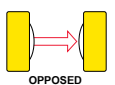
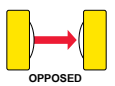
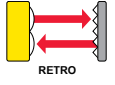

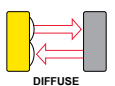
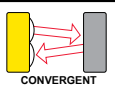
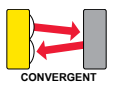
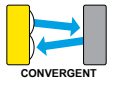
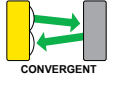
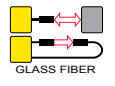
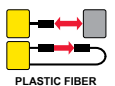


# MINI-BEAM dc-Voltage Series



Self-contained photoelectric sensors

## Models

Sensing Mode		Range	LED	Model	
 OPPOSED	Opposed Emitter	3 m (10 ft)	Infrared 880 nm	SM31E	
	Opposed Receiver			SM31R	
	Opposed Emitter - Long Range	30 m (100 ft)		SM31EL	
	Opposed Receiver - Long Range			SM31RL	
 OPPOSED	Opposed Emitter - Clear Plastic Detection	0 to 300 mm (0 to 12 in) Actual range varies, depending on the light transmission properties of the plastic material being sensed.		SM31EPD	
	Opposed Receiver - Clear Plastic Detection			SM31RPD	
 RETRO	Non-Polarized Retroreflective	5 m (15 ft)	Visible Red 650 nm	SM312LV	
 POLAR RETRO	Polarized Retroreflective	55 mm to 2 m (2 in to 7 ft)		SM312LVAG	
	Extended-Range Polarized Retroreflective	10 mm to 3 m (0.4 in to 10 ft)		SM312LP	
 DIFFUSE	Diffuse	380 mm (15 in)	Infrared 880 nm	SM312D	
		300 mm (12 in)		SM312DBZ	
	Divergent Diffuse	130 mm (5 in)		SM312W	
 CONVERGENT	Convergent	16 mm (0.65 in) Focus		SM312C	
		43 mm (1.7 in) Focus		SM312C2	
 CONVERGENT		16 mm (0.65 in) Focus	Visible Red 650 nm	SM312CV	
		43 mm (1.7 in) Focus		SM312CV2	
 CONVERGENT		16 mm (0.65 in) Focus	Visible Blue 475 nm	SM312CVB	
		49 mm (1.9 in) Focus		SM312CV2B	
 CONVERGENT		16 mm (0.65 in) Focus	Visible Green 525 nm	SM312CVG	
		49 mm (1.9 in) Focus		SM312CV2G	
 GLASS FIBER		Glass Fiber Optic	Range varies, depending on sensing mode and fiber optics used.	Infrared 880 nm	SM312F
				Visible Red 650 nm	SM312FV
	Visible Blue 475 nm			SM312FVB	
	Visible Green 525 nm			SM312FVG	
 PLASTIC FIBER	Plastic Fiber Optic	Visible Red 650 nm		SM312FP	
		Visible Blue 475 nm		SM312FPB	
		Visible Green 525 nm		SM312FPG	
		Visible Red 650 nm		SM312FPH	
	Special High-Power Option Plastic Fiber Optic			Visible Red 650 nm	SM312FPH

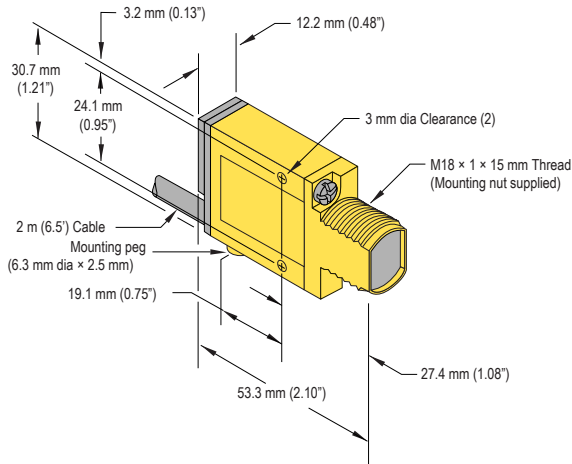
Standard 2 m (6.5') cable models are listed.

