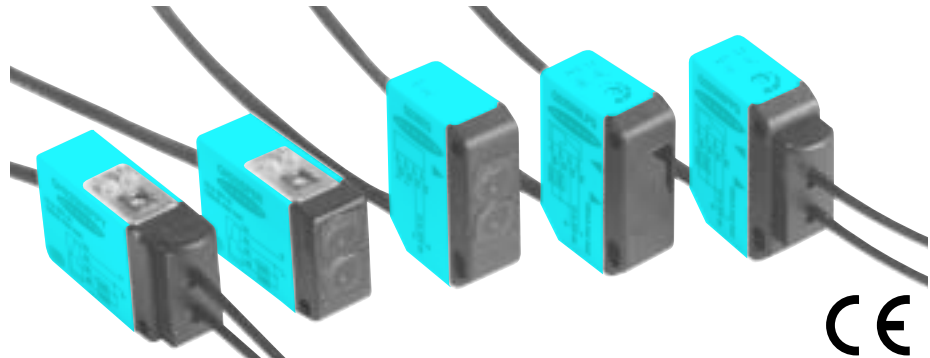
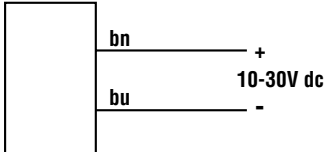
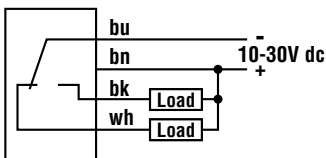


Emitters

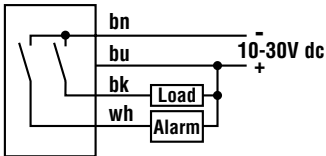
Note: No connection to bk and wh wires of QD cable.



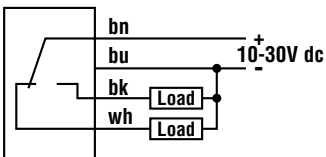
NPN (Sinking) Output Models
Standard Hookup



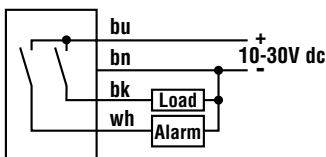
Alarm Hookup



PNP (Sourcing) Output Models
Standard Hookup



Alarm Hookup



Cable and QD hookups are identical.

Q23 Models

Sensing Mode		LED	Model*	Output Type
Opposed	8 m (26')	Visible Red 680 nm	Q236E	-
			Q23SN6R	NPN
			Q23SP6R	PNP
Polarized Retro	100 mm-2 m (4" to 80")	Visible Red 680 nm	Q23SN6LP	NPN
			Q23SP6LP	PNP
Diffuse Short Range	2-50 mm (0.1"-2") Opt. 200 mm (8") Max.	Visible Red 680 nm	Q23SN6D	NPN
			Q23SP6D	PNP
Diffuse Long Range	30-300 mm (1.2"-12") Opt. 800 mm (32") Max.	Visible Red 680 nm	Q23SN6DL	NPN
			Q23SP6DL	PNP
Convergent	50 mm (2")	Visible Red 680 nm	Q23SN6CV50	NPN
			Q23SP6CV50	PNP
Plastic Fiber Optic	Range varies by sensing mode and fiber optics used	Visible Red 680 nm	Q23SN6FP	NPN
			Q23SP6FP	PNP
Plastic Fiber Optic High Speed	Range varies by sensing mode and fiber optics used	Visible Red 680 nm	Q23SN6FPY	NPN
			Q23SP6FPY	PNP

