



Description

The 42KC family of photoelectric sensor offers high performance sensing capability in a compact rectangular package. Like the 42KB family, the 42KC is intended for use in applications where small size is the key criteria.

Two basic package styles are offered—end view and side view. As seen in the illustrations above, the placement of the sensor optics determines the view. End view sensors have the optics and cable located at opposite ends while side view sensors are located on adjacent sides.

Three basic sensing modes are available to cover to cover common applications. A single-turn sensitivity adjustment is provided on each sensor for setting the sensor during the installation phase.

General Specifications

Unit Protection	Output short-circuit (NPN version only), reverse polarity, false pulse, transient noise
Supply Voltage	12–24V DC
Current Consumption	35mA maximum
Output Type	NPN or PNP by model
Output Mode	Light/dark operate selectable
Output Rating	100mA @ 24V DC
Response Time	500µs
Housing Material	Polyarylate
Lens Material	Acrylic
LED Indicators	See User Interface on page 1–240
Connection Types	2m 500V cable, 3-pin DC pico QD
Supplied Accessories	Mounting bracket, screwdriver, reflector (retroreflective models)
Optional Accessories	Cordsets, mounting brackets (see Section 5)
Operating Environment	NEMA 1, 4X, 6P, 12, 13; IP67 (IEC529)
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
- Three sensing modes
- Diagnostic output
- Sensitivity adjustment
- Selectable light/dark operate
- Highly visible LED indicators
- NPN or PNP output models
- 2m cable or pico QD connections

General Information

Wiring Diagrams page 1–240
 Dimensions page 1–240

Sensing Modes

Polarized Retroreflective . . page 1–242
 Standard Diffuse page 1–243
 Transmitted Beam page 1–244

Accessories

Quick-Disconnect Cables . . . page 5–1
 Mounting Assemblies page 1–301
 Reflectors, Reflective Tape page 1–311

User Interface Panel

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

Stability Indicator (Green)

Output Indicator (Red)

Light Operate/Dark Operate Switch

Sensitivity Potentiometer

Light Operate/Dark Operate Switch

Output Indicator (Red)

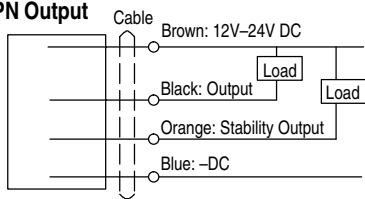
Stability Indicator (Green)

Sensitivity Potentiometer

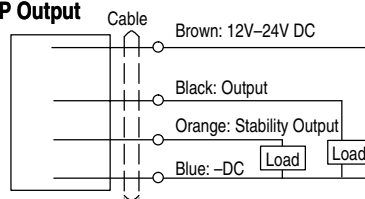
Wiring Diagrams

Cable Version

NPN Output



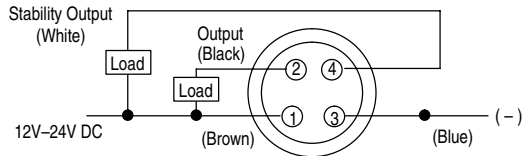
PNP Output



Pico Quick-Disconnect Version

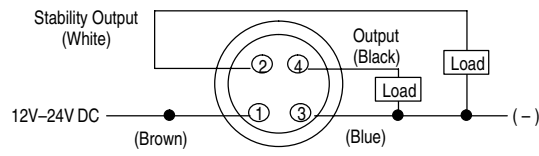
NPN Output

Face View Male Receptacle (Sensor)



PNP Output

Face View Male Receptacle (Sensor)

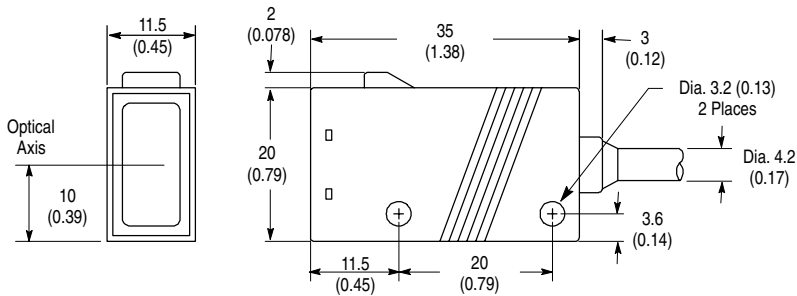


Note: Details regarding connection of Allen-Bradley Bulletin 42KC photoelectric sensors to Allen-Bradley Programmable Controllers can be found in publication 42-2.0.

