



Features

- Compact rectangular package
- Four sensing modes
- Sensitivity adjustment
- Selectable light/dark operate
- Highly visible LED Indicators
- NPN or PNP output models
- 2 m cable or pico connections

Specifications

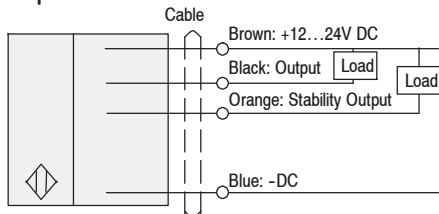
Environmental	
Certifications	cULus Listed and CE Marked for all applicable directives
Operating Environment	NEMA 1, 4, 6, 12, 13; IP67 (IEC 60529)
Operating Temperature [C (F)]	-25...+55° (-13...+131°)
Vibration	10...55 Hz, 1 mm amplitude, meets or exceeds IEC 60947-5-2
Shock	30g with 1 ms pulse duration, meets or exceeds IEC 60947-5-2
Relative Humidity	5...85%
Optical	
Sensing Mode	Retroreflective, diffuse, sharp cutoff diffuse, transmitted beam
Sensing Range	See Product Selection table on page 1-95
Field of View	See Product Selection table on page 1-95
Light Source	Visible red LED (660 nm), infrared LED (880 nm)
LED Indicators	See User Interface Panel below
Adjustments	Sensitivity potentiometer
Electrical	
Voltage	12...24V DC
Current Consumption	30 mA max
Sensor Protection	Short circuit (NPN models only), reverse polarity, false pulse, transient noise
Outputs	
Response Time	350 μs
Output Type	PNP or NPN by cat. no., stability output for NPN models only
Output Mode	Light or dark operate selectable
Output Current	100 mA max @ 24V DC
Output Leakage Current	0.5 mA max
Mechanical	
Housing Material	Polyarylate
Lens Material	Acrylic, polycarbonate, polyarylate by cat. no.
Connection Types	2 m cable, 3-pin DC pico (M8) QD
Supplied Accessories	Mounting bracket, adhesive apertures (transmitted beam models), screwdriver, reflector (retroreflective models)
Optional Accessories	See mounting brackets and cordsets on page 1-97

User Interface Panel

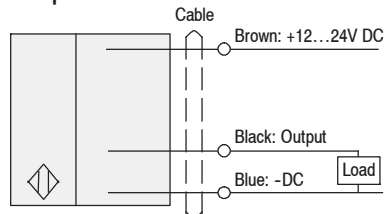
Label	Color	State	Status
STB	Green	OFF	0.8<math><1.2</math>
		ON	0.8>math>>1.2</math>
OUT	Red	OFF	Output not activated
		ON	Output activated

Wiring Diagrams

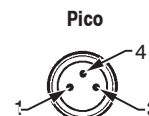
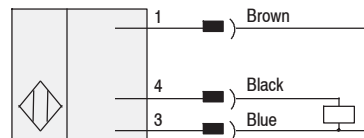
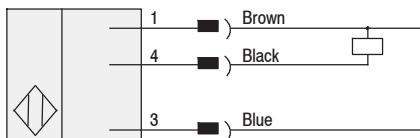
Cable
NPN Output



PNP Output



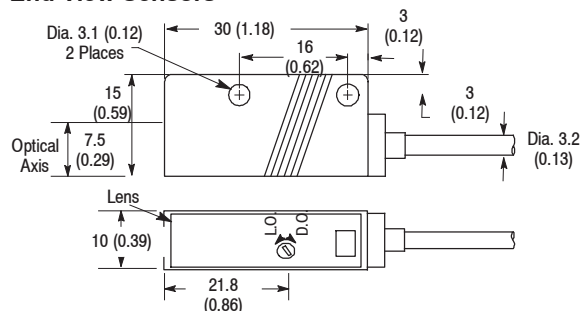
Quick-Disconnect



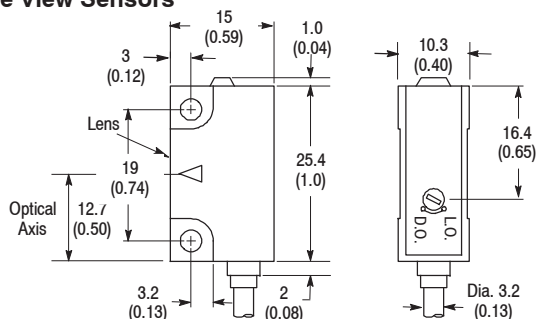
Note: Details regarding connection of Rockwell Automation Bulletin 42KB photoelectric sensors to Rockwell Automation Programmable Controllers can be found in "PHOTOSWITCH® Photoelectric Sensors and Programmable Controller Interface Manual" on www.ab.com/literature.