- 9 m (30') cable: add suffix "W/30" (e.g., SM31EW/30).
- 4-pin Euro QD models: add suffix "QD" (e.g., SM31EQD).
- 150 mm (6") QD Pigtail: add suffix "QDP" (e.g., SM31EQDP).

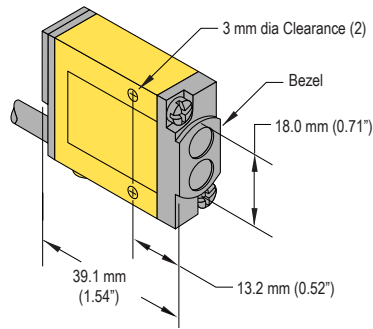
For a 0.3 ms response: add suffix "MHS" (eg., SM31EMHS).

## Dimensions

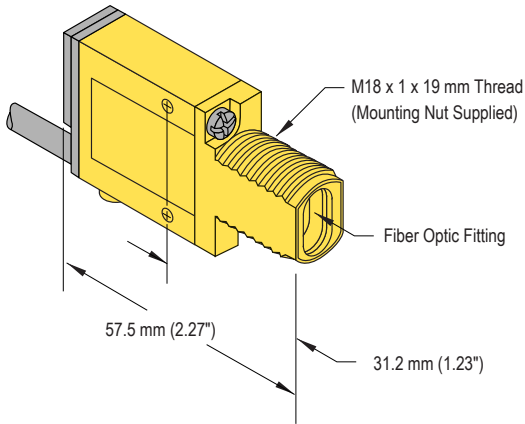
Models with suffix E, EL, EPD, R, RL, RPD, LV, LVAG, LP, D, C, C2, CV, CV2, CVG, CV2G, CVB, and CV2B



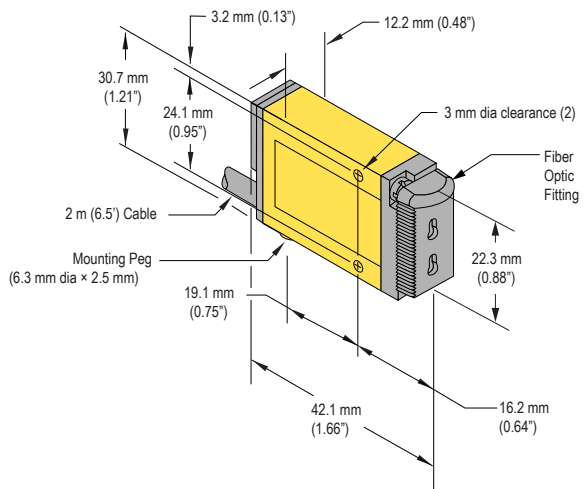
Models with suffix DBZ and W



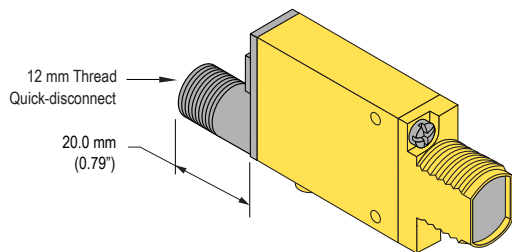
Models with suffix F, FV, FVB, and FVG



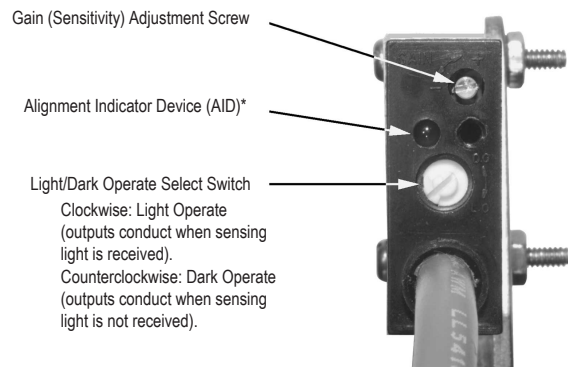
Models with suffix FP, FPB, FPG, and FPH



QD Models



Sensor Features



\*U.S. Patent no. 4356393