



SmartSolutions™ StarterKit

Tank Level Monitoring



Validate with data. Provide Savings. Increase Value.

- Products with proven wireless communication and integrated cellular connectivity
- Configurable dashboards with default alarms assist in data-driven decisions and solutions
- Battery-powered devices for convenient installation
- Durable IP-rated Sensors and Gateways

The turn-key, essential solution to kick-start predictive maintenance initiatives

Mounted in minutes, this wireless sensor kit provides immediate data on the current tank and tote levels in your facility; quickly, you'll spot variations that can help prevent downtime and end process bottlenecks. The battery-powered sensors eliminate wires and can move with your tank anywhere in your facility or outdoors. Create vital alerts to your organization before you run out of material needs for your production. View graphs, store, and analyze the data from multiple assets using the Banner Cloud Data Services platform.

Kit includes:



Tank Level Monitoring Node



Wireless Gateway



Prepaid Cellular and Banner Cloud Data Services

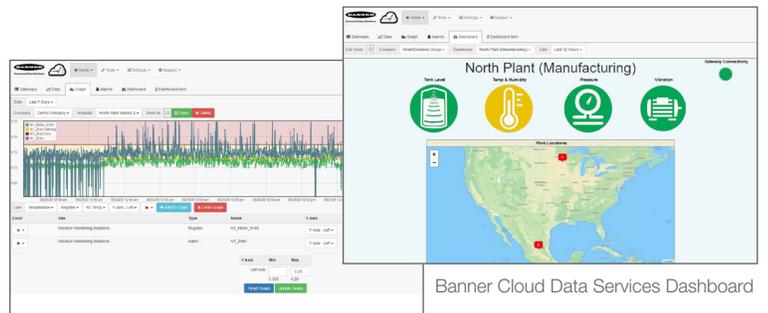
SmartSolutions™ StarterKit

Begin Your IIoT Journey with Banner

Kit Features:

- Connect a total of 10 sensor nodes for your specific application needs
- Preconfigured gateway provides time-saving Direct-to-Cloud functionality
- Wireless Gateway options for indoor and outdoor asset monitoring and communication
- Proven secure and reliable communications between sensors and the gateway (FHSS)
- 900 MHz ISM Radio for up to 50 times larger range than Bluetooth
- LCD user interface for sensor-binding process

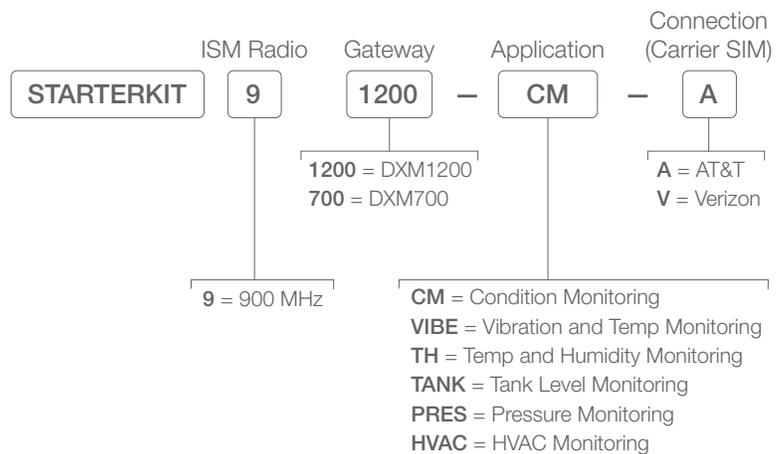
Acquire insights with one Direct-to-Cloud Solution



Banner Cloud Data Services Dashboard

The SmartSolutions™ StarterKit Series

Designed to enable owners of assets and processes to obtain actionable insights that will solve industrial challenges delivered in a robust and easily deployable solution. From high-grade sensing hardware and gateways, to trusted network connectivity and intuitive software, the SmartSolutions™ StarterKit Series provides the entire stack of technologies needed to evaluate the Industrial Internet of Things (IIoT) within an enterprise.



"Took no time to install, paid for itself and made me look good. Thanks!"

Matt M. - Sr Facility Manager

Designed to get up to speed quickly and scale with ease

The SmartSolutions™ StarterKit can deliver value in minutes, not hours or days. Add any additional industrial grade All-In-One Sensor Node to the StarterKit and adapt the system for the specific requirements of the application or facility.

