WORLD-BEAM® DQ12 Series Sensor

Datasheet

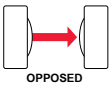
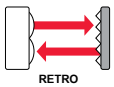
Miniature self-contained photoelectric sensors in universal housing

- Bright, visible red (645 nm) light source
- Standard models available with 4-wire, 2 m (6.5 ft) long cable; 150 mm (6 in) PVC cable with a 3-pin M8/Pico-style male quick disconnect; or a 150 mm (6 in) PVC cable with a 4-pin M8/Pico-style male quick disconnect
- 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 (L.O.) or Dark Operate (D.O.), depending on model
- Compact 8 mm (0.31 in) housing mounts almost anywhere
- Crosstalk avoidance circuitry for applications with multiple sensors
- LED status indicators for Power ON, 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.

Models

Sensing Mode	Model[1]	Range	Connection	Output
Visible red, 645 nm	**DQ126E (emitter)**	3 m	2 m (6.5 ft) cable	N/A
 Effective Beam: 5.7 mm (0.22 in)	**DQ12AB6R**		2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6R			Bipolar DO
	DQ12AP6RQ3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6RQ3			1 PNP DO
	DQ12AN6RQ3			1 NPN LO
	DQ12RN6RQ3			1 NPN DO
Visible red, 645 nm	**DQ12AB6LP**	2 m	2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6LP			Bipolar DO
	DQ12AP6LPQ3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6LPQ3			1 PNP DO
	DQ12AN6LPQ3			1 NPN LO
	DQ12RN6LPQ3			1 NPN DO
 Visible red, 645 nm	**DQ12AB6LV**	3 m	2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6LV			Bipolar DO
	DQ12AP6LVQ3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6LVQ3			1 PNP DO
	DQ12AN6LVQ3			1 NPN LO
	DQ12RN6LVQ3			1 NPN DO

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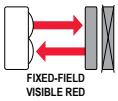
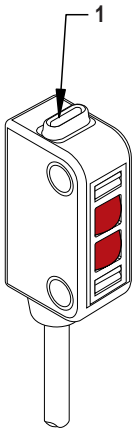
- To order the 9 m (30 ft) cable model, add the suffix **W/30** to the model number. For example, **DQ126E W/30**.
- To order the 150 mm (6 in) cable with a 4-pin M8/Pico-style (M8 threaded) QD model, add the suffix **Q** to the model number. For example, **DQ126EQ**.
- To order the 150 mm (6 in) cable with a 4-pin M12/Euro-style QD model, add the suffix **Q5** to the model number. For example **DQ126EQ5**.

2 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.

Sensing Mode	Model[1]	Range	Connection	Output
Performance based on use of 90% reflectance white test card.				
 Visible red, 645 nm	**DQ12AB6FF15**	15 mm (0.6 in) cutoff; 10 mm (0.4 in) focus	2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6FF15			Bipolar DO
	DQ12AP6FF15Q3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6FF15Q3			1 PNP DO
	DQ12AN6FF15Q3			1 NPN LO
	DQ12RN6FF15Q3			1 NPN DO
	DQ12AB6FF30	30 mm (1.2 in) cutoff; 16 mm (0.63 in) focus	2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6FF30			Bipolar DO
	DQ12AP6FF30Q3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6FF30Q3			1 PNP DO
	DQ12AN6FF30Q3			1 NPN LO
	DQ12RN6FF30Q3			1 NPN DO
	DQ12AB6FF50	50 mm (2 in) cutoff; 16 mm (0.63 in) focus	2 m (6.5 ft) cable	Bipolar LO
	DQ12RB6FF50			Bipolar DO
	DQ12AP6FF50Q3		150 mm (6 in) cable with a 3-pin M8/Pico-style QD	1 PNP LO
	DQ12RP6FF50Q3			1 PNP DO
	DQ12AN6FF50Q3			1 NPN LO
	DQ12RN6FF50Q3			1 NPN DO

Indicator Features



1 - Amber and green LEDs

- Green on: power to sensor is on
- Amber on: received signal
- Amber flashing: marginal signal

Wiring

Emitters have no connection to black and white.

CAUTION: Observe proper ESD precautions (grounding) when connecting QD models.

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- To order the 9 m (30 ft) cable model, add the suffix **W/30** to the model number. For example, **DQ126E 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, **DQ126EQ**.
- 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 **DQ126EQ5**.

2 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.