Approximate Dimensions [mm (in.)]

End View Sensors

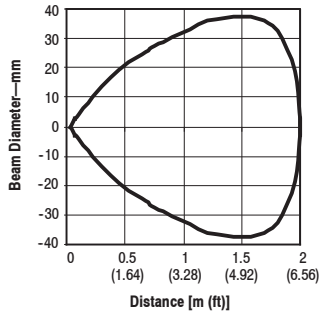
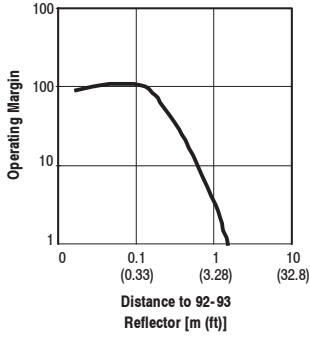


Side View Sensors



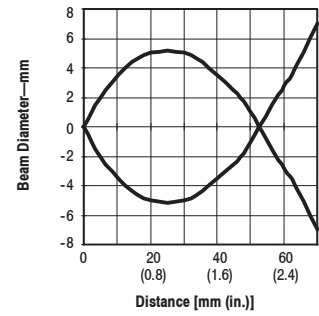
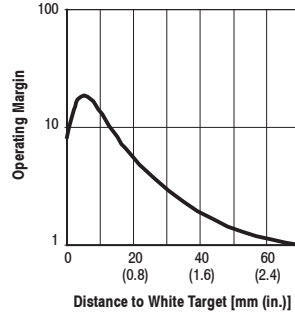
Typical Response Curve Beam Pattern

Retroreflective

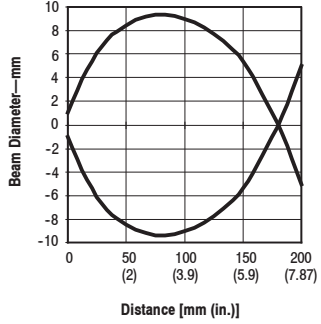
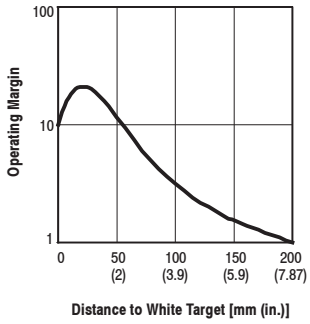


Typical Response Curve Beam Pattern

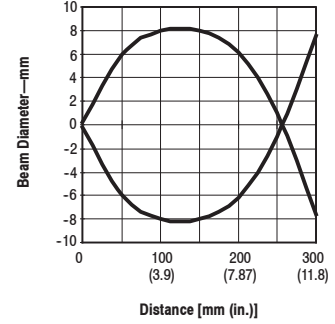
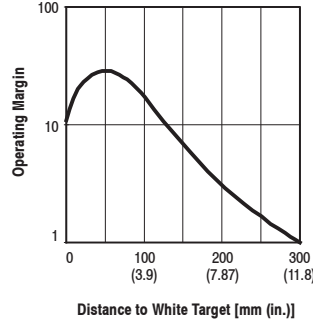
Standard Diffuse—70 mm



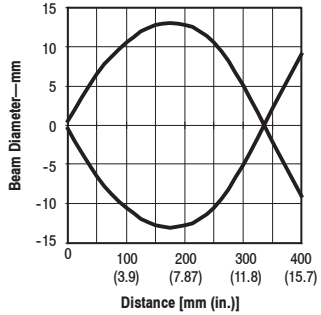
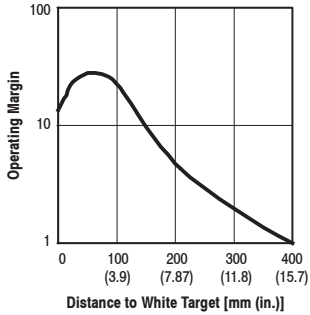
Standard Diffuse—200 mm



