

42KB

Micro Rectangular Style



General Specifications

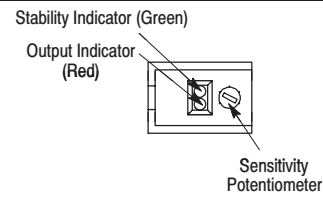
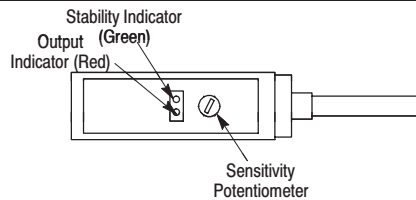
Unit Protection	Output short-circuit (NPN version only), reverse polarity, false pulse, transient noise
Supply Voltage	12-24V DC
Current Consumption	30mA maximum
Output Type	NPN or PNP by model
Output Mode	Light/dark operate selectable
Output Rating	100mA @ 24V DC
Max Leakage Current	0.5mA
Response Time	350µs
Housing Material	Polyarylate
Lens Material	Acrylic, polycarbonate, polyarylate by model
LED Indicators	See User Interface below
Connection Types	2m 500V cable, 3-pin DC pico QD
Supplied Accessories	Mounting bracket, adhesive apertures (transmitted beam models), screwdriver, reflector (retroreflective models)
Optional Accessories	Cordsets, mounting brackets—see page R1-108
Operating Environment	NEMA 1, 4, 6, 12, 13; IP67 (IEC60529)
Vibration	10-55Hz, 1mm amplitude, Meets or exceeds IEC 60947-5-2
Shock	30g with 1ms pulse duration, Meets or exceeds IEC 60947-5-2
Operating Temperature	-25°C to +55°C (-13°F to +131°F)
Relative Humidity	5...85%
Approvals	UL listed, CSA certified, CE marked for all applicable directives

Features

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

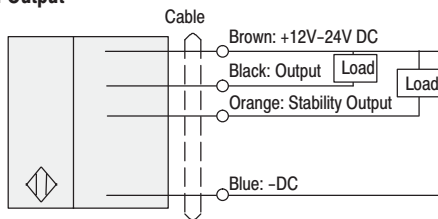
User Interface Panel

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

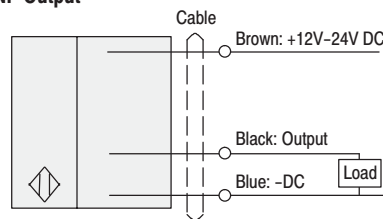


Wiring Diagrams

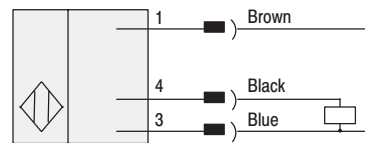
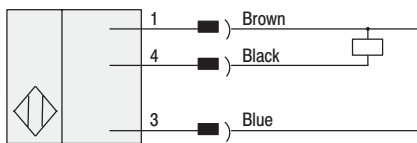
Cable



PNP Output



Quick-Disconnect



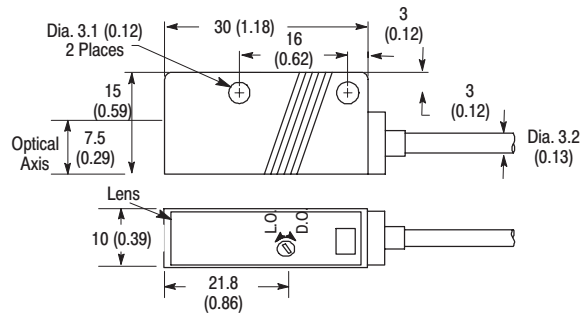
Pico



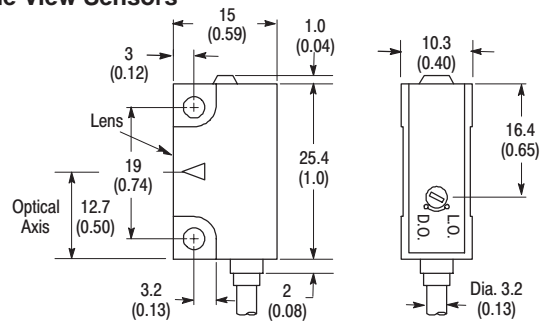
Note: Details regarding connection of Allen-Bradley Bulletin 42KB photoelectric sensors to Allen-Bradley Programmable Controllers can be found in publication 42-2.0.

