Analog Networks: Modbus RTU Master & Slave EtherNet/IP Modbus TCP/IP		I/O: Discrete Analog Counter Serial — T30 Ultrasonic M12 Temp & RH QS30 Photoelectric SDI-12 Temp — Thermocouple RTD		I/O: Discrete Analog Temp — Thermocouple RTD	Data: RS232 (CID2) RS485 (CID2) Ethernet (900 MHz only)

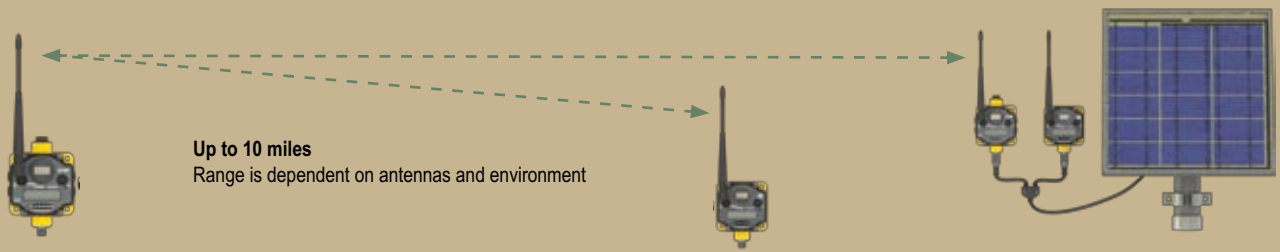
Point-to-Point Wireless I/O Pairs

DX70 Gateways and Nodes are an economical industrial wireless I/O solution. Each device provides direct I/O linking and plug-n-play installation. Banner's unique radio binding technology enables multiple DX70 pairs to be located within range of each other. DX70 models operate in pairs only, the correct Gateway and Node are listed on the same row in the table below.

DX70	Gateway Model	Node Model	Frequency	I/O	Data Sheet
	DX70G9X6S4P4M2M2	DX70N9X6S4P4M2M2	900 MHz	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-20 mA)	133214
	DX70G2X6S4P4M2M2	DX70N2X6S4P4M2M2	2.4 GHz		
	DX70G9X6S4P8	DX70N9X6S8P4	900 MHz	Gateway Discrete: Four inputs, eight outputs Node Discrete: Eight inputs, four outputs	
	DX70G2X6S4P8	DX70N2X6S8P4	2.4 GHz		

NOTE: To order the internal antenna models, replace the "S" as the 9th digit with a "W." Internal antennas require an additional week for manufacture and shipping. For example, **DX70N9X6S4P4M2M2** is the model for the external antenna and **DX70N9X6W4P4M2M2** is the model for the internal antenna.

More information online at bannerengineering.com



DX80 Data Radios

The data stream appearing at one Data Radio is reproduced at all other data radios in the same network.



Serial DX80 Data Radio

Serial Data Radios are used to extend the range of Modbus RTU or DX80 Wireless I/O networks.

Model	Data Sheet
DX80DR9M 900 MHz, 1 Watt DX80DR2M 2.4 GHz, 100 mW	132031



Ethernet Data Radio

Long-range and noise-immune wireless Ethernet link.

Model	Frequency	Power	Data Sheet
DXER9	900 MHz	Euro-style 4-pin	140371

DX85 Modbus RTU Remote I/O

DX85 Modbus RTU Remote I/O connected to our Serial Data Radio offers a one watt radio link for extremely long-range I/O applications.



Model	Base	I/O	Data Sheet
DX85M6P6	IP67	Discrete: Six inputs, six outputs	131599
DX85M6P6C	IP20		
DX85M0P0M4M4	IP67	Analog: Four inputs, four outputs (0-20 mA)	138371
DX85M0P0M4M4C	IP20		
DX85M4P4M2M2	IP67	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-20 mA)	131629
DX85M4P4M2M2C	IP20		
DX85M8P4	IP67	Discrete: Eight inputs, four outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	134324
DX85M8P4C	IP20		
DX85M4P8	IP67	Discrete: Four inputs, eight outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	134325
DX85M4P8C	IP20		



