QS18 Series
Clear Object Detection Sensor

Coaxial Clear Object Detection

2 | Fast. Reliable. Easy-to-Use
3 | Applications
4 | Specifications and Ordering

QS18 coaxial clear object detection sensor

IP67 rated, ABS Housing

LED status indicators

18 mm threads or side mount for easy installation

LED and Coaxial Lens

Multiple connection options available

Response speed of 400 µs ON/OFF

Coaxial optics and small spot size for applications where space is limited

Banner’s new ClearTracking algorithm provides reliable operation by compensating for dust build-up and ambient temperature changes

Coaxial Optics

• Detects clear and mirror-like surfaces
• Operates at very short distances from the reflector
• Enables very precise leading edge detection

Simple Pushbutton Teach

1. Align the sensor with the reflector
2. Push and hold the button for 2 seconds
3. Begin inspection
Applications

Accurate Tracking of Clear PET Bottles

Application Challenge
Identifying accumulations and gaps on the line is essential to ensuring a steady flow of bottles. Many commonly used sensing technologies cannot consistently detect clear bottles at high speeds.

Solution
The QS18E features a polarized coaxial optical design to ensure reliable detection of clear targets and has a fast 400 microsecond response time. The ClearTracking algorithm automatically compensates for the effects of dust and ambient temperature changes.

Three User-Selectable Thresholds
Optimize the sensor’s performance to detect small changes in the amount of light received

<table>
<thead>
<tr>
<th>8%</th>
<th>16%</th>
<th>32%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass</td>
<td>Wrapping Film</td>
<td>PET Bottles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IV Bags</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass Vials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass Bottles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Colored Glass Bottles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boxes</td>
</tr>
</tbody>
</table>
**Family**

<table>
<thead>
<tr>
<th>Family*</th>
<th>Output</th>
<th>Power</th>
<th>Sensing Mode</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS18E</td>
<td>P</td>
<td>6 = DC Power</td>
<td>XLPC = Polar Retro with coaxial optics</td>
<td>Q5</td>
</tr>
</tbody>
</table>

*N = NPN  
P = PNP

- All models require a reflector

**NOTE:** Potentiometer models are also available. Contact our factory for additional information.

**Power**

- 10 to 30 V dc

**Range**

- depends on the reflector

**Output Response**

- 400 µs ON/OFF

**Operating Conditions**

- −4 °F to +158 °F  
  (-20 °C to +70 °C)

**Construction**

- Housing: ABS  
  Lens: PMMA

**Environmental Rating**

- IEC IP67

**Repeatability**

- 100 µs

**Certifications**

- UL

**Accessories**

**Brackets**

- SMBQ4XFA Includes 3/8" bolt for mounting
- SMBQ4XFAM10 Includes 10 mm bolt for mounting
- SMBQ4XFAM12 Clamps directly onto industry standard bracket systems of 1/2" or 12 mm rods

**Reflectors**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Range (m)</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>92 x 92</td>
<td>3.0</td>
<td>BRT-92X92C</td>
</tr>
<tr>
<td>51 x 51</td>
<td>2.2</td>
<td>BRT-51X51BM</td>
</tr>
<tr>
<td>60 x 40</td>
<td>2.2</td>
<td>BRT-60X40C</td>
</tr>
<tr>
<td>50 x 50</td>
<td>2.2</td>
<td>BRT-2X2LVC</td>
</tr>
<tr>
<td>60 x 40</td>
<td>1.9</td>
<td>BRT-60X40C-PS</td>
</tr>
<tr>
<td>40 x 19</td>
<td>1.3</td>
<td>BRT-40X19A</td>
</tr>
<tr>
<td>75 x 75</td>
<td>0.5</td>
<td>BRT-THG-3X3</td>
</tr>
</tbody>
</table>

**Cordsets**

- For right-angle models add RA to the model number. Example: MQDC-406RA

<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>Model</th>
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</thead>
<tbody>
<tr>
<td>4-Pin Threaded M12/Euro-Style</td>
<td>2 m (6 ft)</td>
<td>MQDC-406</td>
</tr>
<tr>
<td></td>
<td>5 m (15 ft)</td>
<td>MQDC-415</td>
</tr>
<tr>
<td></td>
<td>9 m (30 ft)</td>
<td>MQDC-430</td>
</tr>
<tr>
<td></td>
<td>15 m (50 ft)</td>
<td>MQDC-450</td>
</tr>
</tbody>
</table>

- For right-angle models change G to W in the model number. Example: PKW4M-2

**Order Now**

1-888-373-6767  
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