Dimensions—mm (inches)

End View Sensors

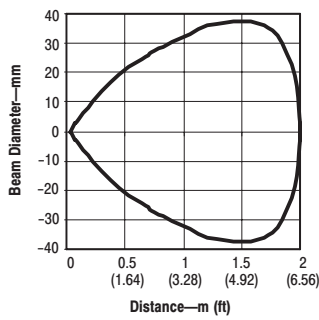
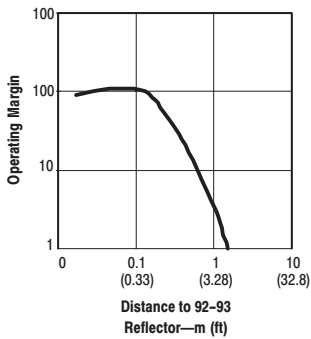


Side View Sensors



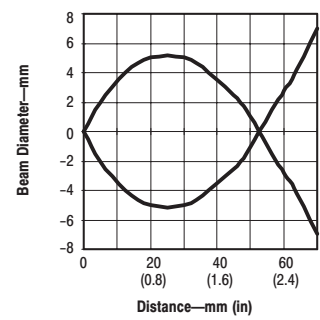
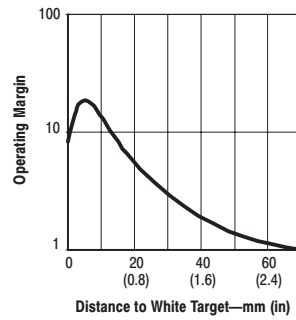
Typical Response Curve Beam Pattern

Retroreflective

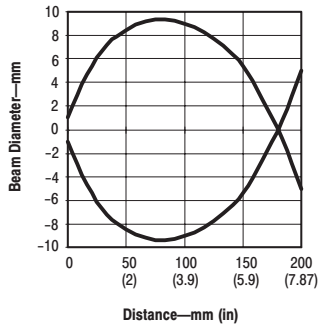
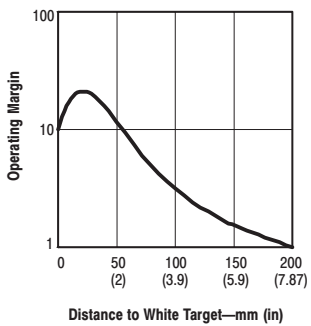


Typical Response Curve Beam Pattern

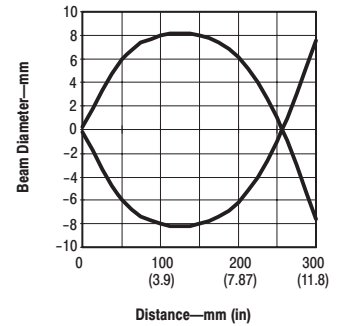
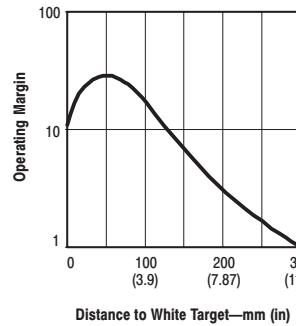
Standard Diffuse—70mm



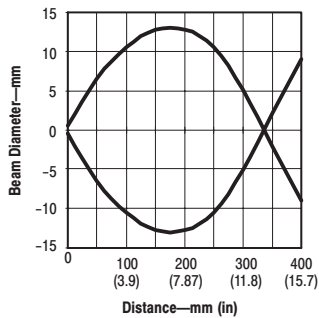
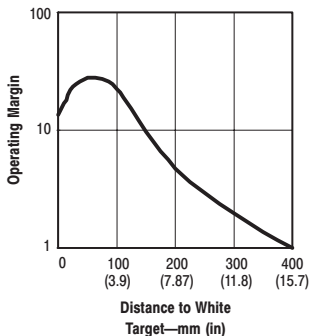
Standard Diffuse—200mm



