Precise switched or analog sensing for hard-to-access & difficult applications.

With all the advanced features of the standard Q45U, the Q45UR adds the convenience of a choice of three remote sensing heads to access applications with limited space or difficult environments. Both analog and discrete output models have a sensing range of 50 to 250 mm (2" to 10"), with a resolution (analog) and repeatability (discrete) of ±0.2% of the sensing distance.

Set your own custom sensing “windows” with the push of a button.

Precise sense targets located in small or confined areas. Sensing ranges and window parameters are taught to the Q45UR through push-button, TEACH-mode programming. The discrete output allows for programming the window limits in one of two ways. For large windows (windows larger than 5 mm), the sensor allows you to teach the window limits in the same manner as the standard Q45U - one limit at a time. For smaller windows, the Q45UR allows you to teach the mid-point of the window and then adjust the window size using the sensor’s dip switches. Sensing windows of 1, 2, 3, and 4 mm (0.04", 0.08", 0.12" or 0.16") can be created in this manner. The analog output unit allows for programming of a window size from 5 mm to 200 mm (0.2" to 8") with resolution down to 0.10 mm (0.004").

Advanced diagnostics & temperature compensation.

Three LEDs continuously display programming and operating status. The red LED flashes in direct proportion to the received signal strength, to keep operators constantly aware of signal strength. A yellow LED indicates the target is in the operating window limits and OUTPUTS CONDUCTING. All models also feature a highly visible, 5-segment, moving dot red LED, which indicates the relative position of the target within the sensing window.

This electronic target indicator simplifies initial setup, and provides a continuous display of sensor performance. All models also include digital filtering for immunity to random and electrical noise, as well as transient voltage and reverse polarity protection. Thermistors in the remote sensing heads compensate for temperature variations, assuring superior accuracy at the sensing point.

18 mm barrels, or compact cubical sensing heads.

The rugged remote sensor heads are available in either a stainless steel or plastic 18 mm diameter threaded barrel housing, or an ultra-compact, Flat-Pak plastic model. They all feature a tough ceramic transducer, and are rated IEC IP65 and NEMA 4. They have a wide operating temperature range: -25° to +70°C (-13° to +158°F).
## Q45UR Series Models

<table>
<thead>
<tr>
<th>Kit Models</th>
<th>Kit Includes Controller Model</th>
<th>Kit Includes Sensor Model</th>
<th>Sensor Range</th>
<th>Controller Cable*</th>
<th>Supply Voltage</th>
<th>Controller Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q45UR3BA63CK</td>
<td>Q45UR3BA63CQ</td>
<td>M18C2.0 Stainless Steel Barrel</td>
<td>50 to 250 mm (2 to 10&quot;)</td>
<td>2 m (6.5') 5-pin Mini QD 5-pin Euro QD</td>
<td>12 to 24V dc</td>
<td>Discrete: Bipolar NPN/PNP</td>
</tr>
<tr>
<td>Q45UR3BA63CKQ</td>
<td>Q45UR3BA63CQK</td>
<td>Q13C2.0 Flat-Pak</td>
<td>5 to 250 mm (2 to 10&quot;)</td>
<td>2 m (6.5') 5-pin Mini QD 5-pin Euro QD</td>
<td>15 to 24V dc</td>
<td>Analog: Selectable 0 to 10V dc or 4 to 20 mA Sourcing</td>
</tr>
<tr>
<td>Q45UR3BA63CKS</td>
<td>Q45UR3BA63CQS</td>
<td>S182C0 Molded Barrel</td>
<td>5 to 250 mm (2 to 10&quot;)</td>
<td>2 m (6.5') 5-pin Mini QD 5-pin Euro QD</td>
<td>15 to 24V dc</td>
<td>Analog: Selectable 0 to 10V dc or 4 to 20 mA Sourcing</td>
</tr>
<tr>
<td>Q45UR3LIU64CK</td>
<td>Q45UR3LIU64CQK</td>
<td>M18C2.0 Stainless Steel Barrel</td>
<td>50 to 250 mm (2 to 10&quot;)</td>
<td>2 m (6.5') 5-pin Mini QD 5-pin Euro QD</td>
<td>15 to 24V dc</td>
<td>Analog: Selectable 0 to 10V dc or 4 to 20 mA Sourcing</td>
</tr>
<tr>
<td>Q45UR3LIU64CKQ</td>
<td>Q45UR3LIU64CQKQ</td>
<td>Q13C2.0 Flat-Pak</td>
<td>5 to 250 mm (2 to 10&quot;)</td>
<td>2 m (6.5') 5-pin Mini QD 5-pin Euro QD</td>
<td>15 to 24V dc</td>
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</tbody>
</table>

* Model with a QD connector requires a mating cable (page 36).

### Q45UR Series Specifications

- **Analog resolution or discrete repeatability**: 0.15% of sensing distance
- **Linearity**: 1% of full scale
- **Temperature effect**: 0.05% of sensing distance/deg. C
- **Response speed**: 40 or 160 ms, selectable
- **Minimum window size**: 1 mm (0.04")
- **Hysteresis (discrete output)**: 0.5 mm (0.02")
- **Environmental rating**: Controller: IP67, NEMA 6P Sensor: IP65, NEMA 4

Data sheet reference:
Download at www.baneng.com
Discrete: 59321
Analog: 59323