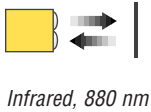
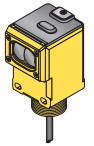


# Q45BB6 Series




These diffuse-mode models detect objects by sensing the reflection of their own emitted light. Ideal for use when the reflectivity and profile of the object to be sensed are sufficient to return a large percentage of emitted light back to the sensor. Model Q45BB6DX is the first choice for diffuse-mode applications when there are no background objects to falsely return light.



## Q45BB6 Series Diffuse-Mode Models

Models	Range	Cable	Supply Voltage	Output Type	Excess Gain	Beam Pattern
					Performance based on 90% reflectance white test card	
<b>Short Range</b>						
Q45BB6D	450 mm (18")	4-wire 2 m (6.5')	10 to 30V dc	Bipolar NPN/PNP		
Q45BB6DQ		4-Pin Mini-style QD				
Q45BB6DQ5		4-Pin Euro-style QD				
<b>Long Range</b>						
Q45BB6DL	1.8 m (6')	4-wire 2 m (6.5')	10 to 30V dc	Bipolar NPN/PNP		
Q45BB6DLQ		4-Pin Mini-style QD				
Q45BB6DLQ5		4-Pin Euro-style QD				
<b>High Power</b>						
Q45BB6DX	3 m (10')	4-wire 2 m (6.5')	10 to 30V dc	Bipolar NPN/PNP		
Q45BB6DXQ		4-Pin Mini-style QD				
Q45BB6DXQ5		4-Pin Euro-style QD				

## Q45BB6 Series Specifications

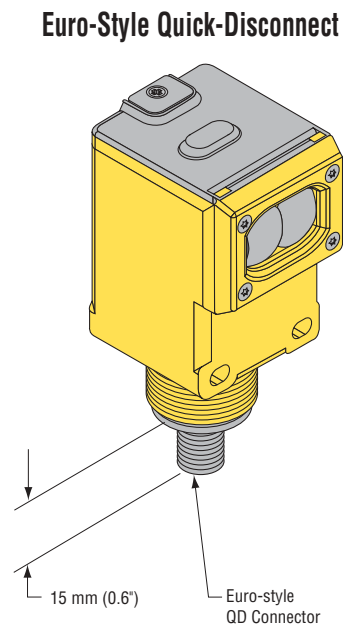
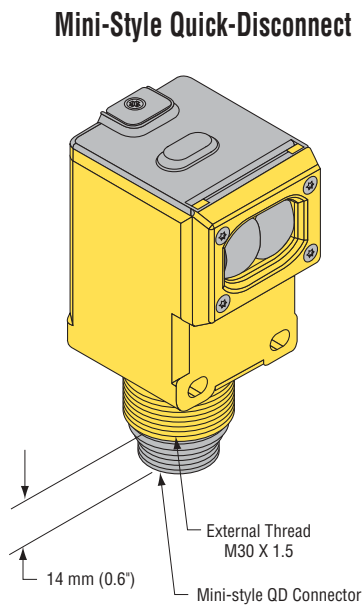
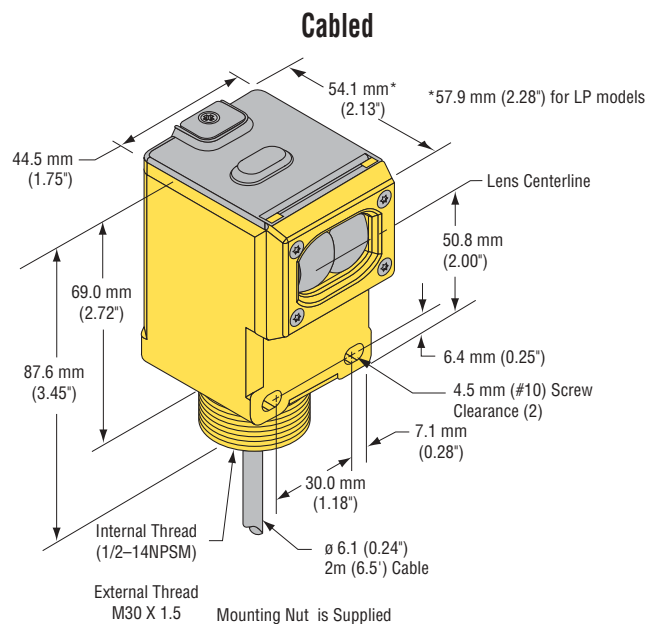
<b>Supply Voltage and Current</b>	10 to 30V dc (10% maximum ripple), at less than 50 mA (exclusive of load)
<b>Supply Protection Circuitry</b>	Protected against reverse polarity and transient voltages
<b>Output Configuration</b>	Bipolar: one current sourcing (PNP) and one current sinking (NPN) open-collector transistor
<b>Output Rating</b>	250 mA maximum each output up to 50°C, derated to 150 mA at 70°C (derates 5 mA/°C) <b>Off-state leakage</b> current less than 1 microamp <b>Output saturation voltage</b> (both outputs) less than 1 volt at 10 mA and less than 2 volts at 250 mA
<b>Output Protection Circuitry</b>	Protected against false pulse on power-up and continuous overload or short circuit of outputs
<b>Output Response Time</b>	<b>Opposed mode:</b> 2 milliseconds ON, 1 millisecond OFF <b>All other sensing modes:</b> 2 milliseconds ON/OFF (NOTE: 100 millisecond delay on power-up. Output is non-conducting during this time.)
<b>Repeatability</b>	<b>Opposed mode:</b> 0.25 milliseconds <b>All other sensing modes:</b> 0.5 milliseconds Response time and repeatability specifications are independent of signal strength.
<b>Adjustments</b>	<b>Beneath sensor's transparent cover:</b> Light/Dark Operate select switch and multi-turn Sensitivity control (allows precise sensitivity setting – turn clockwise to increase gain). Optional logic and logic/display modules have adjustable timing functions (see page 10).
<b>Indicators</b>	Indicator LEDs are clearly visible beneath a raised transparent Lexan® dome on top of the sensor. <b>Power (green) LED</b> lights whenever 10 to 30V dc power is applied, and flashes to indicate output overload or output short circuit <b>Signal (red) AID™ System LED</b> lights whenever the sensor sees its modulated light source, and pulses at a rate proportional to the strength of the received light signal <b>Load (yellow) LED</b> lights whenever the output is energized <b>Optional 7-element LED</b> signal strength display modules
<b>Construction</b>	Molded reinforced thermoplastic polyester housing, o-ring-sealed transparent Lexan® cover, molded acrylic lenses, and stainless steel hardware. Q45s are designed to withstand 1200 psi washdown. The base of cabled models has a 1/2" NPS integral internal conduit thread.
<b>Environmental Rating</b>	NEMA 6P, IEC IP67
<b>Connections</b>	PVC-jacketed 2 m (6.5') or 9 m (30') cables; or 4-pin Mini-style ("Q" suffix models) or 4-pin Euro-style ("Q5" suffix models) quick-disconnect (QD) fittings are available. QD cables are ordered separately; see page 10.
<b>Operating Conditions</b>	<b>Temperature:</b> -40° to +70°C (-40° to +158°F) <b>Maximum relative humidity:</b> 90% at 50°C (non-condensing)
<b>Application Notes</b>	Optional output timing modules are available. See page 10 for more information.
<b>Certifications</b>	