Standard Diffuse—300mm



Standard Diffuse—400mm

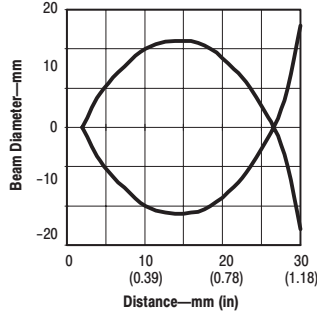
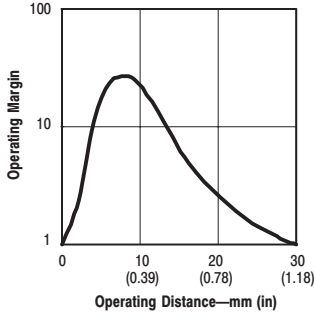


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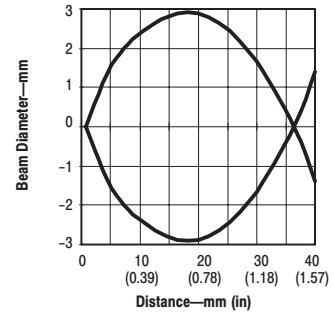
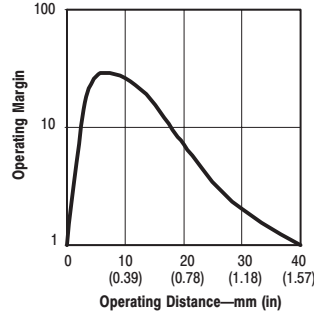
Typical Response Curve Beam Pattern

Sharp Cutoff Diffuse—30mm

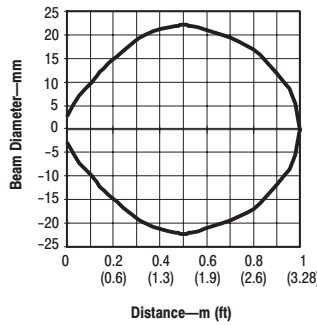
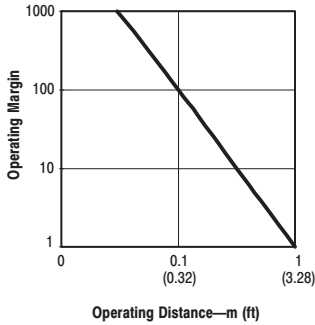


Typical Response Curve Beam Pattern

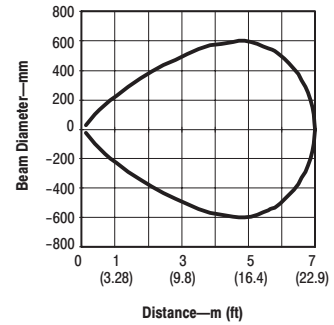
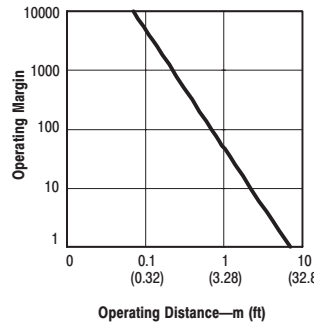
Sharp Cutoff Diffuse—40mm



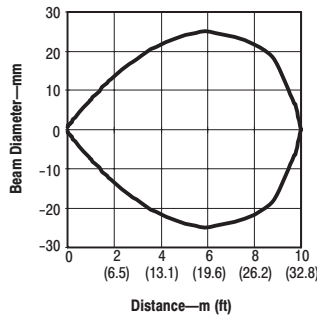
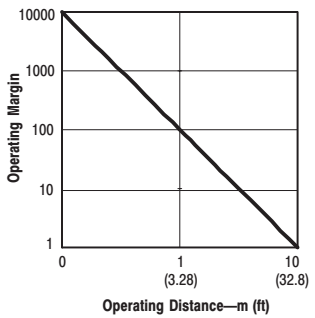
Transmitted Beam—1m