DX80 EtherNet/IP and Modbus TCP Gateways

Model	Frequency	I/O	Data Sheet
DX80P9T6S	900 MHz	The GatewayPro features Modbus/TCP and EtherNet/IP communication protocols. This device has no inputs or outputs.	131933
DX80P2T6S	2.4 GHz		
DX83	No Radio	The Ethernet Bridge features Modbus/TCP and EtherNet/IP communication protocols. This device has no inputs or outputs.	131934



DX80 Modbus RTU Gateways

- Gateways are the master of Banner's SureCross Wireless Network
- Modbus 485 communication capability is integrated into every Gateway
- Gateway models are available with discrete, analog and a mix of both I/O types
- Model numbers ending with a C are certified for Class I Div 2 areas



Wireless AGV Control System

DX80 Modbus RTU Gateways



Integrated Site Survey enables the user to test the radio signal strength between the Gateway and any Node within the network. The results are displayed as a number of data packets returned in each category.



Green = Excellent
 Yellow = Good
 Red = Marginal
 Missed = Data not received on the first transmission

Model	Frequency	Base	I/O	Data Sheet
DX80G9M6S6P6	900 MHz	IP67	Discrete: Six inputs, six outputs	132159
DX80G9M6S6P6C		IP20		
DX80G2M6S6P6	2.4 GHz	IP67		
DX80G2M6S6P6C		IP20		
DX80G9M6S6N6	900 MHz	IP67	Discrete: Six NPN inputs, six NPN outputs	136323
DX80G9M6S6N6C		IP20		
DX80G2M6S6N6	2.4 GHz	IP67		
DX80G2M6S6N6C		IP20		
DX80G9M6S0P0M4M4	900 MHz	IP67	Analog: Four inputs, four outputs (0-20 mA)	134302
DX80G9M6S0P0M4M4C		IP20		
DX80G2M6S0P0M4M4	2.4 GHz	IP67		
DX80G2M6S0P0M4M4C		IP20		
DX80G9M6S0P0V4V4	900 MHz	IP67	Analog: Four inputs, four outputs (0-10V)	136325
DX80G9M6S0P0V4V4C		IP20		
DX80G2M6S0P0V4V4	2.4 GHz	IP67		
DX80G2M6S0P0V4V4C		IP20		
DX80G9M6S4P4M2M2	900 MHz	IP67	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-20 mA)	131935
DX80G9M6S4P4M2M2C		IP20		
DX80G2M6S4P4M2M2	2.4 GHz	IP67		
DX80G2M6S4P4M2M2C		IP20		
DX80G9M6S4P4V2V2	900 MHz	IP67	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-10V)	134301
DX80G9M6S4P4V2V2C		IP20		
DX80G2M6S4P4V2V2	2.4 GHz	IP67		
DX80G2M6S4P4V2V2C		IP20		
DX80G9M6S8P4	900 MHz	IP67	Discrete: Eight inputs, four outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	132157
DX80G9M6S8P4C		IP20		
DX80G2M6S8P4	2.4 GHz	IP67		
DX80G2M6S8P4C		IP20		
DX80G9M6S4P8	900 MHz	IP67	Discrete: Four inputs, eight outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	132158
DX80G9M6S4P8C		IP20		
DX80G2M6S4P8	2.4 GHz	IP67		
DX80G2M6S4P8C		IP20		

NOTE: To order the internal antenna models, replace the "S" as the 9th digit with a "W." Internal antennas require an additional week for manufacture and shipping. For example, **DX80G9M6S6P6** is the external antenna model and **DX80G9M6W6P6** is the internal antenna model.

FlexPower Gateways



Model	Frequency	I/O	Data Sheet
DX80G9M2S	900 MHz	The FlexPower Gateway with a serial interface is designed to be powered by 10-30V dc, a battery pack, or the solar powered system with rechargeable batteries. Class I Div 2 certified.	142679
DX80G2M2S	2.4 GHz		

NOTE: The FlexPower Gateways are available with the external antenna only.