Wireless Gateways



DXM1200 (Sealed)

DXM700

All-in-One Sensor Nodes



Vibration

Temp/Humidity

Tank Level

Pressure

Temp Probe

DXM1200 Wireless Gateway

Banner's Wireless Gateway is an industrial wireless device that facilitates Industrial Internet of Things (IIoT) applications. As a communications gateway, it offers seamless connectivity by hosting a robust ISM radio network for local wireless devices used to acquire and transmit data from assets within the industrial environment. The intuitive on-board display is used to bind the radios to the wireless network and an internal cellular modem provides a preconfigured connection to a 4G LTE network.

- ISM local radio network available in 900 MHz frequency band
- Equipped with IP67-rated housing for use in challenging environments
- DC Power Supply included within SmartSolutions™ StarterKit
- Embedded cellular connection with Verizon or AT&T carriers
- Internal radio and cellular antenna ensure reliable data transmission in all conditions
- Ethernet connection available



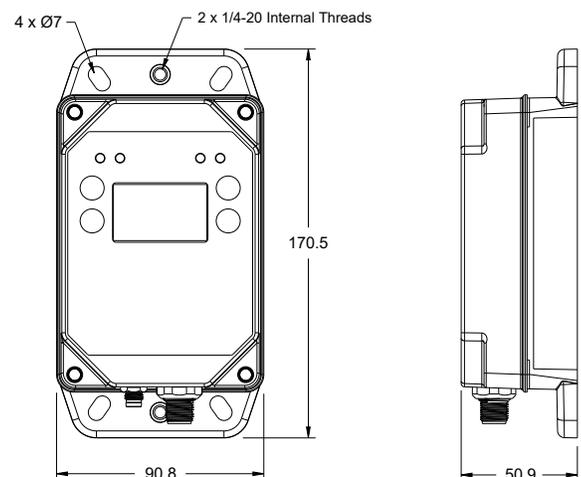
Models	Description
DXM1200-B1R1-SK-V	ISM 900 MHz Radio; preconfigured device detection with Verizon cellular module & SIM
DXM1200-B1R1-SK-A	ISM 900 MHz Radio; preconfigured device detection with AT&T cellular module & SIM

Specifications

Supply Voltage	12 to 30 V DC (use only with a suitable Class 2 power supply (UL) or a Limited Power Source (LPS) (CE) power supply)
Construction	Polycarbonate
Environmental Rating	IEC IP67
Operating Conditions	-20 to +60 °C (-4 to +140 °F)
Security Protocol	TLS, SSL, HTTPS
Push to Cloud Rate	Once every 10 minutes
900 MHz Compliance	FCC ID UE3RM1809: FCC Part 15, Subpart C, 15.247 IC: 7044A-RM1809 IFT: RCPBARM13-2283
Certifications	

Support Literature

216539	Sure Cross® DXM1200-Bx Wireless Controller Instruction Manual
196719	Sure Cross® DXM1200-Bx Wireless Controller Datasheet



Q45UA All-in-One Ultrasonic Sensor Node

Q45UA devices combine an ISM radio, sensor, and battery power supply into one easy-to-deploy Sensor Node. The Q45UA is a compact industrial-grade device specially designed to monitor the level of fluid or dry assets in tanks, totes, and containers.

- Prevents tank overfills and pump cavitation by providing level status and alarming capabilities
- Easy-to-use/rugged device can be mounted permanently to equipment or temporarily threaded into bung holes of supply tanks
- 2+ years of battery life with simple installation
- With no tethered wires the sensor can move with the container or be easily unthreaded and mounted to a new container
- Designed for both retrofitting machines or new installations



Models*	Radio Frequency	Ultrasonic input Range and Frequency	Inputs
DX80N9Q45UAA	900 MHz ISM Band	Range: 100 mm to 1 m (3.94 in to 39.4 in) Frequency: 240 kHz	Inputs: One Ultrasonic Input, One Thermistor Input

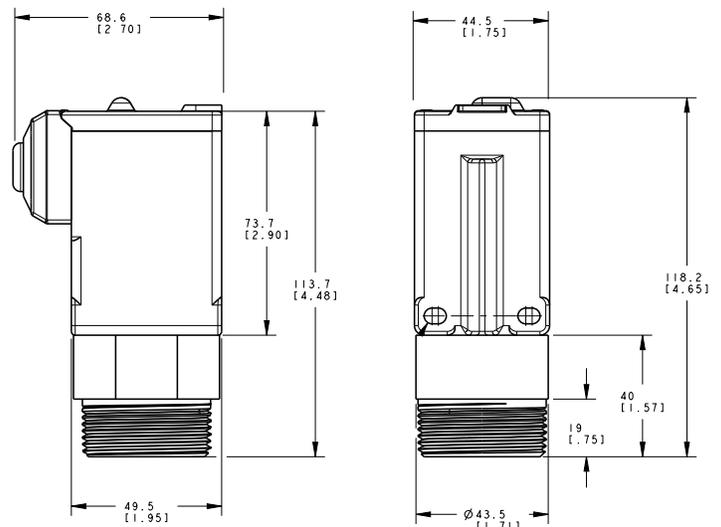
* Additional sensors available to add to the StarterKit Series. See last page for more information.