Dimensions—mm (inches)

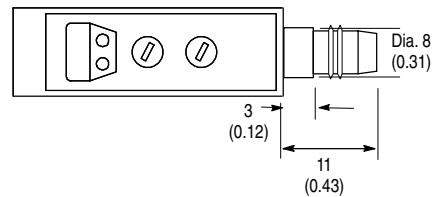
End View Sensors

Cable Version



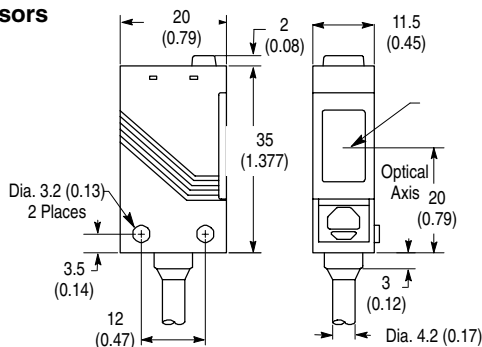
End View Sensors

Pico Quick-Disconnect Version



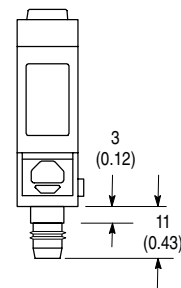
Side View Sensors

Cable Version

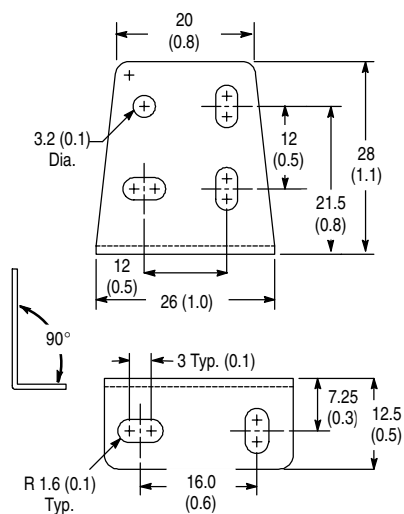


Side View Sensors

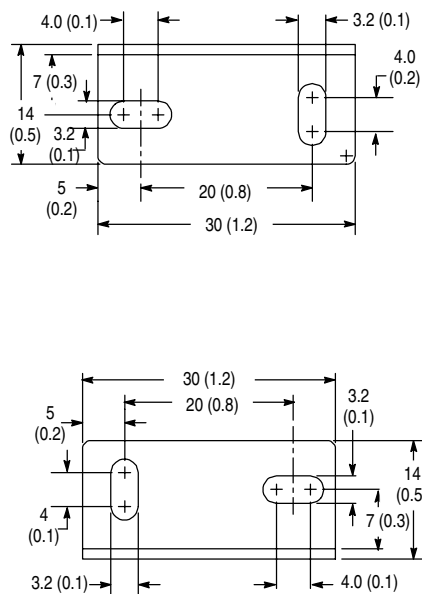
Pico Quick-Disconnect Version



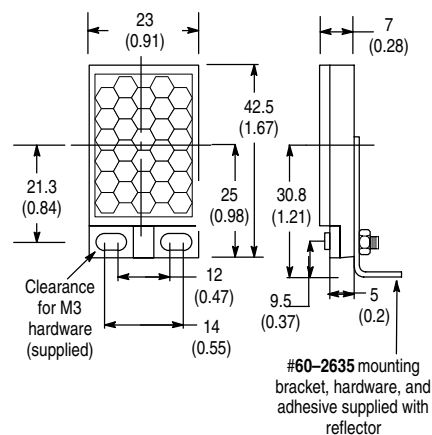
Stainless steel mounting bracket and hardware supplied with side view sensors.



Stainless steel mounting bracket and hardware supplied with end view sensors.



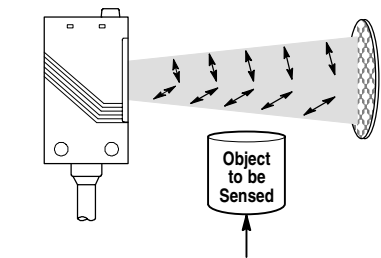
Supplied with all polarized
retroreflective sensors.



