

K50U

Wireless Level and Tank Monitoring



Ultrasonic Sensor for Wireless Level and Tank Monitoring

- Easily monitor remote or mobile tanks and totes
- Housing is designed for easy installation
- Completely wireless solution with 2+ year battery life at default sample rates

BANNER®

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

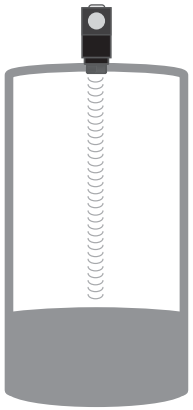






Monitor Tank Levels On Site or Remotely

- Provides a distance measurement from the target to the sensor
- Monitor wirelessly to avoid long cable runs
- Built-in temperature compensation for reliable measurement
- Threaded housing for easy installation



Ideal for monitoring portable tanks

Q45UAC
- All-in-one sensor and node
- Easy to deploy
- Three meter sensing range



OR

1-Wire Serial K50UX1ARA or K50UX1CRA
- 1-wire serial interface
- One ultrasonic sensor to one node with 1-wire serial interface
- One meter or three meter sensing range

Select One Wireless Node



OR

Modbus K50UX2ARA or K50UX2CRA
- Functions as a modbus slave device via RS-485
- Can be connected via a wireless or wired modbus network
- One meter or three meter sensing range

Select One Modbus Radio

Select
Q45UAC



Monitor Many Sensors Over Long Distances

Performance Series Nodes with 1-wire Serial interface

- Expandable up to 47 Nodes
- Cover large areas with 900 MHz, 1 Watt power
- LCD screen displays register values
- D-cell lithium battery or 10 to 30 V dc

OR



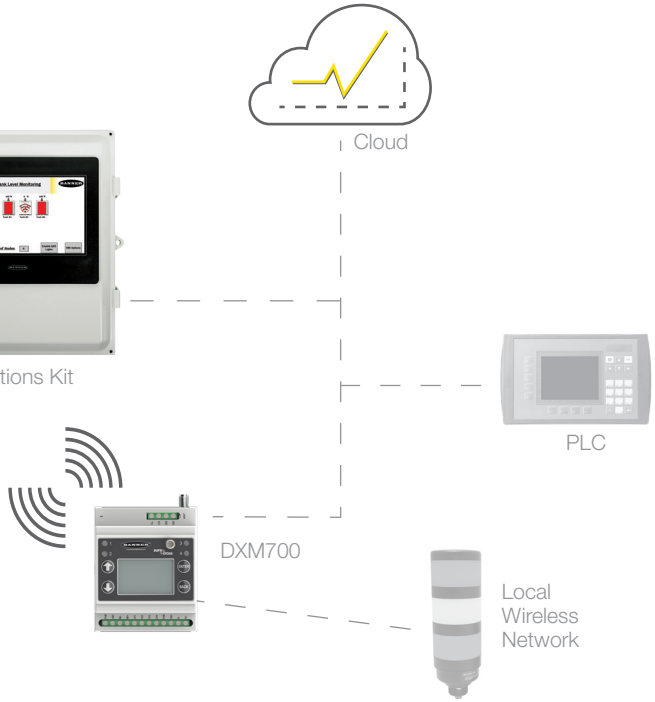
Monitor Many Sensors While Using Multiple Hops

MultiHop Series Radios with 1-wire Serial interface

- Expandable up to 100 slave radios
- Use repeaters to extend range and circumvent obstacles
- Modbus host controller required
- D-cell lithium battery