More information online at bannerengineering.com



Analog and Discrete I/O DX80 Nodes

- These Node options include analog and discrete I/O in single unit
- Nodes collect sensor data and communicate that I/O information back to a Gateway
- Model numbers ending with C are certified for Class I Div 2 areas

Irrigation System Monitoring

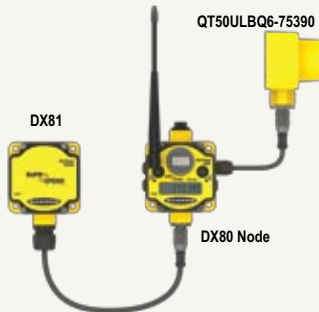
10-30V dc DX80 Nodes



Model*	Frequency	Base	I/O	Data Sheet
DX80N9X6S4P4M2M2	900 MHz	IP67	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-20 mA)	131936
DX80N2X6S4P4M2M2	2.4 GHz			
DX80N9X6S4P4M2M2C	900 MHz	IP20		
DX80N2X6S4P4M2M2C	2.4 GHz			
DX80N9X6S4P4V2V2	900 MHz	IP67	Discrete: Four inputs, four outputs Analog: Two inputs, two outputs (0-10V)	134323
DX80N2X6S4P4V2V2	2.4 GHz			
DX80N9X6S4P4V2V2C	900 MHz	IP20		
DX80N2X6S4P4V2V2C	2.4 GHz			

FlexPower DX80 Nodes

FlexPower devices may be powered using 10-30V dc, the DX81 Battery Module, the DX81P6 Battery Module, or the Solar Power Supply. Power supply and sensor sold separately.



Model*	Frequency	Base	I/O	Data Sheet
DX80N9X2S2N2M2	900 MHz	IP67	Discrete: Two selectable inputs, two NMOS sinking outputs Analog: Two inputs (0-20 mA, depending on configuration) Switched Power Outputs: Two	131296
DX80N2X2S2N2M2	2.4 GHz			
DX80N9X2S2N2M2C	900 MHz	IP20		
DX80N2X2S2N2M2C	2.4 GHz			
DX80N9X2S2N2V2	900 MHz	IP67	Discrete: Two selectable inputs, two NMOS sinking outputs Analog: Two 0-10V inputs (depending on configuration) Switched Power Outputs: Two	131762
DX80N2X2S2N2V2	2.4 GHz			
DX80N9X2S2N2V2C	900 MHz	IP20		
DX80N2X2S2N2V2C	2.4 GHz			
DX80N9X2S2N2M4	900 MHz	IP67	Discrete: Two selectable inputs, two NMOS sinking outputs Analog: Four inputs (0-20 mA or 4-20 mA, depending on configuration)	131762
DX80N2X2S2N2M4	2.4 GHz			
DX80N9X2S2N2M4C	900 MHz	IP20		
DX80N2X2S2N2M4C	2.4 GHz			
DX80N9X2S2N2V4	900 MHz	IP67	Discrete: Two selectable inputs, two NMOS sinking outputs Analog: Four inputs (0-10V)	131762
DX80N2X2S2N2V4	2.4 GHz			
DX80N9X2S2N2V4C	900 MHz	IP20		
DX80N2X2S2N2V4C	2.4 GHz			

* All Nodes on this page are available with internal antennas. To order the internal antenna models, replace the "S" as the 9th digit with a "W". Internal antennas require an additional week for manufacture and shipping. For example, DX80N9X2S2N2M2 is the model number for the external antenna device and DX80N9X2W2N2M2 is the internal antenna device.



High-Temperature Alarm Conditioning

Discrete I/O DX80 Nodes

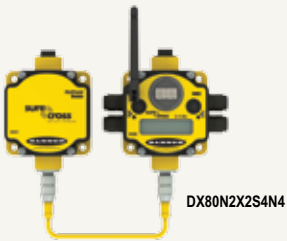
- These Node options offer Discrete I/O only
- There are typically many Nodes communicating with a Gateway in each wireless network
- Unless it is specified that the *FlexPower* Node has an integrated battery, it may be powered using 10-30V dc, the DX81 Battery supply, DX81P6 or the Solar Power Assembly— Power supplies are sold separately

