sure cross®
wireless network

Wireless Q45 Photoelectric Sensors

GATEWAY

sure cross 2.4 GHz

DX80

*RUN

BANNER®
www.bannerengineering.com

Secure

Flexible

Reliable

Scalable

Self-contained

BANNER®

more sensors, more solutions

The first self-contained, wireless photoelectric sensor solution

Wireless photoelectrics that meet the demands of industry

Solve challenging factory applications or add sensing to existing industrial systems. Banner SureCross® Wireless Q45 Sensor is the first self-contained wireless standard photoelectric sensor solution designed for your most challenging control and monitoring applications.

• Easily add a single photoelectric sensor in minutes without pulling cables

• Quickly integrate a scalable, wireless sensor network infrastructure to improve efficiency by monitoring and coordinating multiple machines and processes

Wireless Q45 photoelectric models:
• Polarized Retroreflective
• Convergent Visible
• Remote Device Interface
• Fiber Optic

SOLVE THESE CHALLENGES

Cable Replacement. Eliminate power and communication cable runs, conduit, associated labor costs and reduce downtime.

Moving Applications. Add sensing to moving machinery. Replace failure-prone slip rings in rotary machines and complex, flexible or festooned cabling or ribbons in motion applications.

Remote Applications. Quickly and easily connect locations and applications previously impractical or impossible.

Productivity Solutions. Easily create call-for-parts, error-proofing or call-for-service systems.

PERFORMANCE & FEATURES*

True self-contained wireless: No cables, cordsets or external power

Long Range: 3,000 ft. (1 km) line-of-sight minimum

Extended Battery Life: Up to five years on two replaceable AA lithium batteries, depending on sensor and application. See data sheet.

Multiple I/O: Supports a wireless network of up to 47 Q45 sensors per Gateway

Deterministic: Background "heart beat" signal continuously tests connection and provides link loss signal

Real-Time Response: Less than 250 ms

Secure Data Transfer: Bidirectional system uses pseudo-random frequency hopping with cyclic redundancy checksum

Antenna: Built-in

IP67/NEMA 6P: Sealed against liquids and debris common to industrial environments

DX80 Gateway
Wireless network master manages wireless communication and provides electrical outputs for attached wireless sensors

Wireless Q45 Photoelectric Sensor
Turnkey wireless photoelectric sensing solution for challenging industrial applications

Signal Strength for Site Survey
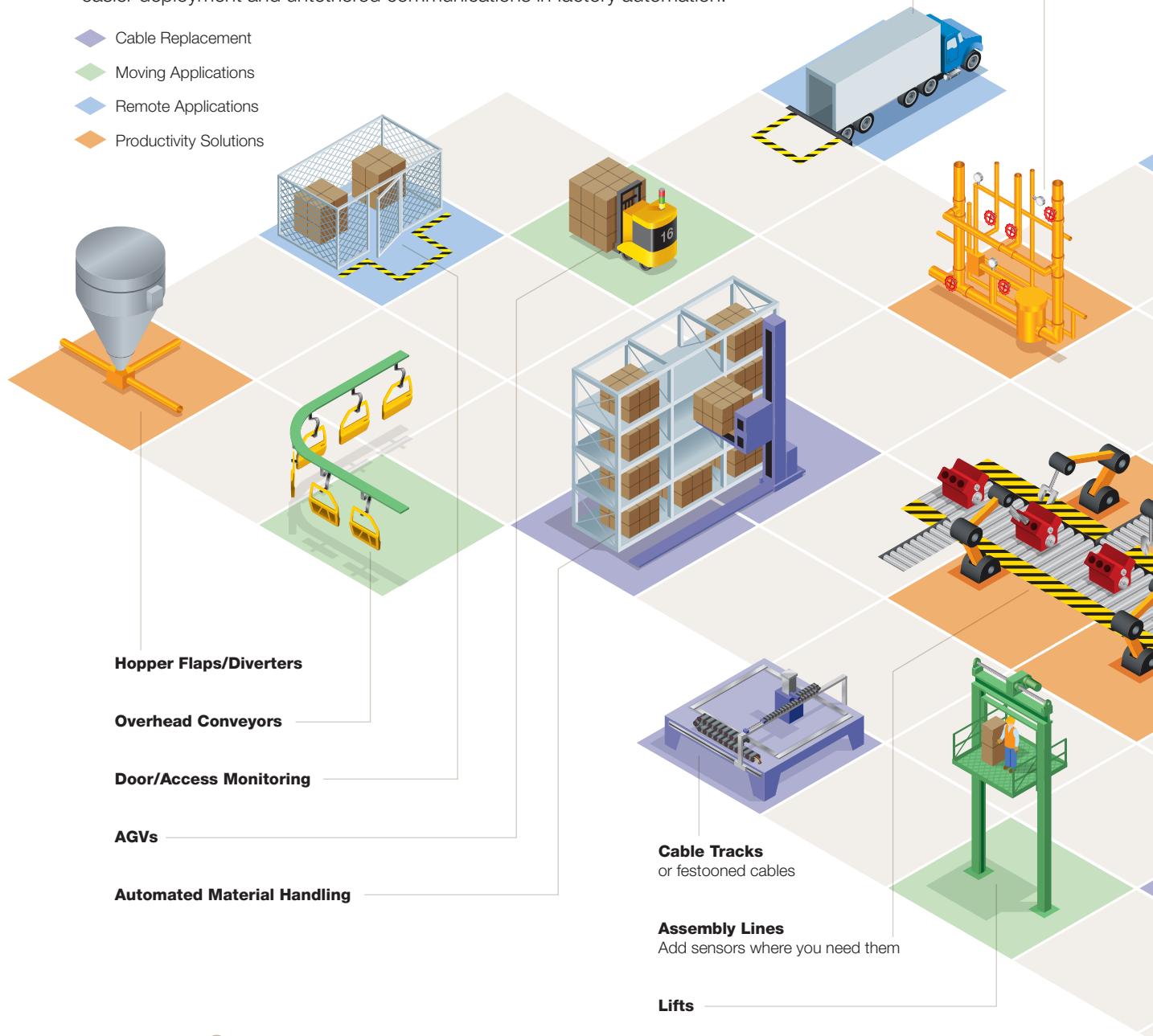
Secure Proprietary Protocol

