DXM100-A1 and A2 Wireless Controller

Features

The **DXM100-A1** and **DXM100-A2** Controllers are programmable logic controllers with multiple I/O connectivity options or a local ISM radio network and are optimized to be powered by a solar/battery system. Collected data is sent to the cloud through the cellular modem.



- Optimized for use in a solar-powered system with a battery backup
- Cellular modem Internet connectivity
- 900 MHz or 2.4 GHz ISM radio module (A2 model only)
- Logic controller with action rules and ScriptBasic programming
- Interactive programmable user interface with LCD and LED indicators
- Universal, on-board I/O with analog and discrete I/O
- Industry-standard RS-485 and USB communication ports
- Data logging with a removable SD card
- Secure email and text messaging for alarms when you use the Banner Cloud Data Services software platform

Models

Models	Cellular Carrier	ISM Radio	Inputs and Outputs
DXM100-A1-V	Verizon	None	Four universal inputs: Sinking/sourcing discrete, 4–20mA analog, 0–10 V analog, counter, and/or temperature with a 10 kOhm thermistor Four NMOS outputs, two 0–10 V analog outputs, and two DC Latching outputs Two adjustable 5 V to 24 V switched power outputs, one SDI switched power outputs, and one 5 V courtesy power output
DXM100-A1-W	Multi-Carrier*		
DXM100-A1-A	AT&T		
DXM100-A2R1-V	Verizon	900 MHz Performance Gateway	
DXM100-A2R1-A	AT&T		
DXM100-A2R3-W	Multi-Carrier*	2.4 GHz Performance Gateway	

A cellular modem is installed in the **DXM100-A1** or **DXM100-A2** Controller.

* Not all regions or carriers are available. Please contact Banner Engineering or visit the Cellular Connectivity Products and Services page for more detail.

DXM100-Ax Controller Overview

The DXM controller is optimized for solar/battery power. A full-featured application configuration on the controller will operate over 20 days of autonomy with a 5.5 AHr LiFePO4 battery.

Use the DXM Configuration Software, DXM Instruction Manuals, technical notes, and videos at www.bannerengineering.com to configure/program the DXM for your application. Banner's DXM Logic Controller integrates cellular connectivity and local I/O to provide a platform for the Industrial Internet of Things (IIoT).

Inputs and Outputs

On-board universal and programmable I/O ports connect to local sensors, indicators, and control equipment

Universal inputs, discrete outputs, courtesy power and switched power outputs, DC latching outputs, and analog outputs

SDI-12 interface, battery backup, solar controller

Connectivity--The DXM100's wired and wireless connectivity options make it easy to share data between local and remote equipment. The cellular modem option eliminates the need for IT infrastructures to connect remote equipment for sensing and control. The integrated Sure Cross® wireless radio enables Modbus connectivity to remote sensors, indicators, and control equipment.

Wired Connectivity

Field Bus Modbus and RS-485 Client/Server

Wireless Connectivity

Sure Cross® Wireless Radio: DX80 900 MHz; DX80 2.4 GHz;

Cellular modem: LTE-M (United States) or LTE-M/NB-IoT (outside the United States)

Logic Controller—Program the DXM's logic controller using action rules and/or ScriptBasic language, which can execute concurrently. The control functions allow freedom when creating custom sensing and control sequences. The logic controller supports the Modbus protocol standards for data management, ensuring seamless integration with existing automation systems. File and LCD password protection is an option.

Register Mapping

Cyclical read rules from wireless devices or local wired Modbus devices that include optional scaling, error conditions, and the ability to activate a read rule.

Cyclical or change of state write rules to wireless devices or local wired Modbus devices with scaling.