Specifications

Performance	UAA Models Sensing range: 100 mm to 1 m (3.94 to 39.4 in) Ultrasonic Frequency: 240 kHz Temperature effect: 0.02% of distance/°C Resolution: 1 mm
Construction	Molded reinforced thermoplastic polyester housing, oring-sealed transparent Lexan® cover, molded acrylic lenses, and stainless steel hardware. Designed to withstand 1200 psi washdown.
Environmental Rating	NEMA 6P, IEC IP67
Operating Conditions	-40 to +70 °C (-40 to +158 °F)
900 MHz Compliance	FCC ID UE3RM1809: FCC Part 15, Subpart C, 15.247 IC: 7044A-RM1809 IFT: RCPBARM13-2283
Certifications	

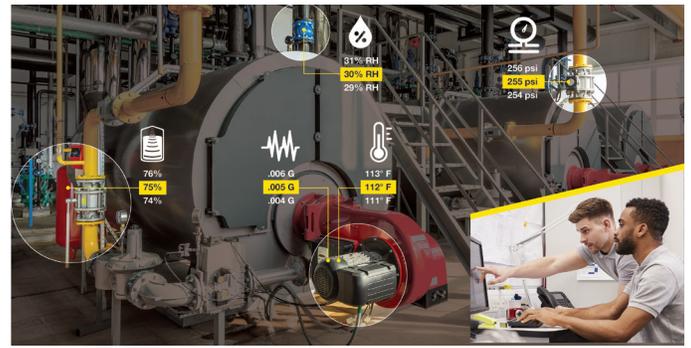
Support Literature

207212	Sure Cross® Wireless Q45UA All-in-One Ultrasonic Node Datasheet
--------	---



Additional Sensor Nodes to Expand your StarterKit

Add additional devices for up to 10 sensor nodes per gateway that monitor tank level, ambient temperature and humidity, the health of rotating machines and pressurized conditions.



Banner Engineering has hundreds of sensor solutions to meet your needs. Please visit BannerEngineering.com to discover the right solution for your specialized applications.

All-in-One Ultrasonic Sensor Node



Models	Radio Frequency	Ultrasonic input Range and Frequency	Inputs
DX80N9Q45UAA	900 MHz ISM Band	Range: 100 mm to 1 m (3.94 in to 39.4 in) Frequency: 240 kHz	Inputs: One Ultrasonic Input, One Thermistor Input
DX80N9Q45UAC	900 MHz ISM Band	Range: 300 mm to 3 m (11.8 in to 118 in) Frequency: 114 kHz	

All-in-One Pressure Sensor Node



Models	Radio Frequency	Pressure Range	Inputs
DX80N9Q45PS50G	900 MHz ISM Band	0 to 50 PSIG (3.4 bar)	Integrated pressure sensor
DX80N9Q45PS150G	900 MHz ISM Band	0 to 150 PSIG (10 bar)	
DX80N9Q45PS500S	900 MHz ISM Band	0 to 500 PSIG (34 bar)	

All-in-One Temperature and Humidity Sensor Node



Models	Radio Frequency	Measurement Range	Inputs
DX80N9Q45THA	900 MHz ISM Band	-40 to +85 °C (-40 to +185 °F) 0 to 100% Relative Humidity	Temperature and relative humidity (%)

All-in-One Temperature Probe Sensor Node



Models	Radio Frequency	Measurement Range	Inputs
DX80N9Q45TA	900 MHz ISM Band	-20 to +105 °C (-4 to +221 °F)	Temperature

All-in-One Vibration Sensor Node



Models	Radio Frequency	Inputs & Outputs
DX80N9Q45VA-BK	900 MHz ISM Band	Vibration and temperature detection

(BWA-BK-009 and BWA-BK-010 (magnetic) Mounting Brackets included)

Wireless Node and Compact Vibration Sensor (must be purchased together)



Models	Communication	Radio Frequency	Inputs & Outputs
DX80N9Q45VTP	ISM Radio Band	900 MHz	Vibration and temperature detection
QM30VT1	1-Wire Serial	-	