

42KC

Miniature Rectangular Style



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 1-175
Connection Types	2m 500V cable, 3-pin DC pico QD
Supplied Accessories	Mounting bracket, screwdriver, reflector (retroreflective models)
Optional Accessories	Cordsets, mounting brackets (see page 7-1)
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 1-175
 Dimensions page 1-175

Sensing Modes

Polarized Retroreflective page 1-177
 Standard Diffuse page 1-178
 Transmitted Beam page 1-179

Accessories

Quick-Disconnect Cables page 7-1
 Mounting Assemblies page 1-375
 Reflectors, Reflective Tape page 1-386

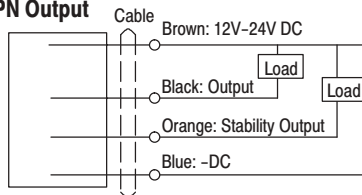
User Interface Panel

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

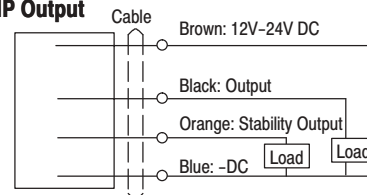
Wiring Diagrams

Cable Version

NPN Output



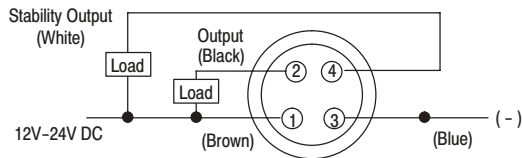
PNP Output



Pico Quick-Disconnect Version

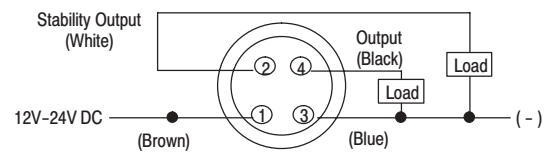
NPN Output

Face View Male Receptacle (Sensor)



PNP Output

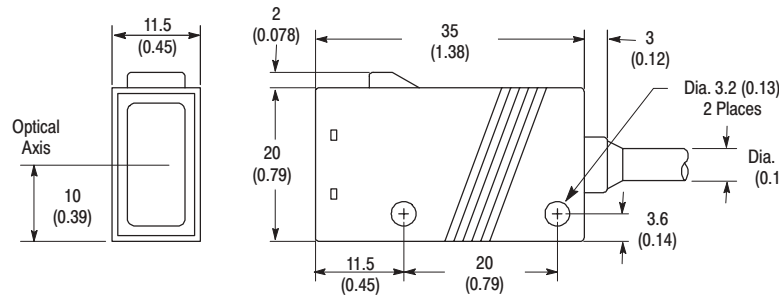
Face View Male Receptacle (Sensor)



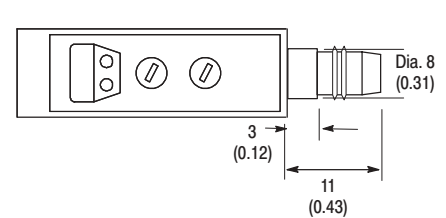
Note: Details regarding connection of Allen-Bradley Bulletin 42KC photoelectric sensors to Allen-Bradley Programmable Controllers can be found in publication 42-2.0.

Dimensions—mm (inches)

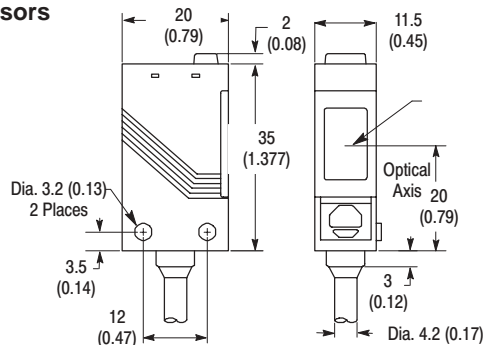
End View Sensors
Cable Version



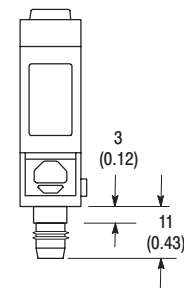
End View Sensors
Pico Quick-Disconnect Version



Side View Sensors
Cable Version



Side View Sensors
Pico Quick-Disconnect Version



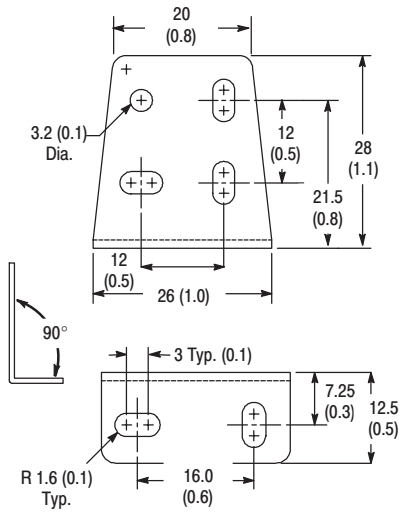
42KC

Miniature Rectangular Style

Dimensions—mm (inches) (continued)