Action Rules

Thresholds (IF/THEN/ELSE) with timers, minimum on/off time, and logging options

Math/Logic Rules (arithmetic and bitwise operators)

Control Logic (logical operators and SR/T/D/JK flip flops)

Original Instructions
01-Oct-24

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212027
p/n: 212027 Rev. C

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Trending (multiple averaging filters) Tracking (counts, on/off times) Push data on conditions

Optional Text Programming Language

ScriptBasic to create variables, arrays, functions, loops, IF/THEN/ELSE, logical and arithmetic operators, API commands, register access, string functions and operators, time commands

Scheduler

Time/calendar-based events

Holiday skips and one-time events

Dynamic scheduler updating Astronomical clock

Data Logging

Cyclic Data/Event logging

Data Sampling

Adjust cloud push intervals and sampling intervals between pushes

User Programmable LCD—A simple user interface consists of an LCD screen and four LED indicators. Use the LCD to access the system's status and configuration, view user-selectable events and data, and configure inputs and outputs.

User programmable LCD

Binding Sure Cross radios

Conducting a Site Survey

Viewing sensor information

Viewing the system's status

User-Defined LED Indicators

Four multicolored LEDs: green, amber, red Programmable behavior

DXM100-Ax Documentation

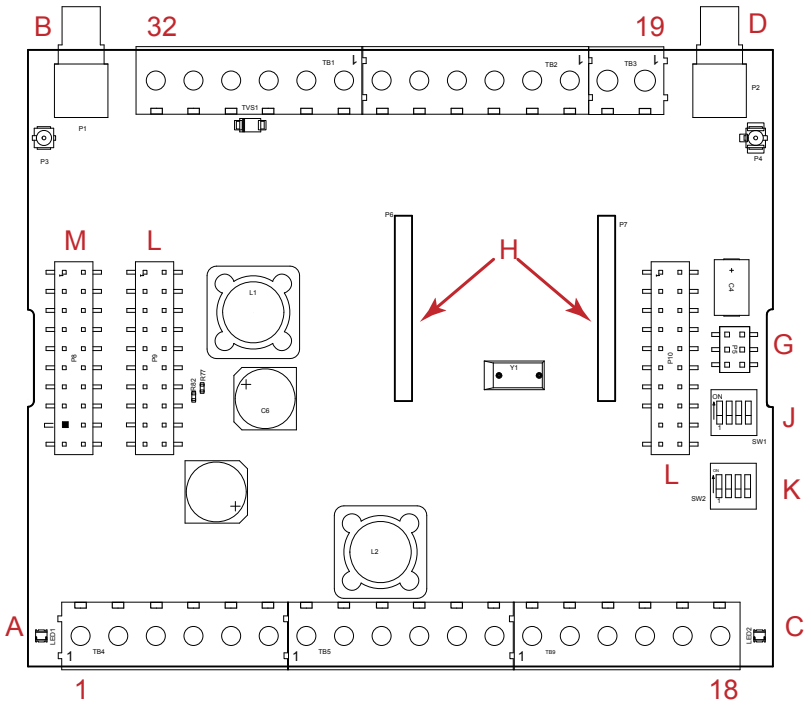
For more information about the DXM100 family of products, please see additional documentation and videos on the Banner website: www.bannerengineering.com.

- DXM100-A1 and A2 Datasheet, p/n 212027
- DXM100-Bx Wireless Controller Instruction Manual, p/n 190037
- DXM ScriptBasic Instruction Manual, p/n 191745
- DXM Controller API Protocol, p/n 186221
- DXM Controller Configuration Quick Start, p/n 191247
- DXM Enclosure Kit Setup Guide (Solar Kits), p/n 223953
- DXM Configuration Software v4 (p/n b_4496867)
- DXM Configuration Software v4 Instruction Manual, p/n 209933
- Banner CDS Web Service Quick Start Guide, p/n 201126
- Banner CDS Web Service Instruction Manual, p/n 178337
- Additional technical notes and videos

Technical notes, configuration examples, and ScriptBasic program examples are available at www.bannerengineering.com.