10-30V dc DX80 Nodes



Model*	Frequency	Base	I/O	Data Sheet
DX80N9X6S6P6	900 MHz	IP67	Six inputs, six outputs	132162
DX80N2X6S6P6	2.4 GHz			
DX80N9X6S6P6C	900 MHz	IP20		
DX80N2X6S6P6C	2.4 GHz			
DX80N9X6S6N6	900 MHz	IP67	Six NPN inputs, six NPN outputs	136324
DX80N2X6S6N6	2.4 GHz			
DX80N9X6S6N6C	900 MHz	IP20		
DX80N2X6S6N6C	2.4 GHz			
DX80N9X6S8P4	900 MHz	IP67	Eight inputs, four outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	132160
DX80N2X6S8P4	2.4 GHz			
DX80N9X6S8P4C	900 MHz	IP20		
DX80N2X6S8P4C	2.4 GHz			
DX80N9X6S4P8	900 MHz	IP67	Four inputs, eight outputs (When your wireless network does not include a host system, the four inputs/eight output devices must be mapped to the eight input/four output devices.)	132161
DX80N2X6S4P8	2.4 GHz			
DX80N9X6S4P8C	900 MHz	IP20		
DX80N2X6S4P8C	2.4 GHz			

FlexPower DX80 Nodes



Model*	Frequency	Base	I/O	Data Sheet
DX80N9X2S4N4	900 MHz	IP67	Four sinking inputs, four NMOS sinking outputs	136328
DX80N2X2S4N4	2.4 GHz			
DX80N9X2S4N4C	900 MHz	IP20		
DX80N2X2S4N4C	2.4 GHz			

* All Nodes on this page are available with internal antennas. To order the internal antenna models, replace the "S" as the 9th digit with a "W". Internal antennas require an additional week for manufacture and shipping. For example, **DX80N9X2S4N4** is the model number for the external antenna device and **DX80N9X2W4N4** is the internal antenna device. Battery power supply sold separately.



Wireless Pick-to-Light Solutions

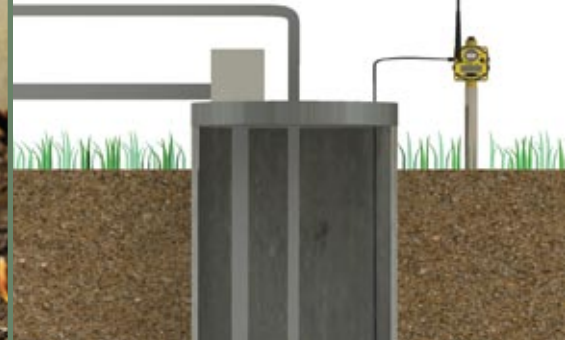
More information online at bannerengineering.com



Flare Stack Temperature Control



Compost Temperature Monitoring



Landfill Pump Stroke Counter

Analog I/O DX80 Nodes

These Nodes are available with analog inputs and outputs only and require 10-30V dc power.



Model*	Frequency	Base	I/O	Data Sheet
DX80N9X6S0P0M4M4	900 MHz	IP67	Four 0-20 mA inputs, four 0-20 mA outputs	134322
DX80N2X6S0P0M4M4	2.4 GHz			
DX80N9X6S0P0M4M4C	900 MHz	IP20		
DX80N2X6S0P0M4M4C	2.4 GHz			
DX80N9X6S0P0V4V4	900 MHz	IP67	Four 0-10V inputs, four 0-10V outputs	136326
DX80N2X6S0P0V4V4	2.4 GHz			
DX80N9X6S0P0V4V4C	900 MHz	IP20		
DX80N2X6S0P0V4V4C	2.4 GHz			

FlexPower Counter DX80 Nodes

FlexPower Counter Node inputs can be configured by the user for event counting up to 10 KHz or frequency reporting up to 25 KHz.



DX80N9X1S2A1

Model*	Frequency	Base	I/O	Data Sheet
DX80N9X2S4A2	900 MHz	IP67	Discrete: Two selectable inputs, two NMOS sinking outputs Counter: Two selectable inputs	136348
DX80N2X2S4A2	2.4 GHz			
DX80N9X2S4A2C	900 MHz	IP20		
DX80N2X2S4A2C	2.4 GHz			
DX80N9X1S2A1	900 MHz	IP67	Discrete: One selectable input, one NMOS sinking outputs Counter: One selectable inputs	136972
DX80N2X1S2A1	2.4 GHz		Battery integrated into the housing	

* All Nodes on this page are available with internal antennas. To order the internal antenna models, replace the "S" as the 9th digit with a "W". Internal antennas require an additional week for manufacture and shipping. For example, **DX80N9X2S4A2** is the model number for the external antenna device and **DX80N9X2W4A2** is the internal antenna device.

