Features

Miniature self-contained opposed-mode DC photoelectric sensor



- Self-contained DC sensor in a miniature right-angle housing
- IP54; NEMA 4 construction; hermetically-sealed optics
- 1.8 m (70 in) opposed range
- Choose models for light operate or dark operate; choose either NPN or PNP output models
- Choice of integral cable or quick-disconnect connector
- Mounting bracket is included

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

Models	Connector	NPN/ PNP	LO/DO
Q146E	2 m (6.5 in) cable	-	-
Q146EQ	150 mm (6 in) cable with a 3-pin M8 quick disconnect connector		
Q14AN6R	2 m (6.5 in) cable	NPN	LO
Q14AN6RQ	150 mm (6 in) cable with a 3-pin M8 quick disconnect connector		LO
Q14RN6R	2 m (6.5 in) cable		DO
Q14RN6RQ	150 mm (6 in) cable with a 3-pin M8 quick disconnect connector		DO
Q14AP6R	2 m (6.5 in) cable	PNP	LO
Q14AP6RQ	150 mm (6 in) cable with a 3-pin M8 quick disconnect connector		LO
Q14RP6RQ	150 mm (6 in) cable with a 3-pin M8 quick disconnect connector		DO

Models with a quick disconnect require a mating cordset.

In light operate (LO) mode, the output is ON when the target returns the same or more light to the sensor and OFF when the sensor detects less light than the configured/taught target. In dark operate (DO) mode, the output is ON when the target returns less light to the sensor than the configured target and OFF when the sensor detects more light than the configured/taught target.

In **opposed** sensing modes, light operate means the output is on when the beam is unblocked and dark operate means the output is on when the beam is blocked.

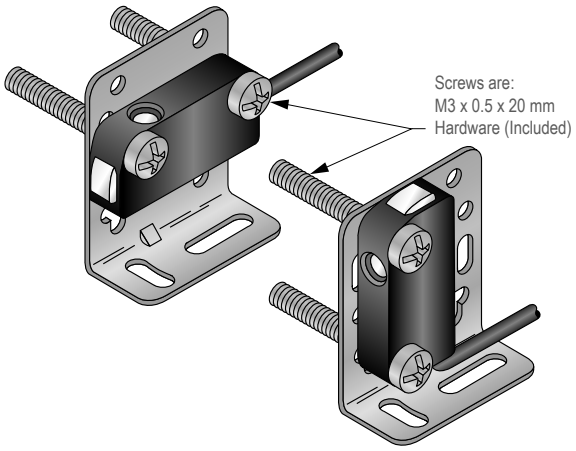
The following models are no longer available for order but are still covered by the information in this document.

Models	Connector	NPN/ PNP	LO/DO
Q14RP6R	2 m (6.5 in) cable	PNP	DO

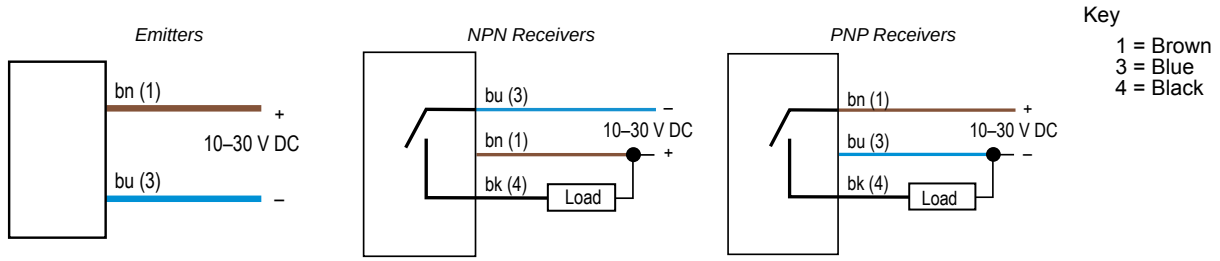
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45727
p/n: 45727 Rev E

Mounting Orientation



Wiring Diagrams



Quick disconnect wiring diagrams are functionally identical.

Specifications

Supply Voltage and Current
10 V DC to 30 V DC (10% maximum ripple)
Emitter: 15 mA
Receiver: 15 mA (exclusive of load)

Supply Protection Circuitry
Protected against reverse polarity

Output Configuration
SPST solid-state DC switch;
Choose NPN (current sinking) or PNP (current sourcing) models
Choose light operate (N.O.) or dark operate (N.C.) models

Output Rating
150 mA maximum
Off-state leakage current: <10 microamps at 30V DC
On-state saturation voltage: <0.5 V at 10 mA DC; <1.0 V at 150 mA DC

Output Protection Circuitry
Protected against output short-circuit, continuous overload, and false pulse on power-up

Output Response Time
8 ms ON, 4 ms OFF

Repeatability
1.0 ms

Sensing Beam
Infrared, 880 nm

Range
1.8 m (70 in)

Indicators
Receiver: Two LEDs, Green and Amber
Green on = power to sensor is ON
Green flashing = output is overloaded
Amber on = light is sensed
Amber flashing = marginal excess gain (1-1.5x) in light condition
Emitter: One GREEN LED indicates power to sensor is ON

Construction
Housings are black ABS; Rated UL 94V0
Lenses are hermetically-sealed glass
Stainless steel M3 mounting hardware is included; stainless steel mounting bracket is included

Connections
2 m (6.5 ft) or 9 m (30 ft) attached cable, or 150 mm (6 in) 3-pin Pico-style quick-disconnect fitting. QD cables are ordered separately.