Standard Diffuse—300 mm

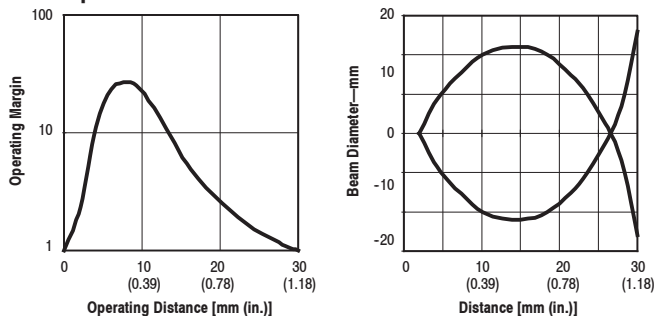


Standard Diffuse—400 mm



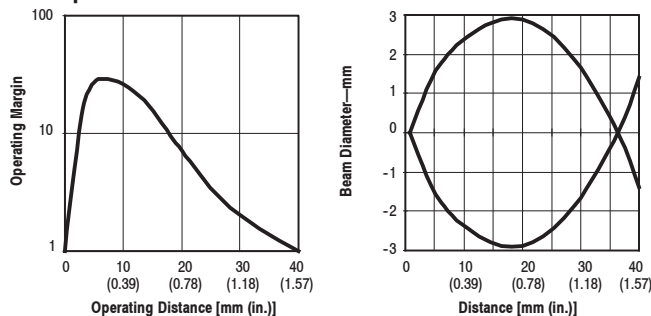
Typical Response Curve Beam Pattern

Sharp Cutoff Diffuse—30 mm

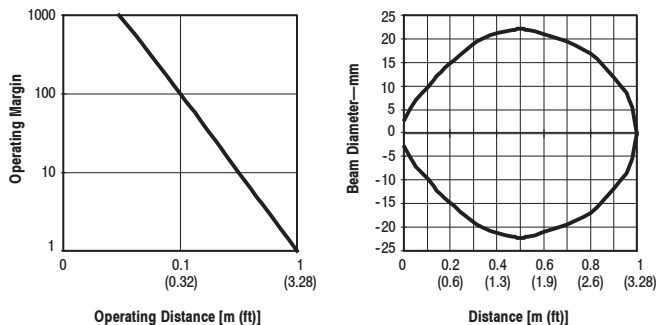


Typical Response Curve Beam Pattern

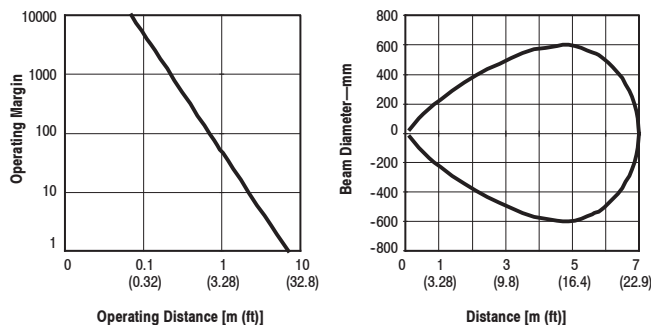
Sharp Cutoff Diffuse—40 mm



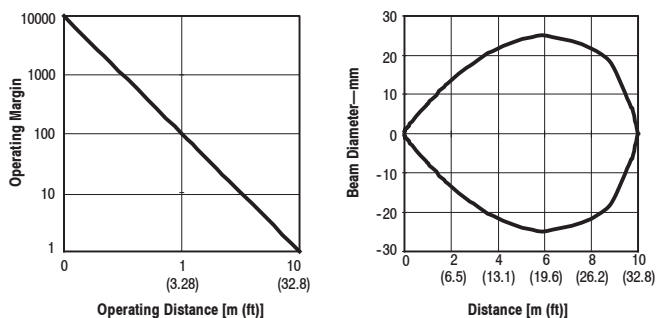
Transmitted Beam—1 m



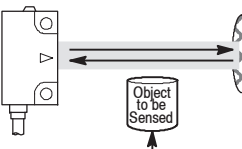
Transmitted Beam—7 m



Transmitted Beam—10 m

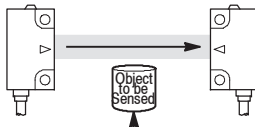


Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance	Output Energized	LED Source	Output Type Capacity Response Time	End or Side View	Connection Type	Cat. No.
 <p>Retroreflective</p> <p>Field of View: 5°</p> <p>Emitter LED: Visible red 660 nm</p>	12...24V DC ±10% 20 mA	3 mm... 2 m (0.12 in... 6.6 ft)	Light/Dark Selectable	—	NPN Output: 100 mA Stability: 50 mA 350 μs	Side	2 m 500V cable	42KB-U2LNSN-A2
							3-pin pico	42KB-U2LNSN-Y3
	12...24V DC ±10% 25 mA				PNP Output: 100 mA 350 μs		2 m 500V cable	42KB-U2LPSN-A2
							3-pin pico	42KB-U2LPSN-Y3

Refer to page 1-97 for cordsets and accessories.