Models with batteries integrated into the housing are so noted. For all other FlexPower models, the DX81 or DX81P6 Battery Supply Modules must be ordered separately to power these devices from battery.

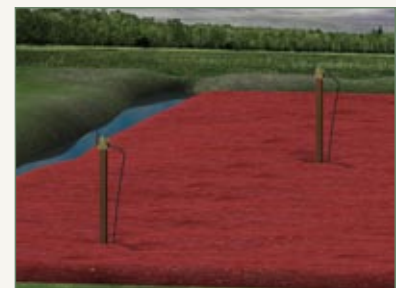
FlexPower Solar DX80 Nodes

These Nodes require the FlexPower Solar Supply and were designed to provide continuous power for 4-20 mA sensors.



DX80N9X2S-CS1 and BWA-SOLAR-001

Model	Frequency	I/O	Data Sheet
DX80N9X2S-CS1	900 MHz	Discrete Inputs: Two Sinking (NPN) Analog Inputs: Two 0-20 mA Thermistor: One Battery Status: One	140373
DX80N2X2S-CS1	2.4 GHz		



Banner offers a number of FlexPower Nodes designed to work with the SDI-12 Standard for irrigation sensors.

For your unique wireless irrigation solution, contact the factory.

Specialty Sensor DX80 Nodes

- These Nodes are available with Temperature I/O factory-calibrated either for thermocouples, RTDs or the temperature and relative humidity serial sensors
- The FlexPower thermocouple Node accommodates 13 different types of thermocouple, the customer selects the type using integrated dip switches
- The M-GAGE FlexPower Node has an integrated sensor that detects the presence of vehicles



Greenhouse Temperature and Humidity Monitoring

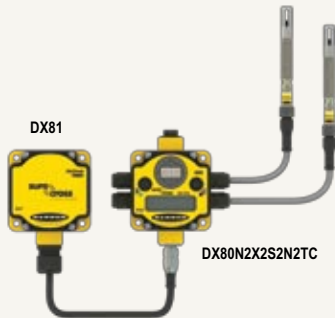
FlexPower Temperature DX80 Node



DX80N2X2S2N2TC

Model*	Frequency	Base	I/O	Data Sheet
DX80N9X2S2N2T	900 MHz	IP67	Thermocouple: Three inputs, one thermistor CJC input Discrete: Two selectable inputs, two NMOS sinking outputs	131297
DX80N2X2S2N2T	2.4 GHz			
DX80N9X2S2N2TC	900 MHz	IP20		
DX80N2X2S2N2TC	2.4 GHz			
DX80N9X2S0P0R	900 MHz	IP67	RTD: Four three-wire inputs	131597
DX80N2X2S0P0R	2.4 GHz			
DX80N9X2S0P0RC	900 MHz	IP20		
DX80N2X2S0P0RC	2.4 GHz			

Serial DX80 Node



DX81

DX80N2X2S2N2TC

Model*	Frequency	Base	I/O	Data Sheet
DX80N9X2S2S	900 MHz	IP67	One serial port to handle up to two serial sensors.	136971
DX80N2X2S2S	2.4 GHz			
DX80N9X1S1S	900 MHz		One serial port to handle one serial sensor. Battery integrated into the housing	137322
DX80N2X1S1S	2.4 GHz			

* All Nodes on this page are available with internal antennas. To order the internal antenna models, replace the "S" in the 9th digit with a "W". Internal antennas require an additional week for manufacture and shipping. For example, **DX80N9X2S1S** is the model number for the external antenna device and **DX80N9X2W1S** is the internal antenna device. Models with batteries integrated into the housing are so noted. For all other FlexPower models, the DX81 or DX81P6 Battery Supply Modules must be ordered separately to power these devices from battery.

FlexSensor Serial Models

T30UFDNCQ
Discrete, ultrasonic, 3 m range



M12FTH1Q
Temperature and relative humidity sensor ±2%



M12FTH2Q
Temperature and relative humidity sensor ±3.5%

QS30WEQ (emitter)
QS30WRQ (receiver)
Photoelectric pair up to 100' range



T30U Tank Level Control

M-GAGE™ DX80 Nodes

The M-GAGE Nodes are powered by a 3.6V lithium D cell integrated into the housing. The M-GAGE Node senses the presence/absence of vehicles.