Environmental Rating
IP54; NEMA 4

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Operating Conditions

–20 °C to +55 °C (–4 °F to +131°F)

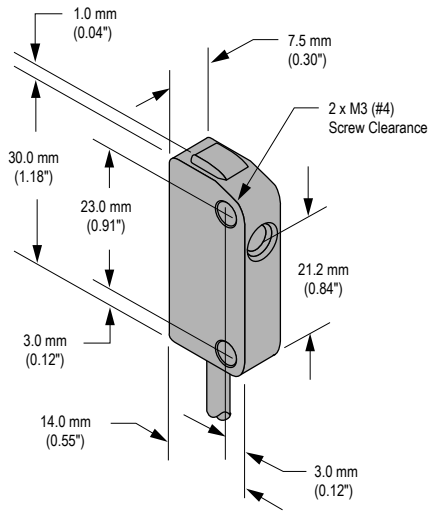
90% at +50 °C maximum relative humidity (non-condensing)

Certifications

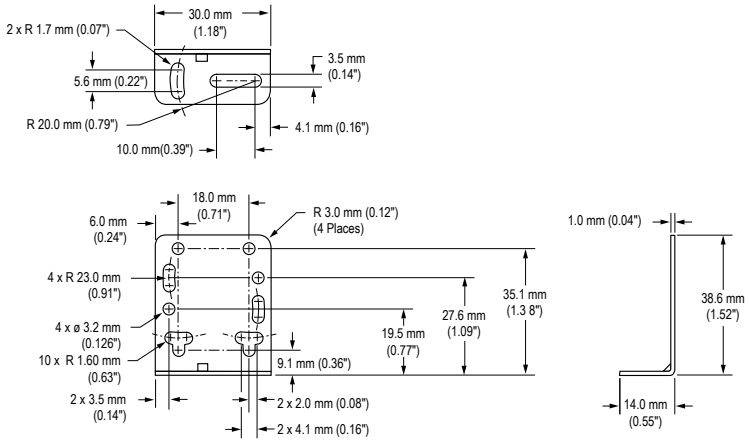
CE

Dimensions

Q14

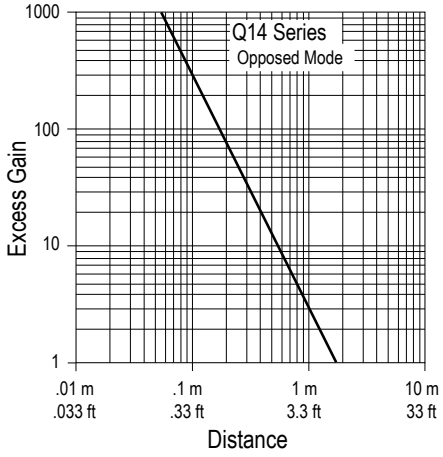


Mounting bracket (included)

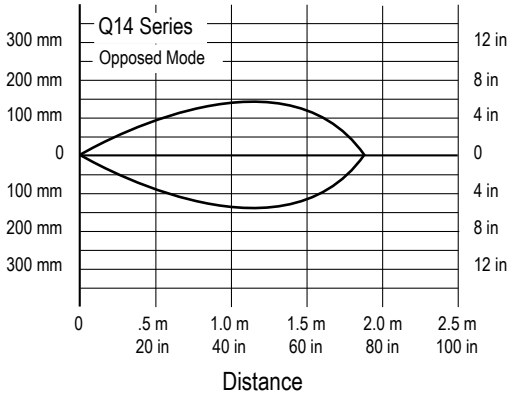


Performance Curves

Excess gain

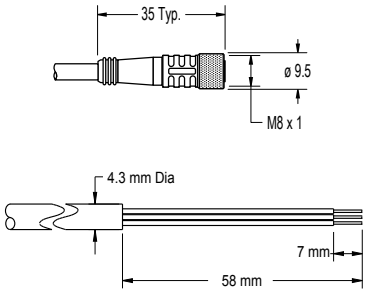
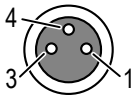


Beam pattern



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Quick-Disconnect Cables

3-pin Single-Ended M8 Female Cordsets			
Model	**Length**	**Dimensions**	**Pinout (Female)**
PKG3M-2	2 m (6.56 ft)		 1 = Brown 3 = Blue 4 = Black
PKG3M-4	4 m (13.12 ft)		
PKG3M-5	5 m (16.4 ft)		
PKG3M-7	7 m (22.96 ft)		
PKG3M-9	9 m (29.52 ft)		
PKG3M-10	10 m (32.81 ft)		

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