

Quick Start Guide

Radar-Based Sensors for Detection and Measurement of Moving and Stationary Targets. Patent pending.

This guide is designed to help you set up and install the Q90R R-GAGE sensor. For complete information on programming, performance, troubleshooting, dimensions, and accessories, please refer to the Instruction Manual at www.bannerengineering.com. Search for part number 236054 to view the Instruction Manual. Use of this document assumes familiarity with pertinent industry standards and practices.



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: To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons.

Features and Indicators

	LED	Color	Description	
	1	Power	Green	Power ON
	2	Signal Strength	Green	Signal strength indication
	3	Output 1	Amber	Target is within the taught analog span or discrete output status
	4	Output 2	Amber	Discrete output status

Wiring

Quick disconnect wiring diagrams are functionally identical.

Push-pull Output and Analog Current Output

* Push-Pull output. User-configurable PNP/NPN setting.

Push-pull Output and Analog Voltage Output

* Push-Pull output. User-configurable PNP/NPN setting.

Dual Discrete Output

* Push-Pull output. User-configurable PNP/NPN setting.
 ** Pulse Frequency Modulation

Key:

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black
- 5 = Gray (Connect for use with remote input or Banner Radar Configuration software)

NOTE: Banner recommends that the shield wire (quick-disconnect cordsets only) be connected to earth ground or dc common. Shielded cordsets are recommended for all quick-disconnect models.

Radar Configuration Software



Use Banner's Radar Configuration Software to:

- Set up the sensor in 3 easy steps: set the switch point distance, signal strength threshold, and response time
- Easily monitor device status via the software
- Visualize the application in real-time
- Make adjustments to sensor settings on the fly

For more information, visit www.bannerengineering.com/us/en/products/sensors/software/radar-configuration.html.

Specifications

Range

The sensor can detect an object at the following range, depending on the material of the target: 0.15 m to 20 m (0.5 ft to 65.6 ft)

Supply Voltage (Vcc)

Analog Voltage models: 12 V DC to 30 V DC
 Analog Current and Dual Discrete models: 10 V DC to 30 V DC
 Use only with a suitable Class 2 power supply (UL) or Limited Power Supply (CE)

Power and Current Consumption, exclusive of load

Power consumption: < 2.4 W
Current consumption: <100 mA at 24 V DC

Operating Temperature

Standard model: -40 °C to +65 °C (-40 °F to +149 °F)

Output Ratings

Analog Outputs:
 • **Current Output (Q90R....-I.. models):** 1 kΩ maximum load resistance at 24 V; maximum load resistance = $(V_{cc} - 4.5) / 0.02 \Omega$
 • **Voltage Output (Q90R....-U.. models):** 2.5 kΩ minimum load resistance
 • **Current rating** = 50 mA maximum each

Certifications



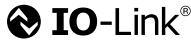
IND. CONT. EQ. E526767



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ETSI EN 305 550 V2.1.0
 ETSI EN 305 550-1 V.1.2.1
 ETSI EN 305 550-2 V.1.2.1
 FCC ID: UE3Q90R
 IC: 7044A-Q90R6

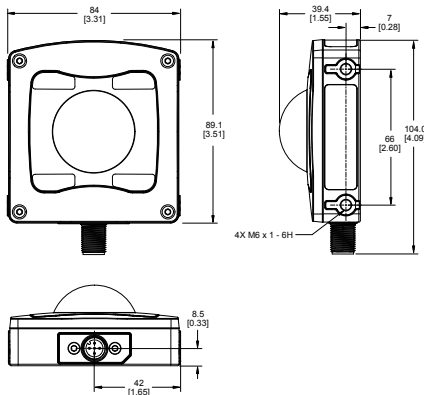
Install where not accessible by unauthorized personnel.
 The device shall only be accessible for adjustment, programming, or maintenance.
 The device was evaluated for IK08 impact energy in accordance with IEC 62262.

Representative Beam Pattern



Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



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 Original Instructions
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