PHOTOSWITCH® Photoelectric Sensors

42KC Polarized Retroreflective

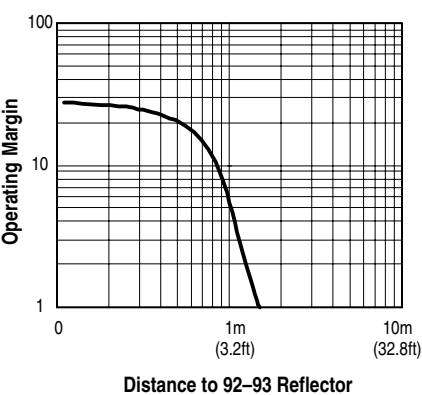
Miniature Rectangular Style



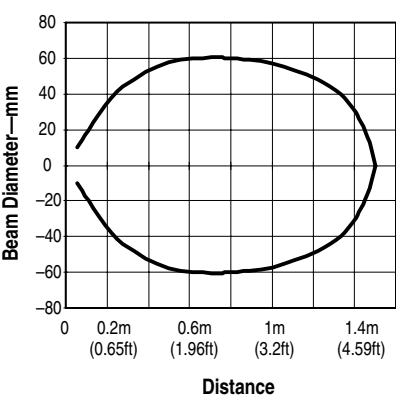
Specifications

Field of View	8°
Emitter LED	Visible red 700nm

Typical Response Curves



Beam Pattern



QD Cordsets and Accessories

Description	Catalog Number
Pico QD Cordset, 4-pin 2m	889P-F4AB-2
End View Bracket	60-2634
Side View Bracket	60-2635
Reflectors (included)	92-93

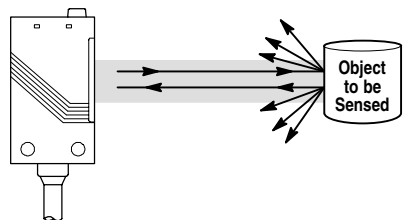
Selection Guide

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	End or Side View❶	Connection Type	Catalog Number
12-24V DC ±10% 30mA	50mm (1.9in) to 1.5m (4.9ft)	Light/Dark Selectable	NPN Output: 100mA Stability: 50mA 0.5ms	0.5mA	End	2m 500V cable	42KC-P2LNEM-A2
						4-pin pico QD	42KC-P2LNEM-P4
					Side	2m 500V cable	42KC-P2LNSM-A2
						4-pin pico QD	42KC-P2LNSM-P4
12-24V DC ±10% 35mA			End		2m 500V cable	42KC-P2LPEM-A2	
					4-pin pico QD	42KC-P2LPEM-P4	
			Side		2m 500V cable	42KC-P2LPSM-A2	
					4-pin pico QD	42KC-P2LPSM-P4	
5V DC ±10% 25mA	Side	2m 500V cable	42KC-P2YNSM-A2				
		4-pin pico QD	42LC-P2YNSM-P4				

❶ See page 1-240 for detailed dimensions.

42KC Standard Diffuse

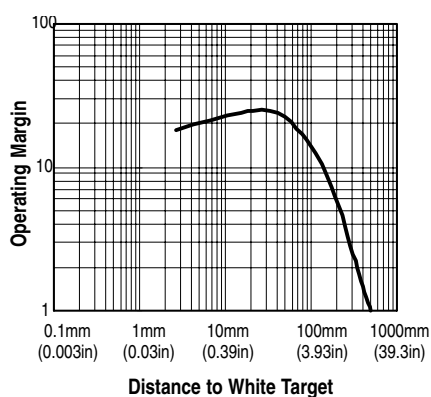
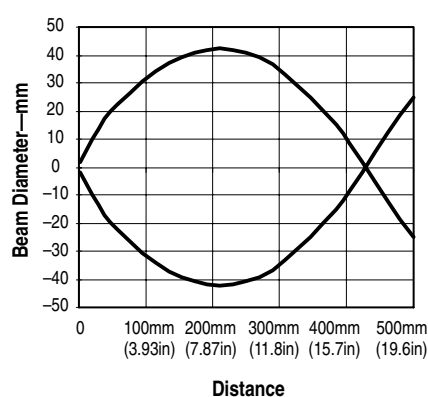
Miniature Rectangular Style