DX80N2X1W0P0ZR

Model	Frequency	Base	I/O	Data Sheet
DX80N9X1W0P0ZR	900 MHz	Standard IP67	M-GAGE sensor with an internal antenna and a battery integrated into an easy to embed Node housing	147116
DX80N2X1W0P0ZR	2.4 GHz			

More information online at bannerengineering.com



Intrinsically Safe FlexPower Nodes

- The DX99 product line is certified for operation in Class I Div 1 and ATEX Zone 0 locations
- Each DX99 FlexPower Node powers all radio communications and offers power for an external sensing device
- These FlexPower Nodes are available in two different housing options, metal and polycarbonate
- The metal housing devices are powered by a 3.6V D Cell lithium battery integrated into the housing
- The polycarbonate housing requires a DX81H Battery supply for power—Sold separately

Pressure Sensor Tank Level Analysis

DX99

Class I, Division 1, Groups A, B, C, D; Class I, Zone 0, Group IIC; and Group IIC, Zone 0 (Polycarbonate housing)



Model	Frequency	Boost Power	I/O	Data Sheet
DX99N9X2S2N0M2X0A1	900 MHz	10V	Discrete: Two discrete inputs Analog: Two analog inputs (0-20 mA)	142496
DX99N2X2S2N0M2X0A1	2.4 GHz			
DX99N9X2S2N0V2X0A1	900 MHz		Discrete: Two discrete inputs Analog: Two analog inputs (0-10V)	
DX99N2X2S2N0V2X0A1	2.4 GHz			
DX99N9X2S2N0M2X0A2	900 MHz	18V	Discrete: Two discrete inputs Analog: Two analog inputs (0-20 mA)	
DX99N2X2S2N0M2X0A2	2.4 GHz			
DX99N9X2S2N0V2X0A2	900 MHz		Discrete: Two discrete inputs Analog: Two analog inputs (0-10V)	
DX99N2X2S2N0V2X0A2	2.4 GHz			
DX99N9X2S2N0T4X0A0	900 MHz	n/a	Thermocouple: Three thermocouple inputs, one thermistor input Discrete: Two discrete (NPN) inputs	142498
DX99N2X2S2N0T4X0A0	2.4 GHz			
DX99N9X2S0N0R4X0A0	900 MHz		RTD: Four inputs	
DX99N2X2S0N0R4X0A0	2.4 GHz			

NOTE: To order the internal antenna models, replace the "S" as the 9th digit with a "W". Internal antennas require an additional week for manufacture and shipping. For example, DX99N9X2S2N0M2X0A1 is the model with the external antenna and DX99N9X2W2N0M2X0A1 is the internal antenna model.

DX99

Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III, Division 1; Class I, Zone 0, Group IIC; Group IIC, Zone 0; and Dust, Zone 20 (Metal housing)



Model	Frequency	Boost Power	I/O	Data Sheet
DX99N9X1S2N0M2X0B1	900 MHz	10V	Discrete: Two inputs Analog: Two inputs (0-20 mA)	142497
DX99N9X1S2N0M2X0B2		18V		
DX99N9X1S2N0V2X0B1		10V	Discrete: Two inputs Analog: Two inputs (0-10V)	
DX99N9X1S2N0V2X0B2		18V		
DX99N2X1S2N0M2X0B1	2.4 GHz	10V	Discrete: Two inputs Analog: Two inputs (0-20 mA)	
DX99N2X1S2N0M2X0B2		18V		
DX99N2X1S2N0V2X0B1		10V	Discrete: Two inputs Analog: Two inputs (0-10V)	
DX99N2X1S2N0V2X0B2		18V		
DX99N9X1S2N0T4X0B0	900 MHz	n/a	Thermocouple: Three inputs, one thermistor input Discrete: Two (NPN) inputs	142681
DX99N2X1S2N0T4X0B0	2.4 GHz			
DX99N9X1S0N0R4X0B0	900 MHz		RTD: Four inputs	
DX99N2X1S0N0R4X0B0	2.4 GHz			

NOTE: The metal housing models are only available with external antennas.