QH23 Models

Sensing Mode		LED	Model*	Output Type
Opposed	8 m (26')	Visible Red 680 nm	QH236E	-
			QH23SN6R	NPN
			QH23SP6R	PNP
Polarized Retro	100 mm-2 m (4" to 80")	Visible Red 680 nm	QH23SN6LP	NPN
			QH23SP6LP	PNP
Diffuse Short Range	2-50 mm (0.1"-2") Opt. 200 mm (8") Max.	Visible Red 680 nm	QH23SN6D	NPN
			QH23SP6D	PNP
Diffuse Long Range	30-300 mm (1.2"-12") Opt. 800 mm (32") Max.	Visible Red 680 nm	QH23SN6DL	NPN
			QH23SP6DL	PNP
Convergent	50 mm (2")	Visible Red 680 nm	QH23SN6CV50	NPN
			QH23SP6CV50	PNP
Plastic Fiber Optic	Range varies by sensing mode and fiber optics used	Visible Red 680 nm	QH23SN6FP	NPN
			QH23SP6FP	PNP
Plastic Fiber Optic High Speed	Range varies by sensing mode and fiber optics used	Visible Red 680 nm	QH23SN6FPY	NPN
			QH23SP6FPY	PNP

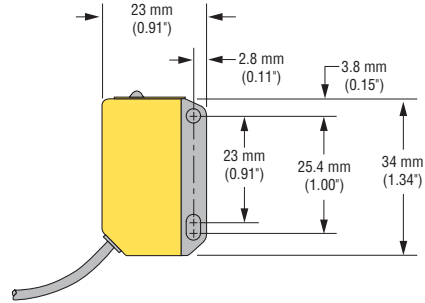
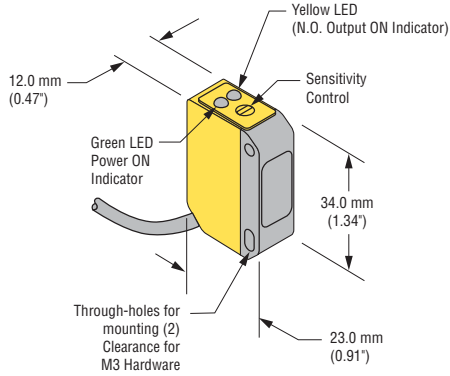
* Standard 2 m (6.5') cable models are listed.

- 9 m (30') cable: add suffix "W/30" to the model number (e.g., QH23SP6FPY W/30).
- 4-pin Pico pigtail (150 mm/6") QD models: add suffix "Q" (e.g., QH23SP6FPYQ).

Q23 Sensor Dimensions

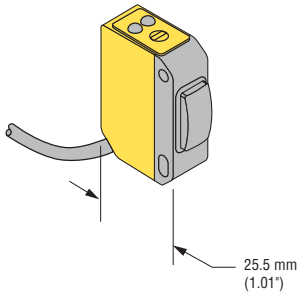
Opposed, Diffuse and Retroreflective Models

(model suffix E, R, D, DL and LP)



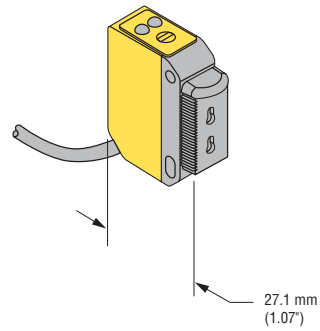
Convergent Models

(model suffix CV)