**Specifications**

Field of View	7°
Emitter LED	Visible red 700nm

QD Cordsets and Accessories

Description	Catalog Number
Pico QD Cordset, 4-pin 2m	889P-F4AB-2
End View Bracket	60-2634
Side View Bracket	60-2635

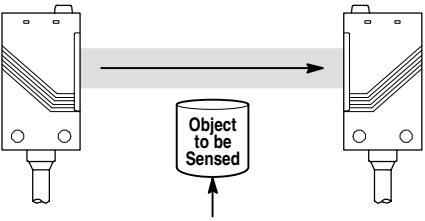
Typical Response Curves**Beam Pattern****Selection Guide**

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	End or Side View ^①	Connection Type	Catalog Number
12–24V DC $\pm 10\%$ 30mA	3mm (0.12in) to 500mm (19.7in)	Light/Dark Selectable	NPN Output: 100mA Stability: 50mA 0.5ms	0.5mA	End	2m 500V cable	42KC–D2LNEK–A2
					Side	4-pin pico QD	42KC–D2LNEK–P4
						2m 500V cable	42KC–D2LNSK–A2
					Side	4-pin pico QD	42KC–D2LNSK–P4
12–24V DC $\pm 10\%$ 35mA			PNP Output: 100mA Stability: 50mA 0.5ms		End	2m 500V cable	42KC–D2LPEK–A2
					Side	4-pin pico QD	42KC–D2LPEK–P4
						2m 500V cable	42KC–D2LPSK–A2
					Side	4-pin pico QD	42KC–D2LPSK–P4

^① See page 1–240 for detailed dimensions.

42KC Transmitted Beam

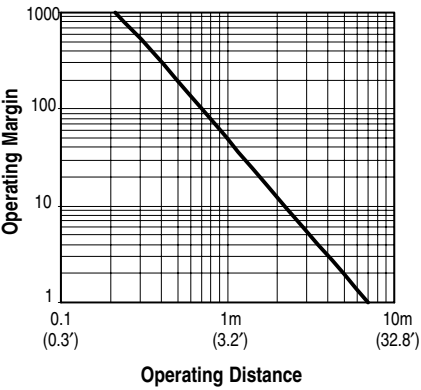
Miniature Rectangular Style



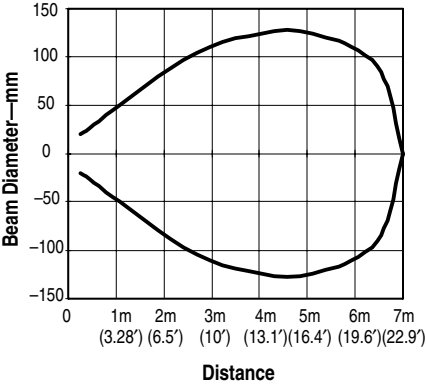
Specifications

Field of View	10°
Emitter LED	Visible red 700nm

Typical Response Curves



Beam Pattern



QD Cordsets and Accessories

Description	Catalog Number
Pico QD Cordset, 4-pin 2m	889P-F4AB-2
End View Bracket	60-2634
Side View Bracket	60-2635

Selection Guide

Operating Voltage Supply Current	Sensing Distance	Output Energized	Output Type Capacity Response Time	Max Leakage Current	End or Side View❶	Connection Type	Catalog Number❷
12–24V DC ±10% Source: 20mA Receiver: 20mA	50mm (1.9in) to 7m (23.0ft)	Light/Dark Selectable	NPN Output: 100mA Stability: 50mA 0.5ms	0.5mA	End	2m 500V cable	42KC–T2LNGP–A2
					Side	4-pin pico QD	42KC–T2LNGP–P4
						2m 500V cable	42KC–T2LNTP–A2
					End	4-pin pico QD	42KC–T2LNTP–P4
12–24V DC ±10% Source: 20mA Receiver: 25mA			PNP Output: 100mA Stability: 50mA 0.5ms		End	2m 500V cable	42KC–T2LPGP–A2
					Side	4-pin pico QD	42KC–T2LPGP–P4
						2m 500V cable	42KC–T2LPTP–A2
					End	4-pin pico QD	42KC–T2LPTP–P4

❶ See page 1–240 for detailed dimensions.

❷ 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: 42KC–T2LNGP–A2 contains one 42KC–E2LNGP–A2 Light Source and one 42KC–R2LNGP–A2 Receiver. Light Sources and Receivers are not available separately.