Landfill Gas Flow Control



Flare Stack Ignition Verification

Accessories

For a complete, printable list of all accessories available, refer to the Antenna and Accessory Specifier's Guide on bannerengineering.com/wireless.







User Configuration Tool - RS485 to USB Adapter Cable

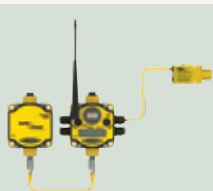
BWA-HW-006 RS485 to USB adapter cable is used to connect the DX80 Gateway to a computer. Download your free configuration software at bannerengineering.com/wireless



FlexPower Accessories

Model /Description	Data Sheet		Model /Description	Data Sheet	
DX81P6 FlexPower Battery 6-pack delivers and manages dc voltage from six 3.6V lithium D cell batteries. Replacement battery pack: BWA-BATT-002	131628	 DX81P6	DX81H FlexPower Battery Supply Module delivers and manages dc voltage from one 3.6V lithium D cell battery and used to power the polycarbonate housed Intrinsically Safe DX99 devices.	141517	 DX81H
DX81 FlexPower Battery Supply Module delivers and manages dc voltage from one 3.6V lithium D cell battery. Replacement battery: BWA-BATT-001	131596	 DX81	BWA-SOLAR-001 FlexPower Solar Supply includes solar panel, controller, and rechargeable battery pack. Replacement battery pack: BWA-BATT-003	137304	 BWA-Solar-001

Sensors Optimized for FlexPower Devices



SM312LPQD-78447 (retro)
SM312DQD-78419 (diffuse)

The low power **MINI-BEAM** is designed to work with the FlexPower Nodes.

U-GAGE QT50U-75390

A long-range ultrasonic sensor designed to work with the FlexPower Nodes.



For enclosures and alternate mounting options, contact the factory.

Antennas and Antenna Accessories

Banner offers a complete line of antennas and adapter cables to meet even the most extreme range requirements. Go to bannerengineering.com for a specifier's guide to help you select what you need for your application.

Yagi Antenna

Model Number	Description
BWA-9Y6-A	900 MHz, 6.5 dBd, N Female
BWA-9Y10-A	10 dBd Yagi with N Female pigtail connector



OMNI Antenna

Model Number	Description
BWA-9O6-A	900 MHz, 6 dBd, N Female, Fiberglass
BWA-9O5-B	5 dBd Omni with ground plane and N Female pigtail connector, fiberglass
BWA-9O2-C	900 MHz, 2 dBi, RP-SMA Male
BWA-2O2-C	2.4 GHz, 2 dBi, Rubber Swivel, RP-SMA Male
BWA-2O5-C	2.4 GHz, 5 dBi, Rubber Swivel, RP-SMA Male
BWA-2O7-C	2.4 GHz, 7 dBi, Rubber Swivel, RP-SMA Male
BWA-2O6-A	2.4GHz, 6 dBi, Fiberglass, 16 inches, Outdoor
BWA-2O8-A	2.4GHz, 8.5 dBi, Fiberglass, 24 inches, Outdoor



Model Number	Description
BWC-1MRSMN05	RP-SMA Male to N Male 0.5 Meter adapter cable
BWC-1MRSMN2	RP-SMA Male to N Male 2 Meter adapter cable
BWC-1MRSFRSB4	RP-SMA to RP-SMA bulkhead 4 Meter extension cable
BWC-1MRSFRSB1	RP-SMA to RP-SMA bulkhead 1 Meter extension cable
BWC-1MRSFRSB2	RP-SMA to RP-SMA bulkhead 2 Meter extension cable
BWC-1MRSFRSB0.2	RP-SMA to RP-SMA bulkhead 0.2 Meter extension cable
BWC-4MNFN3	LMR400 N Male to N Female 3 Meter extension cable
BWC-4MNFN6	LMR400 N Male to N Female 6 Meter extension cable
BWC-4MNFN15	LMR400 N Male to N Female 15 Meter extension cable
BWC-4MNFN30	LMR400 N Male to N Female 30 Meter extension cable



Surge Protection

Model Number	Description
BWC-LFNBMM	900 MHz/2.4 GHz surge suppressor with bulkhead and N connector
BWC-LMRSFRPB	900 MHz/2.4 GHz surge suppressor with bulkhead and RP-SMA



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