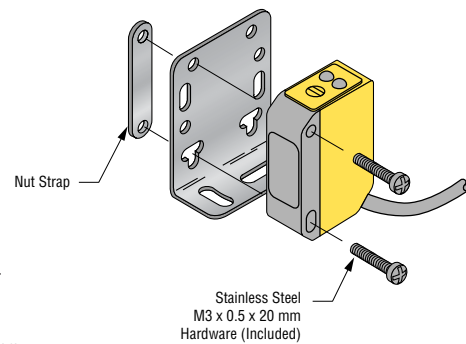
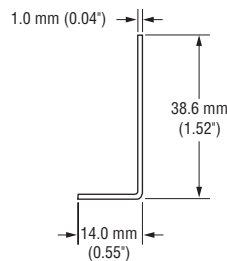
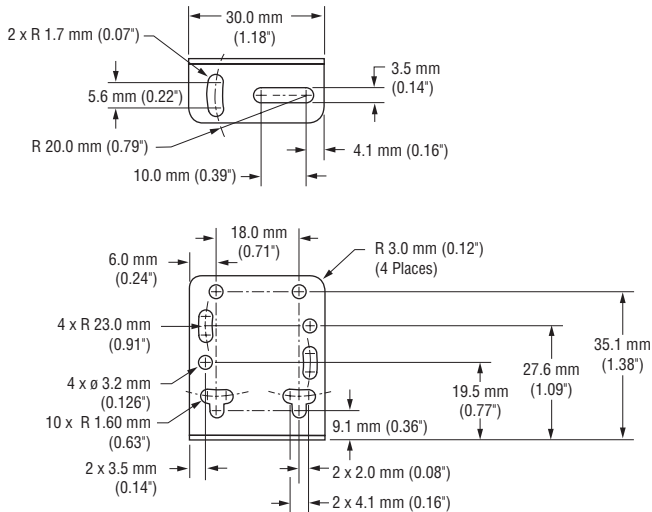
Plastic Fiber Optic Models

(model suffix FP and FPY)



Q23 Mounting Bracket

(included with sensor)



NOTE: Use of lockwashers is optional

Q23 and QH23 Series

Specifications

Supply Voltage and Current

10 to 30V dc (10% maximum ripple) at less than 25 mA (exclusive of load)
(Opposed emitters and receivers draw 20 mA each)

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

Solid-state dc complementary outputs:

Q(H)23SN6xx models: NPN sinking, N.O. (normally open) & N.C. (normally closed) complementary

Q(H)23SP6xx models: PNP sourcing, N.O. & N.C. complementary

Light operate: N.O. output conducts when the sensor sees its own modulated light source

Dark operate: N.C. output conducts when the sensing beam is blocked

The N.C. output may be used as an alarm output, depending upon hookup to the power supply (see hookup diagrams)

Output Rating

150 mA maximum each in standard hookup; when wired for alarm output, the total load may not exceed 150 mA

Off-state leakage current less than 1 microamp at 30V dc

Output saturation voltage less than 1 volt at 10 mA dc; less than 1.5V at 150 mA dc

Output Protection Circuitry

Protected against false pulse on power-up and continuous overload or short-circuit of outputs

Output Response Time

1 millisecond on and off

(FPY model high-speed sensors: 100 microsecond response time)

NOTE: 100 ms delay on power-up; outputs do not conduct during this time.

Repeatability

All opposed sensors: 0.13 ms

FPY model high-speed sensors: 25 microseconds

All other models: 0.25 ms

Response time and repeatability specifications are independent of signal strength.

Adjustments

Sensitivity control (single-turn, o-ring sealed potentiometer)

Indicators

Emitters: green Power ON indicator

All others: green Power ON and yellow Output indicators

Construction

Reinforced thermoplastic polyester housing, completely sealed, o-ring seal, acrylic lenses; stainless steel screws and mounting bracket.

Environmental Rating

Meets NEMA standards 1, 2, 3, 3S, 4, 4X, 6, 12, and 13; IEC IP67.

Housing materials rated UL 94 V-0.

Connections

PVC-jacketed 4-conductor 2 m (6.5') or 9 m (30 ') cables, or 6" pigtail with 4-pin Pico-style quick disconnect (QD) fitting are available. Mating QD cables are ordered separately.

Operating Conditions

Temperature: -20° to +55°C (-5° to +131°F)

Max. rel. humidity: 90% at 50°C (non-condensing)

Application Note

To avoid damage to the sensor caused by static discharge (ESD), use the plastic screwdriver supplied with each sensor (included in the hardware packet) to adjust the sensitivity control. Otherwise, use a screwdriver with an insulated handle.