

# R-GAGE™ Radar Sensor



[www.bannerengineering.com](http://www.bannerengineering.com)

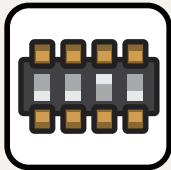
1.888.373.6767

[bannerengineering.com](http://bannerengineering.com)

**BANNER**®

more sensors, more solutions

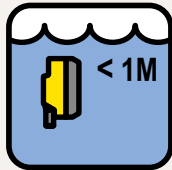
Easy Configuration



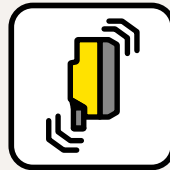
No PC Required



IP67



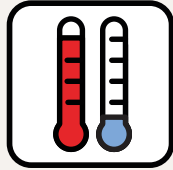
Vibration Resistant



### All-Weather Outdoor Applications



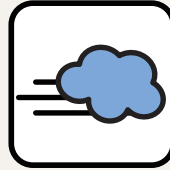
Sunlight Immune



Extreme Temperatures



Snow, Fog, Heavy Rain & Humidity



Strong Wind

Ease of installation  
No PC required



Plug and play after simple  
DIP-Switch configuration

Maintenance-free



**Crane Collision  
Avoidance**



**Entry/Exit Gate  
& Drive Thru**





# FMCW (True-Presence) Radar Detection— Detects Stationary and Moving Targets



24 GHz Frequency  
Modulated Continuous Wave  
Radar Technology



**Train Detection**



**Vehicle Detection**



**Truck Detection**



## QT50R – Adjustable-Field

### Wide-Angle, High-Sensitivity

- Single detection zone
- Total beam angle of 90° (± 45°)
- Maximum range of 24 meters
- Dip switch range adjustments
- For use in outside environments

Models	Features
QT50R-US-AFHQ	<ul style="list-style-type: none"> <li>• 12-30V dc</li> <li>• Bipolar NPN/PNP</li> <li>• DIP-Switch-selectable N.O. or N.C.</li> </ul>
QT50R-UK-AFHQ	
QT50R-EU-AFHQ	

5-pin M12 quick-disconnect models shown. For 5-wire 2 m integral cable versions, remove suffix "Q" from the model number (e.g., QT50R-xx-AFH).

### Applications

#### Collision Avoidance

- Onboard mobile equipment
  - Reach stackers
  - Forklifts
  - Mining vehicles
- Entry/exit applications for gate control



## QT50R – Adjustable-Field

### Dual-Zone, Narrow-Beam, High-Sensitivity

- Two independent sensing zones
- Total beam angle of 20° (± 10°)
- Maximum range of 24 meters
- Dip switch range adjustments
- For use in outside environments

Models	Features
QT50R-US-AF2WQ	<ul style="list-style-type: none"> <li>• 12-30V dc</li> <li>• DIP-Switch-selectable NPN or PNP and N.O. or N.C.</li> </ul>
QT50R-UK-AF2WQ	
QT50R-EU-AF2WQ	

5-pin M12 quick-disconnect models shown. For 5-wire 2 m integral cable versions, remove suffix "Q" from the model number (e.g., QT50R-xx-AF2W).

### Applications

#### Collision Avoidance

#### Proximity Detection

- Indoor overhead gantry
- Outdoor crane-to-crane (when ground level mounting is not possible)





## Q120RA – Adjustable-Field

### Dual Zone, Long Range, High-Sensitivity

- Two independent sensing zones
- Range up to 40 meters
- Narrow beam of 20° ( $\pm 10^\circ$ )
- Wide beam of 50° ( $\pm 25^\circ$ )
- 3x more sensitive than QT50R models
- For use in outside environments

Models	Features
Q120RA-US-AF2Q	<ul style="list-style-type: none"> <li>• 12-30V dc</li> <li>• DIP-Switch-selectable NPN or PNP</li> <li>• N.O. or N.C.</li> </ul>
Q120RA-UK-AF2Q	
Q120RA-EU-AF2Q	

5-pin M12 quick-disconnect models shown. For 5-wire 2 m integral cable versions, remove suffix "Q" from the model number (e.g., Q120RA-xx-AF2).