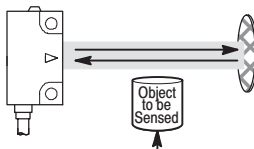
Transmitted Beam—7m



Transmitted Beam—10m


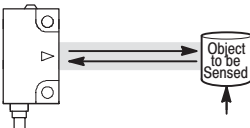


Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance	Output Energized	LED Source	Output Type Capacity Response Time	End or Side View	Connection Type	Catalog Number
 <p>Retroreflective</p> <p>Field of View: 5° Emitter LED: Visible red 660nm</p>	12-24V DC ±10% 20mA	3mm (0.12in) to 2m (6.6ft)	Light/Dark Selectable	—	NPN Output: 100mA Stability: 50mA 350µs	Side	2m 500V cable	42KB-U2LNSN-A2
							3-pin pico	42KB-U2LNSN-Y3
	12-24V DC ±10% 25mA	2m 500V cable	42KB-U2LPSN-A2					
		3-pin pico	42KB-U2LPSN-Y3					

Refer to page R1-108 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	Catalog Number
 <p>Standard Diffuse</p> <p>Field of View: 50mm Infrared sensors: 20°; All others: 12° Emitter LED: See Product Selection</p>	12-24V DC ±10% 25mA	3mm (0.12in) to 70mm (2.8in)	Light/Dark Selectable	IR 950nm	NPN Output: 100mA, Stability: 50mA 350µs	End	2m 500V cable	42KB-D1LNED-A2
							3-pin pico	42KB-D1LNED-Y3
					2m 500V cable	42KB-D1LNED-A2		
							3-pin pico	42KB-D1LNED-Y3
	12-24V DC ±10% 28mA	3mm (0.12in) to 200mm (7.9in)		NPN Output: 100mA 350µs	End	2m 500V cable	42KB-D1LPED-A2	
						3-pin pico	42KB-D1LPED-Y3	
				2m 500V cable	42KB-D1LPED-A2			
						3-pin pico	42KB-D1LPED-Y3	
	12-24V DC ±10% 22mA	3mm (0.12in) to 200mm (7.9in)		NPN Output: 100mA, Stability: 50mA 350µs	End	IR 900nm	2m 500V cable	42KB-D1LNEG-A2
							3-pin pico	42KB-D1LNEG-Y3
	12-24V DC ±10% 25mA			2m 500V cable		42KB-D1LNEG-A2		
							3-pin pico	42KB-D1LNEG-Y3
	12-24V DC ±10% 20mA	3mm (0.12in) to 300mm (11.8in)		NPN Output: 100mA, Stability: 50mA 350µs	Side	Red 700nm	2m 500V cable	42KB-D2LNEH-A2
							3-pin pico	42KB-D2LNEH-Y3
12-24V DC ±10% 25mA	2m 500V cable		42KB-D2LNEH-A2					
				3-pin pico		42KB-D2LNEH-Y3		
12-24V DC ±10% 22mA	3mm (0.12in) to 400mm (15.8in)	NPN Output: 100mA, Stability: 50mA 350µs	Side	IR 900nm	2m 500V cable	42KB-D1LNSH-A2		
					3-pin pico	42KB-D1LNSH-Y3		
12-24V DC ±10% 25mA		2m 500V cable		42KB-D1LNSH-A2				
					3-pin pico	42KB-D1LNSH-Y3		
12-24V DC ±10% 20mA	3mm (0.12in) to 400mm (15.8in)	NPN Output: 100mA, Stability: 50mA 350µs	Side	Red 700nm	2m 500V cable	42KB-D2LNSG-A2		
					3-pin pico	42KB-D2LNSG-Y3		
12-24V DC ±10% 25mA		2m 500V cable		42KB-D2LNSG-A2				
					3-pin pico	42KB-D2LNSG-Y3		
 <p>Sharp Cutoff Diffuse</p> <p>Field of View: Infrared sensors: 15°; Visible red sensors: 20° Emitter LED: Infrared 900nm or Visible red 660nm (See Product Selection)</p>	12-24V DC ±10% 20mA	3mm (0.12in) to 30mm (1.2in)	Light/Dark Selectable	Red 660nm	NPN Output: 100mA Stability: 50mA 350µs	Side	2m 500V cable	42KB-S2LNSA-A2
		3-pin pico					42KB-S2LNSA-Y3	
	12-24V DC ±10% 22mA	3mm (0.12in) to 40mm (1.6in)		IR 900nm	2m 500V cable		42KB-S1LNSB-A2	
		3-pin pico						42KB-S1LNSB-Y3
	12-24V DC ±10% 25mA	3mm (0.12in) to 30mm (1.2in)		Red 660nm	2m 500V cable		42KB-S2LPSA-A2	
		3-pin pico						42KB-S2LPSA-Y3
	3mm (0.12in) to 40mm (1.6in)	IR 900nm	2m 500V cable	42KB-S1LPSB-A2				
	3-pin pico				42KB-S1LPSB-Y3			

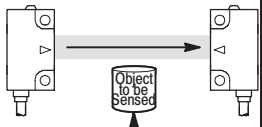
① See page R1-105 for detailed dimensions.