Select One

Modbus TCP/IP or Ethernet IP





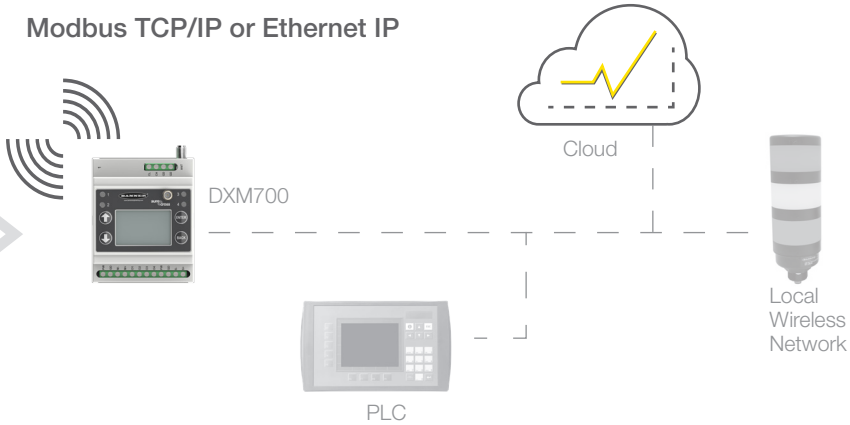
Modbus Slave

MultiHop Series radios with RS-485

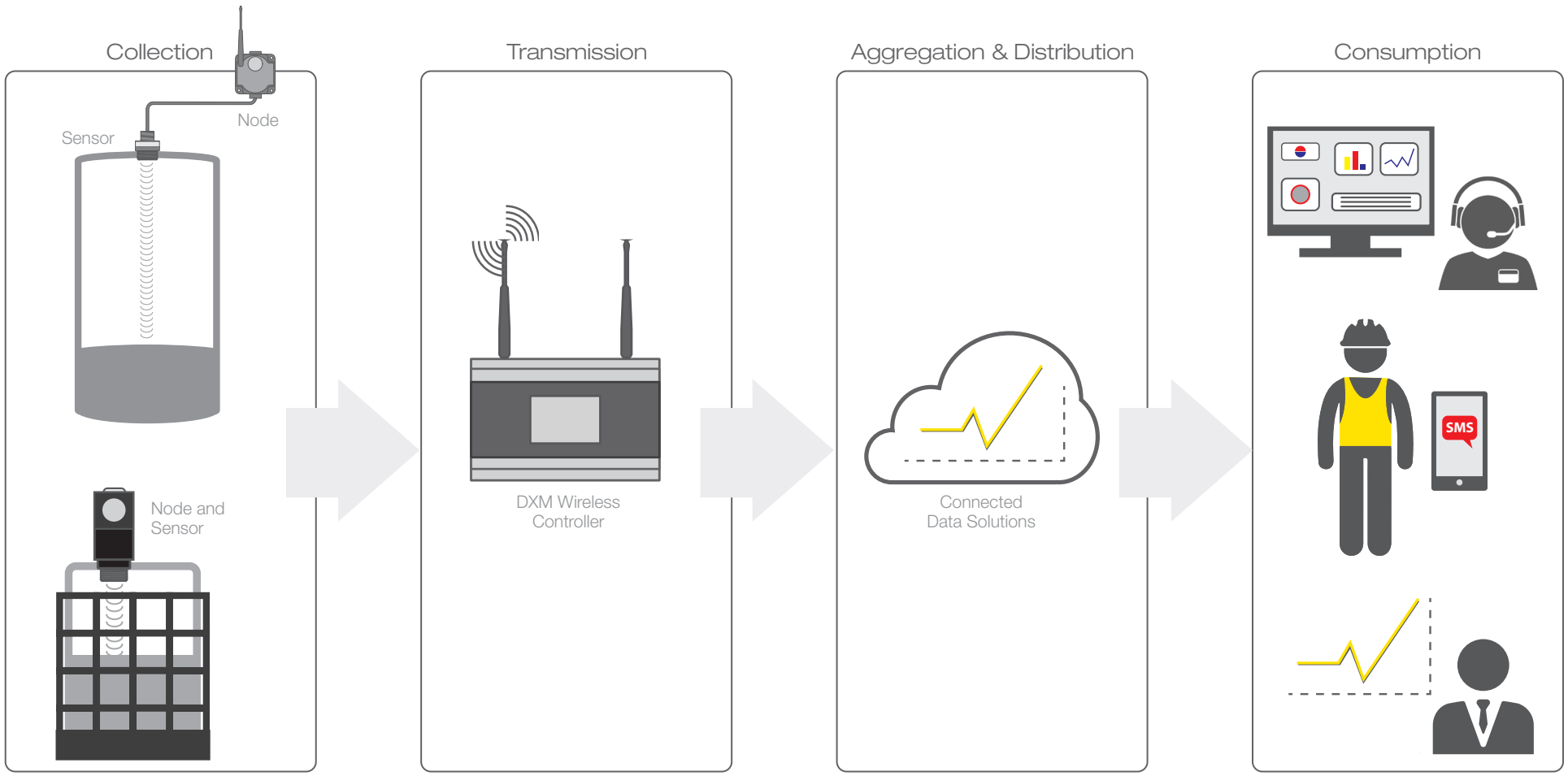
- Connect to any modbus network
- Expanable up to 100 slave radios
- Use repeaters to extend range and circumvent obstacles
- Modbus host controller required

Select One

Modbus TCP/IP or Ethernet IP



End-to-End Level Monitoring Solution



IIoT Condition Monitoring

All of the critical components of condition monitoring are provided by Banner Engineering and designed to work seamlessly together. Solution Guides are available that make it easy to setup a complete system in minutes, not days, weeks, or months. Banner Connected Data Solutions (CDS) provides a codeless environment and easily interfaces with the DXM controller to receive tank level data from Banner ultrasonic sensors via wireless nodes.



