

WORLD-BEAM® Q12 Series Sensor



Datasheet

Miniature self-contained photoelectric sensors in universal housing



Standard Model Chemical-Resistant Model

- Bright, visible red (640 nm) light source
- Standard models available with 4-wire 2 m (6.5 ft) or 9 m (30 ft) cable or 3 or 4-wire 150 mm (6 in) pigtail with Pico-style M8 threaded connector
- Solid-state, bipolar outputs: one current sourcing (PNP) and one current sinking (NPN) standard on 4-wire models
- Single output solid-state PNP or NPN standard on Q3 models
- Light Operate (LO) or Dark Operate (DO), depending on model
- Models available with PFA chemical-resistant jacket (1200 psi washdown rated) for use in harsh environments
- Compact 8 mm (0.31 in) housing mounts almost anywhere
- Crosstalk avoidance circuitry for applications with multiple sensors
- LED status indicators for Power ON, Output Overload, Signal Received, and Marginal Signal
- Advanced ASIC technology makes sensor resistant to optical and electrical noise source



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.

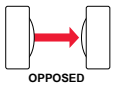

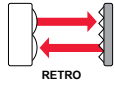
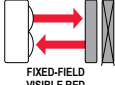
Chemical-Resistant Models

Sensing Mode	Model ¹	Range	Output
640 nm Visible Red OPPOSED Effective Beam: 5.7 mm (0.22 in)	Q126ECR	1.5 m (4.9 ft)	N/A
	Q12AB6RCR		Bipolar LO
	Q12RB6RCR		Bipolar DO
Performance based on use of 90% reflectance white test card.			
640 nm Visible Red FIXED-FIELD VISIBLE RED	Q12AB6FF15CR	13 mm (0.5 in) cutoff; 8 mm (0.3 in) focus	Bipolar LO
	Q12RB6FF15CR		Bipolar DO
	Q12AB6FF30CR	28 mm (1.1 in) cutoff; 14 mm (0.6 in) focus	Bipolar LO
	Q12RB6FF30CR		Bipolar DO
	Q12AB6FF50CR	48 mm (1.9 in) cutoff; 14 mm (0.6 in) focus	Bipolar LO
	Q12RB6FF50CR		Bipolar DO

¹ Only standard 2 m (6.5 ft) cables are available for chemical-resistant models.



Standard Models

Sensing Mode	Model ²	Range	Connection	Output
640 nm Visible Red	Q126E (emitter)	2 m (6.5 ft)	2 m (6.5 ft) cable	N/A
	Q126EQ3 (emitter)		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	N/A
 <p>OPPOSED</p> <p>Effective Beam: 5.7 mm (0.22 in)</p>	Q12AB6R	2 m (6.5 ft)	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6R			Bipolar DO
	Q12AP6RQ3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6RQ3			1 PNP DO
	Q12AN6RQ3			1 NPN LO
	Q12RN6RQ3			1 NPN DO
 <p>POLAR RETRO</p> <p>640 nm Visible Red</p>	Q12AB6LP	1 m (40 in) ³	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6LP			Bipolar DO
	Q12AP6LPQ3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6LPQ3			1 PNP DO
	Q12AN6LPQ3			1 NPN LO
	Q12RN6LPQ3			1 NPN DO
 <p>RETRO</p> <p>640 nm Visible Red</p>	Q12AB6LV	1.5 m (59 in) ³	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6LV			Bipolar DO
	Q12AP6LVQ3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6LVQ3			1 PNP DO
	Q12AN6LVQ3			1 NPN LO
	Q12RN6LVQ3			1 NPN DO
Performance based on use of 90% reflectance white test card.				
 <p>FIXED-FIELD VISIBLE RED</p> <p>640 nm Visible Red</p>	Q12AB6FF15	15 mm (0.6 in) cutoff; 10 mm (0.4 in) focus	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6FF15			Bipolar DO
	Q12AP6FF15Q3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6FF15Q3			1 PNP DO
	Q12AN6FF15Q3			1 NPN LO
	Q12RN6FF15Q3			1 NPN DO
	Q12AB6FF30	30 mm (1.2 in) cutoff; 16 mm (0.63 in) focus	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6FF30			Bipolar DO
	Q12AP6FF30Q3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6FF30Q3			1 PNP DO
	Q12AN6FF30Q3			1 NPN LO
	Q12RN6FF30Q3			1 NPN DO
	Q12AB6FF50	50 mm (2 in) cutoff; 16 mm (0.63 in) focus	2 m (6.5 ft) cable	Bipolar LO
	Q12RB6FF50			Bipolar DO
	Q12AP6FF50Q3		150 mm (6 in) cable with a 3-pin M8/ Pico-style QD	1 PNP LO
	Q12RP6FF50Q3			1 PNP DO
	Q12AN6FF50Q3			1 NPN LO
	Q12RN6FF50Q3			1 NPN DO

²

- To order the 9 m (30 ft) cable model, add the suffix **W/30** to the model number. For example, **Q126E W/30**.
- To order the 150 mm (6 in) cable with a 4-pin M8/Pico-style (M8 threaded) QD model, add the suffix **Q** to the model number. For example, **Q126EQ**.
- To order the 150 mm (6 in) cable with a 4-pin M12/Euro-style QD model, add the suffix **Q5** to the model number. For example **Q126EQ5**.

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Retroreflective range is specified using one model **BRT-60X40C** retroreflector. Actual sensing range may be more or less than specified, depending upon efficiency and reflective area of the retroreflector(s) used.