BANNER®

from the first name in photoelectrics.

SENSING UNPLUGGED®

Where can you use wireless sensing?

SureCross Wireless Q45 Photoelectric Sensors are ideal for many conventional photoelectric presence/absence, alignment, position, counting, monitoring and detection applications, with the significant added flexibility of easier deployment and untethered communications in factory automation.

- Cable Replacement
- Moving Applications
- Remote Applications
- Productivity Solutions

Hopper Flaps/Diverters

Overhead Conveyors

Door/Access Monitoring

AGVs

Automated Material Handling

Cable Tracks
or festooned cables

Assembly Lines
Add sensors where you need them

Lifts

Bidirectional Communication

Noise Immune Frequency Hopping

2.4 GHz
2.4GHz Unlicensed Frequency
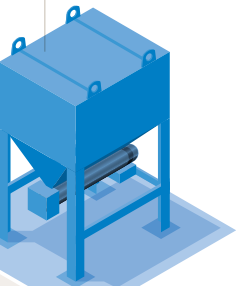
Network IDs allow multiple systems to coexist
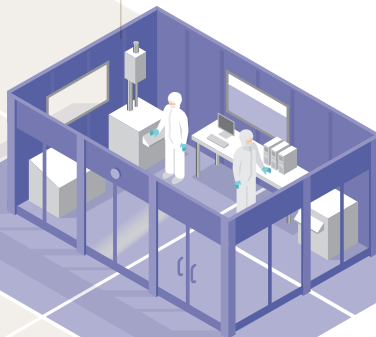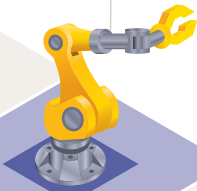
Deterministic PLC-Level Reliability

Dock/Traffic Status

Valve Sensing

Bulk Container Monitoring

Robotics

Clean Rooms
Add sensing without
recertification

Conveyor Lines

Rotary Machines
Makes slip rings obsolete

sure cross®
wireless network
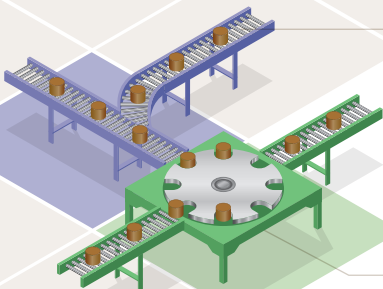
Next-generation technology from the leader in sensing. Banner.