Product Selection (continued)

Sensing Mode	Operating Voltage Supply Current	Sensing Distance	Output Energized	LED Source	Output Type Capacity Response Time	End or Side View ^①	Connection Type	Cat. No.		
 <p>Transmitted Beam^②</p> <p>Field of View: 1 m sensors: 50°; All others: 24° Emitter LED: Infrared 880 nm or Visible red 700 nm (See Product Selection)</p>	12...24V DC ±10% Source: 23 mA Receiver: 18 mA	3 mm...1 m (0.12 in... 3.2 ft)	Light/Dark Selectable	IR 880 nm	NPN Output: 100 mA, Stability: 50 mA 350 μs	End	2 m 500V cable	42KB-T1LNEL-A2 ^③		
							3-pin pico	42KB-T1LNEL-Y3		
		Side				2 m 500V cable	42KB-T1LNLSL-A2 ^③			
						3-pin pico	42KB-T1LNLSL-Y3			
		End				2 m 500V cable	42KB-T1LNEQ-A2			
						3-pin pico	42KB-T1LNEQ-Y3			
	Side	2 m 500V cable		42KB-T1LNSQ-A2 ^③						
		3-pin pico		42KB-T1LNSQ-Y3						
	12...24V DC ±10% Source: 20 mA Receiver: 18 mA	3 mm...10 m (0.12 in... 32.8 ft)		Red 700 nm	Light/Dark Selectable	Red 700 nm	PNP Output: 100 mA 350 μs	Side	2 m 500V cable	42KB-T2LNSR-A2 ^③
									3-pin pico	42KB-T2LNSR-Y3
		End						2 m 500V cable	42KB-T1LPEL-A2 ^③	
								3-pin pico	42KB-T1LPEL-Y3	
Side		2 m 500V cable	42KB-T1LPSL-A2 ^③							
		3-pin pico	42KB-T1LPSL-Y3							
End	2 m 500V cable	42KB-T1LPEQ-A2								
	3-pin pico	42KB-T1LPEQ-Y3								
Side	2 m 500V cable	42KB-T1LPSQ-A2 ^③								
	3-pin pico	42KB-T1LPSQ-Y3								
12...24V DC ±10% Source: 20 mA Receiver: 21 mA	3 mm...10 m (0.12 in... 32.8 ft)	Red 700 nm	Light/Dark Selectable	Red 700 nm	PNP Output: 100 mA 350 μs	Side	2 m 500V cable	42KB-T2LPSR-A2 ^③		
							3-pin pico	42KB-T2LPSR-Y3		

- ① See page 1-93 for detailed dimensions.
- ② Adhesive 1 mm apertures are included with these sensors.
- ③ Optional metal apertures are available for these sensors under Accessories .
- ④ Both a light source (emitter) and receiver are included in the package. To identify the light source, replace the "T" in the cat. no. with "E." To identify the receiver, replace the "T" in the cat. no. with "R." Example: 42KB-T2KNHK-A2 contains one 42KB-E2KNHK-A2 light source and one 42KB-R2KNHK-A2 receiver. Light sources and receivers are not available separately.

Maximum Operating Distance with Apertures

Aperture Cat. No.				Sensor Cat. No.	
61-6726	61-6727	61-6728	61-6729		
100 mm (3.93 in.)	300 mm (11.8 in.)	400 mm (15.7 in.)	300 mm (11.8 in.)	42KB-T1LNLSL-A2	42KB-T1LPSL-A2
400 mm (1.57 in.)	1 m (39.3 in.)	3 m (9.8 ft)	2 m (6.56 ft)	42KB-T2LNSR-A2	42KB-T2LPSR-A2
300 mm (11.8 in.)	1 m (39.3 in.)	2.5 m (8.2 ft)	1.7 m (5.6 ft)	42KB-T1LNSQ-A2	42KB-T1LPSQ-A2

Cordsets and Accessories

Description	Cat. No.	Description	Cat. No.
Pico QD Cordset, 3-pin 2 m	889P-F3AB-2	Aperture, 2 mm (10 pcs)	61-6727
End View Bracket (included)	60-2632	Aperture, 3 mm (10 pcs)	61-6728
Side View Bracket (included)	60-2633	Aperture, 1 x 5 mm (10 pcs)	61-6729
Aperture, 1 mm (10 pcs)	61-6726	Reflectors (included)	92-93