K50U Ultrasonic Sensor

- Ultrasonic sensor with built-in temperature compensation
- Provides a distance measurement from the target to the sensor
- Rugged design for demanding environments; rated IEC IP67/NEMA 6
- Threaded housing for easy installation

Models*	Description
K50UX1ARA	Ultrasonic sensor with 1-wire serial interface; 1 m sensing range
K50UX1CRA	Ultrasonic sensor with 1-wire serial interface; 3 m sensing range
K50UX2ARA	Ultrasonic sensor that functions as a modbus slave device via RS-485; 1 m sensing range
K50UX2CRA	Ultrasonic sensor that functions as a modbus slave device via RS-485; 3 m sensing range

* add suffix "-CRFV" for chemically-resistant models



Q45UA Sensor/Node

- All-in-One ultrasonic sensor and wireless node
- Battery powered with a 2-year battery life capability
- 3 meter sensing range
- Easy to order
- Easy to deploy

Models	Description
DX80N9Q45UAC	All-in-one Ultrasonic sensor – 900 MHz
DX80N2Q45UAC	All-in-one Ultrasonic sensor – 2.4 GHz



Tank Level Solutions Kit

- Monitor level on up to 16 assets
- Pre-programmed DXM700 and HMI for easy setup – no programming required
- Simply bind nodes using the HMI screen, install sensors, and start collecting data
- Set tank depth, offset, and warnings and alarms through HMI
- Compatible with 1-wire serial radios
- Visualize data and alarms on the HMI, or send it to the network or the cloud
- Use Virtual Network Computing (VNC) to emulate the HMI screen on computers or mobile devices

Models	Description
SOLUTIONSKIT9-TANK	Enclosure, DXM700 – 900 MHz
SOLUTIONSKIT2-TANK	Enclosure, DXM700 – 2.4 GHz





Supply Voltage	K50U: 3.6 to 5.5 V dc or 10 to 30 V dc Q45UAC: Two 3.6 V AA lithium batteries
Current	Active comms: 3.3 mA at 30 V dc
Indicators	Two LEDs: Red and green
Construction	K50U Housing: PBT polyester Transducer: Epoxy/ceramic composite Q45UAC Housing: Thermoplastic polyester Cover: Lexan® Lenses: Acrylic Hardware: Stainless steel
Resolution	Resolution: 0.1% of distance (1.5 mm minimum)
Sensor Connection	1¼ in NPT connection
Cable Connection	K50U: Integral 5-pin M12/Euro-style male quick disconnect (QD)
Environmental Rating	NEMA 6, IEC IP67

Radios with 1-Wire Serial Interface









Models	Description	Frequency
DX80N9Q45U	Q45 Wireless Node with intergrated battery	900 MHz
DX80N2Q45U		2.4 GHz
DX80N9X1S-P6	1-wire Serial Performance Node with integrated battery	900 MHz
DX80N2X1S-P6		2.4 GHz
DX80N9X6S-P6	1-wire Serial Performance Node 10 to 30 V dc	900 MHz
DX80N2X6S-P6		2.4 GHz
DX80N9X1W-P6L	1-wire Serial Performance Node with integrated battery	900 MHz
DX80N2X1W-P6L		2.4 GHz
DX80DR9M-H6	1-wire Serial Modbus MultiHop Slave with integrated battery	900 MHz
DX80DR2M-H6		2.4 GHz

DXM Controller



Models	Description	Frequency
DXM700-B1R1	DXM700 Controller with DX80 Gateway preconfigured as a protocol converter	900 MHz
DXM700-B1R3		2.4 GHz
DXM700-B1R2	DXM700 Controller with MultiHop Data Radio	900 MHz
DXM700-B1R4		2.4 GHz

See website for other models

MultiHop Modbus Radios



Models	Description	Frequency
DX80DR9M-H	MultiHop Modbus Radio	900 MHz
DX80DR2M-H		2.4 GHz
DX80DR9M-H1E	MultiHop Modbus Radio with I/O — battery	900 MHz
DX80DR2M-H1E		2.4 GHz
DX80DR9M-HB1	MultiHop Modbus Radio with I/O — Board model	900 MHz
DX80DR2M-HB1		2.4 GHz

See website for other models

Connected Data Soutions (CDS) Software Packages

Models	Description
806252	Starter Package 1,000 Data Points per hour Total Storage: 2 million Data Points
806253	Standard Package 4,000 Data Points per hour Total Storage: 20 million Data Points
806254	Premium Package 12,000 Data Points per hour Total Storage: 100 million Data Points

Accessories

Cordsets



Type	Length	Model
5-Pin M12/Euro-Style—Double-Ended	0.31 m (1 ft)	**DEE2R-51D**
	0.91 m (3 ft)	**DEE2R-53D**
	2.44 m (8 ft)	**DEE2R-58D**
5-Pin M12/Euro-Style—Double-Ended (male/female)	1 m (3 ft)	**MQDEC-STP-503SS**



CSB-M1250M1250-T
Euro-style QD T-Splitter Connector
5-Pin Female Trunk Straight
5-Pin Female T Branch (1)
5-Pin Male T Branch(1)

PN 164712 rev. B
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