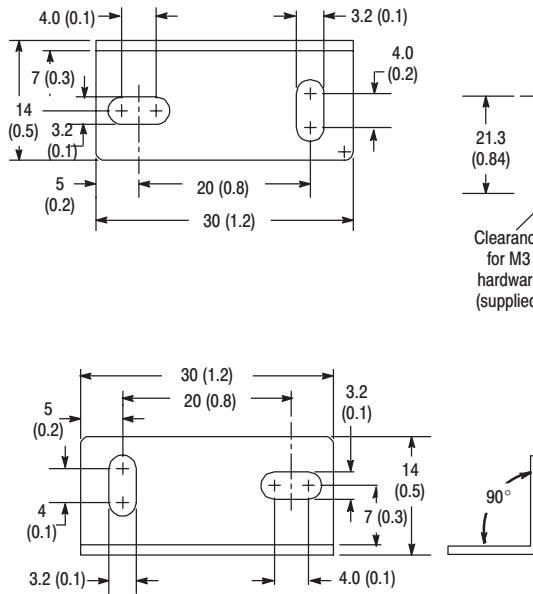
Side View Stainless Steel Mounting Bracket #60–2635

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



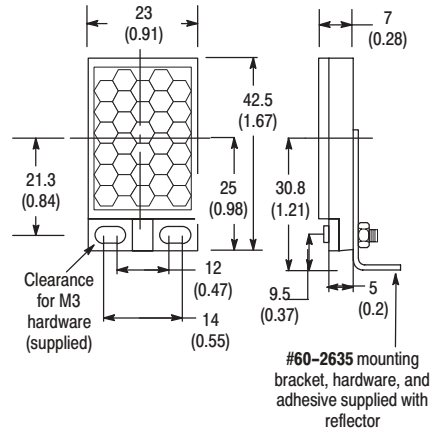
End View Stainless Steel Mounting Bracket #60–2634

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

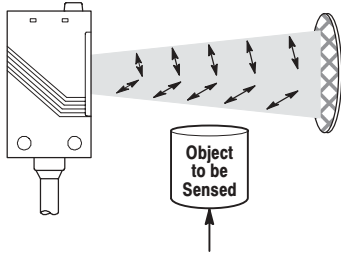


Reflector #92–93

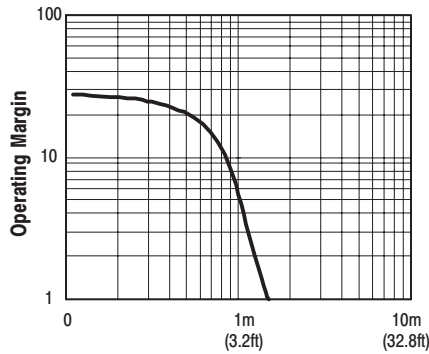
Supplied with all polarized retroreflective sensors.



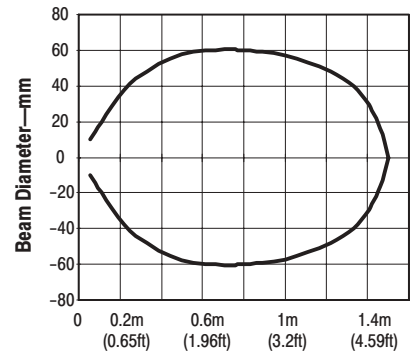
PHOTOSWITCH® Photoelectric Sensors
42KC Polarized Retroreflective
 Miniature Rectangular Style



Typical Response Curves



Beam Pattern



Specifications

Field of View	8°
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
Reflectors (included)	92-93

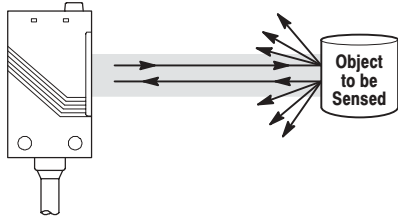
Product Selection

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 ±10% 30mA			NPN Output: 100mA Stability: 50mA 0.5ms		End	2m 500V cable	42KC-P2LNEM-A2
						4-pin pico QD	42KC-P2LNEM-P4
					Side	2m 500V cable	42KC-P2LNEM-A2
						4-pin pico QD	42KC-P2LNEM-P4
12-24V DC ±10% 35mA	50mm (1.9in) to 1.5m (4.9ft)	Light/Dark Selectable	PNP Output: 100mA Stability: 50mA 0.5ms	0.5mA	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			NPN Output: 100mA Stability: 50mA 0.5ms		Side	2m 500V cable	42KC-P2YNSM-A2
						4-pin pico QD	42KC-P2YNSM-P4