Lexan® is a registered trademark of General Electric Co.

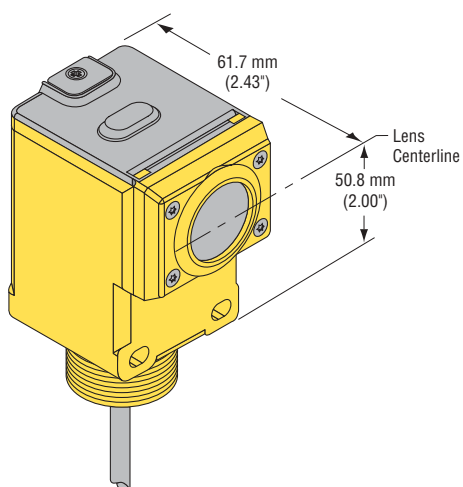
# Q45BB6 Series

## Q45BB6 Series Dimensions

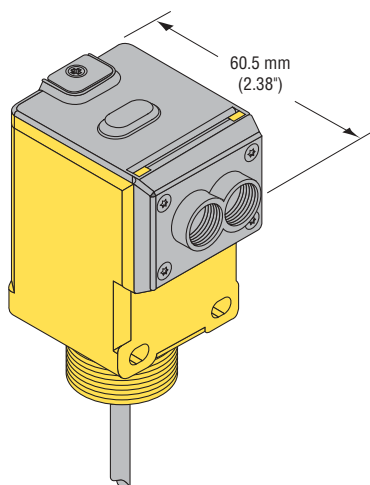
Opposed, Retro, and Diffuse Sensing Modes  
(model suffix E, R, D, DL, DX, LP & LV)



**Convergent Sensing Mode  
(model suffix CV & CV4)**



**Glass Fiber Optic  
(model suffix F and FV)**



**Plastic Fiber Optic  
(model suffix FP)**