IO Base Board for the DXM100-Ax

I/O base board for the DXM100-A1 and -A2 models



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Pin	Name	Description
1	No Connection	Not used
2	**PW**. 12-30 V DC or solar power in (+)	Main power in for DXM Controller, can be 12-30 V DC or solar power (20 W panel max)
3	**GD**. Ground	DXM ground
4	**B+**. Battery in (< 15 V DC)	12 V battery connection, positive
5	**GD**. Ground	DXM ground
6	**M-**. Primary RS-485 -	Modbus client port (+) controlled by the DXM Controller. DXM can read/write Modbus server devices connected to this port.
7	**M+**. Primary RS-485 +	Modbus client port (-)
8	**GD**. Ground	DXM ground
9	**1A**. DLatch 1A	Input A (+) connection for first external DC latching solenoid. Use I/O board Modbus register 507 to control.
10	**1B**. DLatch 1B	Input B (-) connection for first external DC latching solenoid
11	**2A**. DLatch 2A	Input A (+) connection for second external DC latching solenoid. Use I/O board Modbus register 508 to control.
12	**2B**. DLatch 2B	Input B (-) connection for second external DC latching solenoid
13	**S-**. Secondary RS-485 -	Modbus server RS-485 (+) connection for host system as a Modbus client communicating to the DXM controller as a Modbus server device.
14	**S+**. Secondary RS-485 +	Modbus server RS-485 (-) connection.
15	**SP**. SDI-12 Courtesy Power	Power connection for external SDI-12 sensors
16	**SD**. SDI-12 Data	Communications line for external SDI-12 sensors
17	**GD**. Ground	Ground connection for SDI-12 sensor (DXM common ground)
18	**P3**. Courtesy Power 5 V	Courtesy Power output 5 V, limited to 500 mA
19	**A2**. Analog OUT 2 (0–10 V)	Analog output 2, (0-10 V) controlled by I/O board Modbus register 508. (values range from 0-10000)
20	**A1**. Analog OUT 1 (0–10 V)	Analog output 1, (0-10 V) controlled by I/O board Modbus register 507. (values range from 0-10000)
21	**P2**. Adjustable Courtesy Power	Adjustable Power Output 2: 5 V DC to 24 V DC. Use the DXM Configuration Software to set the voltage output and the associated power output to input pins.
22	**N4**. NMOS OUT 4	NMOS switch to ground controlled by I/O Modbus registers 504; 1 A maximum at 30 V DC.
23	**N3**. NMOS OUT 3	NMOS switch to ground controlled by I/O Modbus registers 503; 1 A maximum at 30 V DC.
24	**N2**. NMOS OUT 2	NMOS switch to ground controlled by I/O Modbus registers 502; 1 A maximum at 30 V DC.
25	**N1**. NMOS OUT 1	NMOS switch to ground controlled by I/O Modbus registers 501; 1 A maximum @ 30 V DC.
26	**GD**. Ground	DXM ground
27	**U4**. Universal Input 4	Universal input #4, NPN, PNP, 0–20 mA, 0–10 V, 10k Thermistor. Use DXM Configuration Software or Modbus registers to set input type. I/O Modbus register 4
28	**U3**. Universal Input 3	Universal input #3, NPN, PNP, 0–20 mA, 0–10 V, 10k Thermistor. Use DXM Configuration Software or Modbus registers to set input type. I/O Modbus register 3
29	**GD**. Ground	DXM ground
30	**P1**. Adjustable Courtesy Power	Adjustable Power Output 1: 5 V DC to 24 V DC. Use the DXM Configuration Software to set the voltage output and the associated power output to input pins.
31	**U2**. Universal Input 2	Universal input #2, NPN, PNP, 0–20 mA, 0–10 V, 10k Thermistor. Use the DXM Configuration Software or Modbus registers to set the input type. I/O Modbus register 2
32	**U1**. Universal Input 1	Universal input #1, NPN, PNP, 0–20 mA, 0–10 V, 10k Thermistor. Use the DXM Configuration Software or Modbus registers to set the input type. I/O Modbus register 1

A	Base board LED			J	Modbus server ID DIP Switches
B	A1. Cellular or secondary antenna			K	Modbus server ID DIP Switches
C	Radio LED	G	Programming header	L	Processor Board Connection
D	A2. ISM Antenna	H	ISM Radio Board Connection (A2 model only)	M	Display Connection

DXM100-Ax Configuration

Use the DXM Configuration Software to customize the configuration of the controller. Select the DXM100-A model when using the configuration software.

