Installation Instructions PHOTOSWITCH® Bulletin 42BC Rectangular

IMPORTANT: SAVE THESE INSTRUCTIONS FOR FUTURE USE.

Description

The Bulletin 42BC offers high performance Long Range Background Suppression Diffuse photoelectric sensing. Sensing distances of up to 6.56ft (2m) are possible, making this sensor an ideal solution for many material handling applications.

Each Bulletin 42BC comes complete with a steel right angle mounting bracket which provides a variety of mounting options.

Features

- True Background Suppression Technology
- · Removable cover with screw terminal connections
- Dual LED indicators: output (red), stability (green)
- · Range adjustment potentiometer

Features (continued)

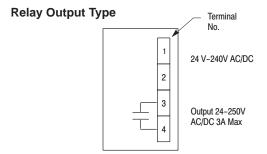
- Short-circuit protection (Solid State sensor output only)
- · Switch selectable light or dark operate
- Reverse polarity protection
- False pulse protection
- · Transient noise protection

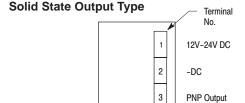
General Specifications

Relative Humidity	85% max
Ambient Temperature	-13°F to +131°F (-25°C to +55°C)
Lens Material	Acrylic
Housing Material	Polycarbonate
Operating Environment	NEMA 1, 12, 13 and IP65
Approvals	DC versions are UL listed and CSA certified, class 2 source required
Weight	170 grams (6 oz)

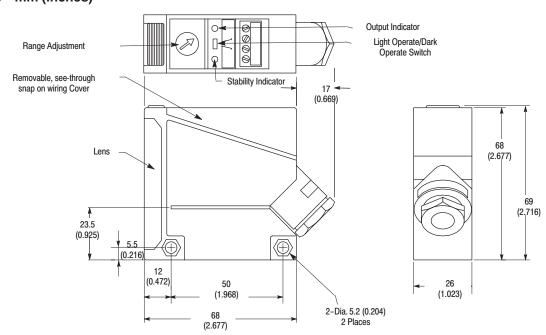
NPN Output

Wiring





Dimensions—mm (inches)



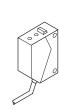
Detection Direction

Due to the detection method, the sensor must be positioned such that the target passes in one of the following directions.

Motion in up/down direction cannot be detected.

	Long Range Background Suppression Diffuse				
Field of View	3.5°				
Transmitting LED	Infrared 880nm				
Connections	4 pressure-type screw terminals				

Targets are rarely as dark as 2.5% reflective. For practical purposes, data for 14% reflective targets is also provided.





Minimum Distance for Margin 2:1				
Near Setting 2.5% black	8cm (3.15in)			
100% white	3cm (1.18in)			
2.5% black 100% white	20cm (7.9in) 4cm (1.57in)			

Typical Suppression Quality for 1m Max Sensors

White Background 100% Reflective Sensor Off	Black Target 2.5% Reflective Sensor On	Black Target 14% Reflective Sensor On	Catalog Number
"Near" 20.0cm (7.9in)	19.8cm (7.8in)	19.8cm (7.8in)	
40.0cm (15.7in)	38.6cm (15.2in)	39.2cm (15.4in)	
60.0cm (23.6in)	53.9cm (21.2in)	58.2cm (23in)	42BC-B1LBAL-T4 42BC-B1CRAL-T4
80.0cm (31.5in)	64.8cm (25.5in)	75.8cm (29.8in)	
"Far" 100.0cm (39.3in)	72.2cm (28.4in)	91.4cm (36in)	

Typical Suppression Quality for 2m Max Sensors

White Background 100% Reflective Sensor Off	00% Reflective 2.5% Reflective		Catalog Number	
"Near" 20.0cm (7.9in)	19.7cm (7.8in)	19.7cm (7.8in)		
60.0cm (23.6in)	54.4cm (21.4in)	58.8cm (21.4in)		
100.0cm (39.3in)	73.8cm (29.1in)	91.5cm (36in)	42BC-B1LBAL-T4	
140.0cm (55.1in)	83.3cm (32.8in)	116.2cm (45.7in)	42BC-B1CRAL-T4	
180.0cm (70.9in)	88.3cm (34.8in)	133.4cm (52.5in)		
"Far" 200.0cm (78.7in)	89.9cm (35.4in)	139.6cm (55in)		

Long Range Background Suppression Diffuse

			Output Characteristics				Catalog Number
Operating Voltage	Supply Current	Output Energized	Туре	Max Load Current	Max Leakage Current	Response Time	Cable
12-24V DC +10%	30mA		NPN/PNP	100ma 05ma 20me	0 Em A	00	42BC-B1LBAL-T4
12-24V DC ±10%	JUIIA	Light/Dark	Selectable		201118	42BC-B1LBAN-T4	
24-240V AC/DC		` '	S.P.S.T.	S.P.S.T. 3A (250V AC, 750VA) N.O. Relay 3A (30V DC, 90W)	_	30ms	42BC-B1CRAL-T4
±10% 4W (ÀC	4W (ÀC)		N.O. Relay				42BC-B1CRAN-T4