### Applications

#### Object & Vehicle Detection

#### Collision Avoidance

- Rubber tire gantry "RTG"
- Ship-to-shore cranes "STS"
- Rail-mounted gantry "RMG"
- Automated guided vehicles "AGV"

#### Ship Detection

#### Shipping Container Detection

#### Vehicle Detection

- Parking meter automation
- Drive through lane
- Entry/exit sensing



## Q120R – Adjustable-Field

### Single Zone, Short Range

- Single sensing zone
- Range up to 12 meters
- Narrow beam pattern of 20° ( $\pm 10^\circ$ )
- Wide beam of 50° ( $\pm 25^\circ$ )
- 3x more sensitive than QT50R models
- For use in outside environments

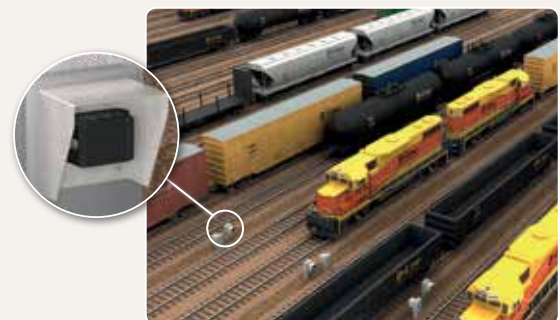
Models	Features
Q120RA-US-AFQ	<ul style="list-style-type: none"> <li>• 12-30V dc</li> <li>• DIP-Switch-selectable NPN or PNP</li> <li>• N.O. or N.C.</li> </ul>
Q120RA-UK-AFQ	
Q120RA-EU-AFQ	

5-pin M12 quick-disconnect models shown. For 5-wire 2 m integral cable versions, remove suffix "Q" from the model number (e.g., Q120RA-xx-AF).

### Applications

#### Collision Avoidance

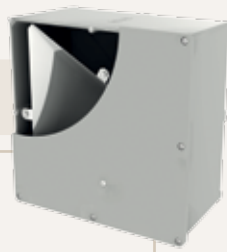
- Rail car detection/moving or stationary
- Excellent background suppression to ignore objects outside detection zone







## QT50R – Retroreflective



### Retroreflective

- Single sensing zone
- Range up to 12 meters off of:
  - **BRTR-CC20E** retroreflective target
  - Pavement/road surface

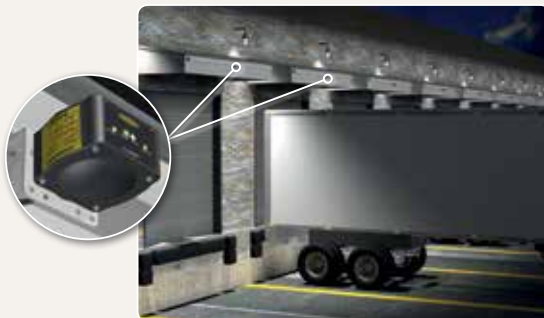
Models	Features
QT50R-US-RHQ	<ul style="list-style-type: none"> <li>• 12-30V dc</li> <li>• Bipolar NPN/PNP</li> <li>• DIP-Switch-selectable N.O. or N.C.</li> </ul>
QT50R-UK-RHQ	
QT50R-EU-RHQ	

5-pin M12 quick-disconnect models shown. For 5-wire 2 m integral cable versions, remove suffix "Q" from the model number (e.g., **QT50R-xx-RH**).

### Applications

#### Vehicle Detection

- Use when background is the best reflective target
- Senses vehicles despite size and shape
- Detection of flatbed or box trucks at loading dock
- Overhead sensing of exit lanes when multiple lanes exist



### Accessories



#### SMBWSQ120

- Heavy-duty, rear-mount protective metal enclosure for use with Q120RA model
- Supports both horizontal and vertical sensor mounting
- 16-gauge 304 stainless steel
- Keeps rain and ice off the face of the sensor



#### BRTR-CC20E

- Retroreflective target for use with QT50R retroreflective model
- Large corner-cube reflector in protective plastic enclosure



#### QT50RCK

- Weather deflector
- Small hood keeps rain and ice off the face of the sensor
- Includes mounting hardware



#### SMB30SC

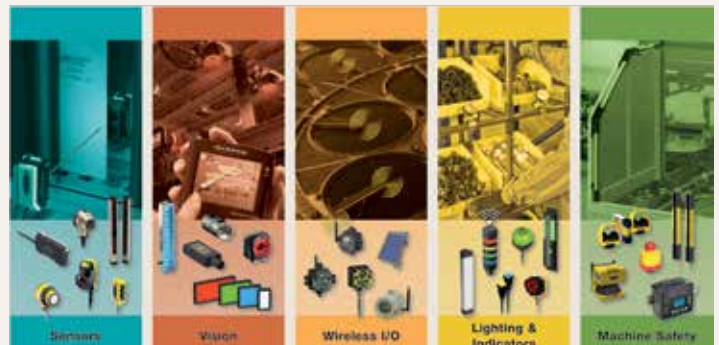
- Split clamp with swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting hardware included



#### SMB30MM

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Mounting hole for 30 mm sensor

NOTE: Sensor face must be kept free of heavy water and ice build-up.



**BANNER**<sup>®</sup>  
more sensors, more solutions

#### Banner Engineering Corp.

9714 Tenth Avenue North • Minneapolis, Minnesota 55441

(763) 544-3164 • Fax: (763) 544-3213 • Toll-free: 888-373-6767

www.bannerengineering.com • Email: sensors@bannerengineering.com