Wireless Q45 Photoelectric Sensors

Secure
Flexible
Reliable
Scalable
Self-contained
**Wireless photoelectric sensors 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.

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**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

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*Performance subject to application, environment and configuration. See data sheet.*
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

- 2.4GHz
  Unlicensed
  Frequency

- Network IDs allow
  multiple systems to coexist

- Deterministic
  PLC-Level Reliability
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

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Wireless Q45 Sensors

Two Point System
-B2Q Gateway supports one or two sensors

Wireless Q45 Sensors

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Sensing Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DX80N2Q45LP</td>
<td>Polarized Retroreflective (range up to 6 m)</td>
<td></td>
</tr>
<tr>
<td>DX80N2Q45CV</td>
<td>Convergent (1.5 inch focal point)</td>
<td></td>
</tr>
<tr>
<td>DX80N2Q45RD</td>
<td>Remote Device Interface (two discrete IN)</td>
<td></td>
</tr>
<tr>
<td>DX80N2Q45F</td>
<td>Fiber Optic (1.3 m in opposed mode)</td>
<td></td>
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</tbody>
</table>

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

DX80 Gateways

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Sensor Inputs</th>
<th>Configuration</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td>DX80G2M6-B2Q</td>
<td>2</td>
<td>Board Mount</td>
<td>-</td>
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<tr>
<td>DX80G2M6-QC</td>
<td>6*</td>
<td>External Terminal Blocks</td>
<td>IP20</td>
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<tr>
<td>DX80G2M6-Q</td>
<td>6*</td>
<td>Sealed Enclosure</td>
<td>IP67</td>
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</tbody>
</table>

Model Number | Description | Description |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>MQDMC-406</td>
<td>4-pin M12 Euro-Style Cordset, male 6 feet</td>
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<tr>
<td>FIC-M12M4</td>
<td>4-pin M12 Euro-Style field wireable</td>
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<tr>
<td>SMB30SC</td>
<td>Bracket, plastic swivel</td>
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<tr>
<td>SMB30A</td>
<td>Bracket, right angle stainless steel</td>
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</tr>
<tr>
<td>BWA-BATT-006</td>
<td>2 AA Lithium Batteries</td>
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</tr>
<tr>
<td>BWA-205-C</td>
<td>Antenna, 2.4 GHz 5 dBi, RP-SMA male, 6½ inches</td>
<td></td>
</tr>
<tr>
<td>BWA-207-C</td>
<td>Antenna, 2.4 GHz 7 dBi, RP-SMA male, 9¾ inches</td>
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<tr>
<td>BWC-1MR5FRS1</td>
<td>RG58, RP-SMA to RP-SMAF Bulkhead, 1M</td>
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<tr>
<td>BWC-LMRSRBP</td>
<td>Surge Suppressor, bulkhead, RP-SMA</td>
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<tr>
<td>PSDINM-24-10</td>
<td>24 volt Power Supply, DIN rail 1.0 Amp</td>
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<tr>
<td>DIN-35-70</td>
<td>DIN Rail, 70mm long</td>
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<tr>
<td>SMBDX80DIN</td>
<td>DIN Rail Bracket for standard DX80 housing</td>
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<tr>
<td>BWA-HW-034</td>
<td>DIN Rail Bracket for small -B2Q PCB Gateway</td>
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<tr>
<td>BWA-EF14128</td>
<td>Enclosure, fiberglass, 14” x 12” x 8”</td>
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<tr>
<td>BWA-PA1412</td>
<td>Back Panel for enclosure</td>
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<tr>
<td>BENC-4</td>
<td>Enclosure for -B2Q Gateway</td>
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</tbody>
</table>

Complete accessories selection available at bannerengineering.com

**Up to 47 sensors possible using Modbus PLC.**

Wireless sensors can also be connected to all 2.4 GHz DX80 Gateways.
Industry experts and solutions for a wide range of applications across many industries

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