To configure the DXM-100Ax, connect the DXM's USB to a computer. When the USB cable is plugged into the DXM Controller, the device is powered by the USB power. When the USB cable is unplugged, the device resets itself and is powered by the connected battery.

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The software allows the user to define parameters for the DXM, then saves the configuration in an XML file on the PC. After the configuration file is saved, upload the XML configuration file to the DXM for operation. There are several example configuration files available in our Configuration Library at http://bannerengineering.com/dekconfig. This quick start guide outlines the basic operations to set up a DXM using the configuration software. For a more comprehensive explanation of features, refer to the software Instruction Manual (p/n 209933).

For a complete list of all associated product documentation, refer to your model's instruction manual.

The DXM100-A kit has operating limitations based on the storage capacity of the 12 V lithium iron phosphate battery (5.5 Ah), the 5 W solar panel (0.29 A maximum) and the days of autonomy desired. The main power consumption contributors are:

- Cellular push interval, which should be set to 10 minutes or longer (use the Sample Count parameter for greater granularity)
- RS485 communications of external Modbus devices using switched power
- Poor cellular signal strength and/or radio signal strength, creating multiple retry attempts.

Efficient operations include:

- DC Latch operations
- SDI-12 operations
- I/O operations
- ISM radio network operations

Some example configurations that operate on less than 5 mA (on average), and operate using the 12 V battery (5.5 Ah) without sun for over 20 days include:

- SDI-12 reading in 15-minute intervals
- Two DC latching outputs toggling every 5 minutes
- One temperature/humidity probe powered from 16 V switched power reading every 5 minutes
- ScriptBasic program controlling temperature/humidity power and reading, DC latching control
- Read rules operating every 5 to 15 minutes for solar charging parameters and SDI-12 data
- Cellular push every 15 minutes, sampling every 5 minutes, for 16 Local Registers
- ISM radio devices operating at 0.25 W transmit power mode (default radio transmit power is 1 W)

Verify the battery consumption. When creating custom configurations, measure the current draw on the battery. Load the DXM100-A device configuration and measure the average current draw over two or three cellular pushes. A meter in series with the battery may cause the device to brown out if the battery is not fully charged.

DXM100-A1 and A2 Specifications

Supply Voltage

12 to 30 V DC (use only with a suitable Class 2 power supply (UL) or a SELV (CE) power supply) or 12 V lithium iron phosphate battery

Courtesy Power Out

One output at 5 Volts, 500 mA maximum

No short circuit protection

Switched Power Outputs

Two adjustable 5 V to 24 V outputs

One SDI-12 adjustable 5 V to 24 V output

5 V: 400 mA maximum

16 V: 125 mA maximum

24 V: 85 mA maximum

Power Consumption

4 mA average at 12 V (exclusive of load)

Solar Power

12 V lithium iron phosphate battery

3 A maximum charge current

12 V, 5 W solar panel (supplied with DEK Kit); 12 V, 20 W maximum solar panel

Communication Protocols

Modbus RTU Client/Server and SDI-12

Cellular modem for Internet connectivity

Logging

8 GB maximum; removable Micro SD card format

Construction

Polycarbonate

Counters, Synchronous

32-bits unsigned

10 ms clock rate minimum

Universal Inputs

Sinking/Sourcing discrete, 4–20 mA analog, 0–10 V analog, counter, and temperature 10 kOhm thermistor

Analog Outputs (DAC)

0 to 10 V DC output

Accuracy: 0.1% of full scale +0.01% per °C

Resolution: 12-bit

Discrete Output Rating (NMOS)

Less than 1 A max current at 30 V DC

ON-State Saturation: Less than 0.7 V at 20 mA

ON Condition: Less than 0.7 V

OFF Condition: Open

Communication Hardware (MultiHop RS-485)