Refer to page R1-108 for cordsets and accessories.

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Micro Rectangular Style

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	Catalog Number
 <p>Field of View: 1m sensors: 50°; All others: 24° Emitter LED: Infrared 880nm or Visible red 700nm (See Product Selection)</p>	12-24V DC ±10% Source: 23mA Receiver: 18mA	3mm (0.12in) to 1m (3.2ft)	Light/Dark Selectable	IR 880nm	NPN Output: 100mA, Stability: 50mA 350µs	End	2m 500V cable	42KB-T1LNEL-A2 ^②
							3-pin pico	42KB-T1LNEL-Y3
		Side				2m 500V cable	42KB-T1LNLSL-A2 ^{②③}	
						3-pin pico	42KB-T1LNLSL-Y3	
	End	2m 500V cable		42KB-T1LNEQ-A2				
		3-pin pico		42KB-T1LNEQ-Y3				
	Side	2m 500V cable		42KB-T1LNSQ-A2 ^②				
		3-pin pico		42KB-T1LNSQ-Y3				
	Side	2m 500V cable	42KB-T2LNSR-A2 ^②					
		3-pin pico	42KB-T2LNSR-Y3					
	12-24V DC ±10% Source: 20mA Receiver: 18mA	3mm (0.12in) to 10m (32.8ft)	3mm (0.12in) to 1m (3.2ft)	Red 700nm	PNP Output: 100mA 350µs	End	2m 500V cable	42KB-T1LPEL-A2 ^②
							3-pin pico	42KB-T1LPEL-Y3
Side		2m 500V cable	42KB-T1LPSL-A2 ^{②③}					
		3-pin pico	42KB-T1LPSL-Y3					
End		2m 500V cable	42KB-T1LPEQ-A2					
		3-pin pico	42KB-T1LPEQ-Y3					
Side	2m 500V cable	42KB-T1LPSQ-A2 ^②						
	3-pin pico	42KB-T1LPSQ-Y3						
12-24V DC ±10% Source: 20mA Receiver: 21mA	3mm (0.12in) to 10m (32.8ft)	3mm (0.12in) to 1m (3.2ft)	Red 700nm	PNP Output: 100mA 350µs	Side	2m 500V cable	42KB-T2LPSR-A2 ^②	
						3-pin pico	42KB-T2LPSR-Y3	

- ① See page R1-105 for detailed dimensions.
- ② Adhesive 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 catalog number with "E." To identify the receiver, replace the "T" in the catalog number with "R." Example: 42KA-T2KNHK-A2 contains one 42KA-E2KNHK-A2 Light Source and one 42KA-R2KNHK-A2 Receiver. Light Sources and Receivers are not available separately.

Maximum Operating Distance with Apertures

Aperture Catalog Number				Sensor Catalog Number	
61-6726	61-6727	61-6728	61-6729		
100mm (3.93in)	300mm (11.8in)	400mm (15.7in)	300mm (11.8in)	42KB-T1LNLSL-A2	42KB-T1LPSL-A2
400mm (1.57in)	1m (39.3in)	3m (9.8ft)	2m (6.56ft)	42KB-T2LNSR-A2	42KB-T2LPSR-A2
300mm (11.8in)	1m (39.3in)	2.5m (8.2ft)	1.7m (5.6ft)	42KB-T1LNSQ-A2	42KB-T1LPSQ-A2

Cordsets and Accessories

Description	Catalog Number	Description	Catalog Number	Description	Catalog Number
Pico QD Cordset, 3-pin 2m	889P-F3AB-2	Aperture, 1mm (10 pcs)	61-6726	Aperture, 1x5mm (10 pcs)	61-6729
End View Bracket (included)	60-2632	Aperture, 2mm (10 pcs)	61-6727	Reflectors (included)	92-93
Side View Bracket (included)	60-2633	Aperture, 3mm (10 pcs)	61-6728		