SureCross from Banner is the only wireless network developed from the ground up and exclusively for the demands of industrial automation. The Wireless Q45 Sensor represents the next generation of wireless technology – a self-contained sensing solution featuring:

- Banner's industry-leading photoelectric sensor technology

- A secure and robust proprietary radio inspired by PLC networks—providing PLC level functionality, reliability and determinism

- An innovative power management system for unprecedented battery life and efficiency

SureCross Q45 BENEFITS

SELF-CONTAINED sensor requires no external power or radio

FASTER deployment with less cost than hardwired sensor networks

EASY installation and set up within minutes

FLEXIBLE topology and placement of sensors where you need them

LONG-LIFE replaceable commercial "AA" Lithium batteries last up to 5 years

SCALABLE from one to hundreds of sensing points

CONNECT to remote locations and applications previously impossible

IMPROVE system efficiency and up time

RELIABLE PLC-inspired architecture includes binding, CRC checks, link health monitoring and default output state

SECURE from Wi-Fi based security threats

IMMUNE to electrical interference

sure cross®
wireless network

Wireless Q45 Sensors

Two Point System
-B2Q Gateway supports one or two sensors

Six Point System
-Q, -QC Gateways support up to 6 sensors

Wireless Q45 Sensors

Model Number	Sensing Mode
DX80N2Q45LP	Polarized Retroreflective (range up to 6 m)
DX80N2Q45CV	Convergent (1.5 inch focal point)
DX80N2Q45RD	Remote Device Interface (two discrete IN)
DX80N2Q45F	Fiber Optic (1.3 m in opposed mode)

DX80 Gateways

Model Number	Sensor Inputs	Configuration	Rating
DX80G2M6-B2Q	2	Board Mount	–
DX80G2M6-QC	6*	External Terminal Blocks	IP20
DX80G2M6-Q	6*	Sealed Enclosure	IP67

Up to 47 sensors possible using Modbus PLC
Wireless sensors can also be connected to all 2.4 GHz DX80 Gateways

Accessories

Complete accessories selection available at **bannerengineering.com**

	Model Number	Description
Cordsets (for RD sensor)	MQDMC-406	4-pin M12 Euro-Style Cordset, male 6 feet
	FIC-M12M4	4-pin M12 Euro-Style field wireable
Brackets (for all)	SMB30SC	Bracket, plastic swivel
	SMB30A	Bracket, right angle stainless steel
Battery	BWA-BATT-006	2 AA Lithium Batteries
Antennas	BWA-2O5-C	Antenna, 2.4 GHz 5 dBi, RP-SMA male, 6½ inches
	BWA-2O7-C	Antenna, 2.4 GHz 7 dBi, RP-SMA male, 9¼ inches
	BWC-1MRSFRSB1	RG58, RP-SMA to RP-SMAF Bulkhead, 1M
	BWC-LMRSFRPB	Surge Suppressor, bulkhead, RP-SMA
Power Supplies	PSDINM-24-10	24 volt Power Supply, DIN rail 1.0 Amp
Other	DIN-35-70	DIN Rail 70mm long
	SMBDX80DIN	DIN Rail Bracket for standard DX80 housing
	BWA-HW-034	DIN Rail Bracket for small -B2Q PCB Gateway
	BWA-EF14128	Enclosure, fiberglass, 14" x 12" x 8"
	BWA-PA1412	Back Panel for enclosure
	BENC-4	Enclosure for -B2Q Gateway

45-plus years of sensor design experience, quality control, sales support and cost-effective solutions

- Banner quality products with global availability
- More than 20,000 different products across 40 industries
- Rapid customization with most products shipping in 3 days or less
- Industry's largest force of application engineers to solve your toughest challenges
- More than 3,000 factory and local field representatives to serve you
- Worldwide presence with a friendly, local approach

Sensors
- Presence
- Absence
- Inspection
- Gating
- Counting
- Measurement
- Position

Vision
- Pattern Recognition
- Complex Part Inspection
- Multi-Component Gauging
- Part ID/Orientation
- Assembly Verification
- Print Verification
- Traceability (Bar Code and Text)

Wireless
- Process Control & Monitoring
- Factory Automation
- Agriculture & Water Management
- Traffic Monitoring & Control
- Commercial & Consumer Monitoring

Lighting & Indication
- Bin & Part Picking
- Error Proofing
- Pick-to-Light & Call for Parts
- Visual & Audible Indication
- Operator Guidance
- Visual Management
- Andon Indication
- Pilot & Stack Light Replacement

Machine Safety
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- Fiber Optic Safety Systems
- Safety Modules & Controllers
- Emergency Stop Devices
- Safety Interlocks
- Ergonomic Two-Hand Control & Run Bars

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