Interface: 2-wire half-duplex RS-485

Baud rates: 9.6k, 19.2k (default), or 38.4k via DIP switches; 1200 and 2400 via the MultiHop Configuration Software

Data format: 8 data bits, no parity, 1 stop bit

Shock and Vibration

All models meet IEC 60068-2-6 and IEC 60068-2-27 testing criteria

Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6

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Certifications

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

CE/UKCA approval only applies to 2.4 GHz models

Operating Conditions

–20 °C to +60 °C (–4 °F to +140 °F)

95% maximum relative humidity (non-condensing)

Radiated Immunity: 10 V/m (EN 61000-4-3)

Operating the devices at the maximum operating conditions for extended periods can shorten the life of the device.

Environmental Rating

DXM100-A only: IP20

DEK100-A Kit: NEMA 4X

DXM100-A2 Specifications

The following specifications apply only to the A2 model.

Radio Range

A 2 dB antenna ships with this device.

Transmit power and range are subject to many factors, including antenna gain, installation methods, characteristics of the application, and environmental conditions.

Please refer to the following documents for installation instructions and high-gain antenna options.

Installing Your Sure Cross® Radios (151514)
Conducting a Site Survey (133602)
Sure Cross® Antenna Basics (132113)

Antenna Minimum Separation Distance

900 MHz radios transmitting at ≥ 500 mW: 4.57 m (15 ft) with the supplied antenna

2.4 GHz radios transmitting at 65 mW: 0.3 m (1 ft) with the supplied antenna

Antenna Connection

Ext. Reverse Polarity SMA, 50 Ohms

Max Tightening Torque: 0.45 N·m (4 lbf·in)

Link Timeout (Performance)

Gateway: Configurable via User Configuration Software

Node: Defined by Gateway

Spread Spectrum Technology

FHSS (Frequency Hopping Spread Spectrum)

Radio Transmit Power

900 MHz Conducted: 27 dBm (500 mW); EIRP with the supplied antenna: < 36 dBm

2.4 GHz Conducted: < 18 dBm (65 mW); EIRP with the supplied antenna: < 20 dBm (100 mW)

900 MHz Compliance (SX7023EXT Radio Module)

Radio module is indicated by the product label marking

Contains FCC ID: UE3SX7023EXT

Contains IC: 7044A-SX7023EXT

2.4 GHz Compliance (SX243 Radio Module)

Radio module is indicated by the product label marking

Contains FCC ID: UE3SX243

Radio Equipment Directive (RED) 2014/53/EU

Contains IC: 7044A-SX243

Certifications

ANATEL
Agência Nacional de Telecomunicações
03737-22-04042

FCC Part 15 Class A for Intentional Radiators

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Statement for Intentional Radiators

This device contains licence-exempt transmitters(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes à la norme Innovation, Sciences, et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ANATEL

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL www.gov.br/anatel/pt-br/

ANATEL
Agência Nacional de Telecomunicações

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DXM100-A1 and A2 Accessories

For a complete list of all the accessories for the Sure Cross wireless product line, please download the Accessories List (p/n b_3147091)

Cordsets

MQDC1-506—5-pin M12, straight, single-ended, 6 ft
MQDC1-530—5-pin M12, straight, single-ended, 30 ft

Misc Accessories

BWA-CG.5-3X5.6-10—Cable Gland Pack: 1/2-inch NPT, Cordgrip for 3 holes of 2.8 to 5.6 mm diam, 10 pack
BWA-HW-052— Cable Gland and Vent Plug Pack: includes 1/2-inch NPT gland, 1/2-inch NPT multi-cable gland, and 1/2-inch NPT vent plug, one each

Power Supplies

PSDINP-24-13 —DC power supply, 1.3 Amps, 24 V DC, with DIN Rail Mount, Class I Division 2 (Groups A, B, C, D) Rated
PSDINP-24-25 — DC power supply, 2.5 Amps, 24 V DC, with DIN Rail Mount, Class I Division 2 (Groups A, B, C, D) Rated
BWA-SOLAR PANEL 5W —Solar Panel, 12 V, 5 W, Multicrystalline, 270 × 222 × 17, Wall/Pole clamp style mounting bracket included (does not include controller)
BWA-SOLAR PANEL 20W—Solar Panel, 12 V, 20 W, Multicrystalline, 573 × 357 × 30, "L" style mounting bracket included (does not include controller)

Warnings

WARNING:
- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

IMPORTANT: Please download the complete DXM100-Ax Wireless Controller technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

IMPORTANT: Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los DXM100-Ax Wireless Controller, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

IMPORTANT: Veuillez télécharger la documentation technique complète des DXM100-Ax Wireless Controller sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Install and properly ground a qualified surge suppressor when installing a remote antenna system. Remote antenna configurations installed without surge suppressors invalidate the manufacturer's warranty. Keep the ground wire as short as possible and make all ground connections to a single-point ground system to ensure no ground loops are created. No surge suppressor can absorb all lightning strikes; do not touch the Sure Cross® device or any equipment connected to the Sure Cross® device during a thunderstorm.

Exporting Sure Cross® Radios. It is our intent to fully comply with all national and regional regulations regarding radio frequency emissions. **Customers who want to re-export this product to a country other than that to which it was sold must ensure the device is approved in the destination country.** The Sure Cross wireless products were certified for use in these countries using the antenna that ships with the product. When using other antennas, verify you are not exceeding the transmit power levels allowed by local governing agencies. This device has been designed to operate with the antennas listed on Banner Engineering's website and having a maximum gain of 9 dBm. Antennas not included in this list or having a gain greater than 9 dBm are strictly prohibited for use with this device. The required antenna impedance is 50 ohms. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen such that the equivalent isotropically radiated power (EIRP) is not more than that permitted for successful communication. Consult with Banner Engineering Corp. if the destination country is not on this list.

IMPORTANT:
- **Never operate a radio without connecting an antenna**
- Operating radios without an antenna connected will damage the radio circuitry.
- To avoid damaging the radio circuitry, never apply power to a Sure Cross® Performance or Sure Cross® MultiHop radio without an antenna connected.

IMPORTANT:
- **Electrostatic discharge (ESD) sensitive device**
- ESD can damage the device. Damage from inappropriate handling is not covered by warranty.
- Use proper handling procedures to prevent ESD damage. Proper handling procedures include leaving devices in their anti-static packaging until ready for use; wearing anti-static wrist straps; and assembling units on a grounded, static-dissipative surface.

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

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This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

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Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

Notas Adicionales (con Antena)

Información México: La operación de este equipo está sujeta a las siguientes dos condiciones: 1) es posible que este equipo o dispositivo no cause interferencia perjudicial y 2) este equipo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Banner es una marca registrada de Banner Engineering Corp. y podrán ser utilizadas de manera indistinta para referirse al fabricante. "Este equipo ha sido diseñado para operar con las antenas tipo Omnidireccional para una ganancia máxima de antena de 6 dBd y Yagi para una ganancia máxima de antena 10 dBd que en seguida se enlistan. También se incluyen aquellas con aprobación ATEX tipo Omnidireccional siempre que no excedan una ganancia máxima de antena de 6dBd. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que 6 dBd en tipo omnidireccional y 10 dBd en tipo Yagi, quedan prohibidas. La impedancia requerida de la antena es de 50 ohms."

Approved Antennas

BWA-9O2-C--Antena, Omni 902-928 MHz, 2 dBd, junta de caucho, RP-SMA Macho
BWA-9O5-C--Antena, Omni 902-928 MHz, 5 dBd, junta de caucho, RP-SMA Macho
BWA-9O6-A--Antena, Omni 902-928 MHz, 6 dBd, fibra de vidrio, 1800mm, N Hembra
BWA-9Y10-A--Antena, Yagi, 900 MHz, 10 dBd, N Hembra

Mexican Importer

Banner Engineering de Mèxico, S. de R.L. de C.V. | David Alfaro Siqueiros 103 Piso 2 Valle oriente | San Pedro Garza Garcia Nuevo Leòn, C. P. 66269

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