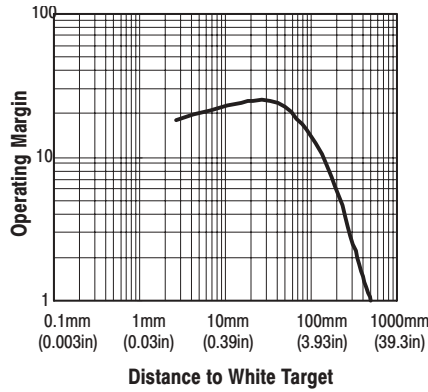
① See page 1-175 for detailed dimensions.

42KC Standard Diffuse

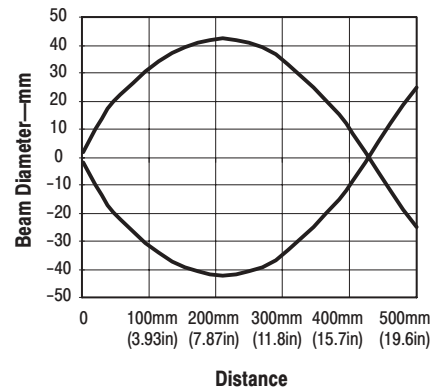
Miniature Rectangular Style



Typical Response Curves



Beam Pattern



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

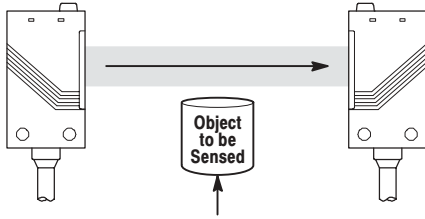
Product Selection

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	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
						4-pin pico QD	42KC-D2LNEK-P4
					Side	2m 500V cable	42KC-D2LNSK-A2
						4-pin pico QD	42KC-D2LNSK-P4
12-24V DC ±10% 35mA	3mm (0.12in) to 500mm (19.7in)	Light/Dark Selectable	PNP Output: 100mA Stability: 50mA 0.5ms	0.5mA	End	2m 500V cable	42KC-D2LPEK-A2
						4-pin pico QD	42KC-D2LPEK-P4
					Side	2m 500V cable	42KC-D2LPSK-A2
						4-pin pico QD	42KC-D2LPSK-P4

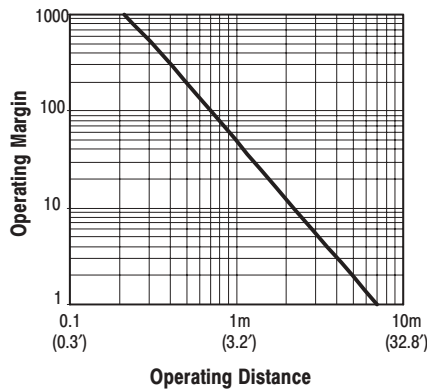
❶ See page 1-175 for detailed dimensions.

42KC Transmitted Beam

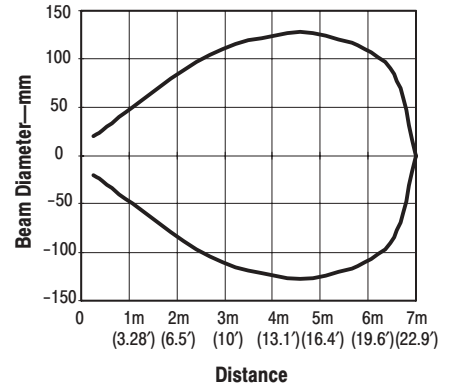
Miniature Rectangular Style



Typical Response Curves



Beam Pattern



Specifications

Field of View	10°
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

Product Selection

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 ^②
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-T2LNNGP-A2
						4-pin pico QD	42KC-T2LNNGP-P4
					Side	2m 500V cable	42KC-T2LNTP-A2
						4-pin pico QD	42KC-T2LNTP-P4
12-24V DC ±10% Source: 20mA Receiver: 25mA	50mm (1.9in) to 7m (23.0ft)	Light/Dark Selectable	PNP Output: 100mA Stability: 50mA 0.5ms	0.5mA	End	2m 500V cable	42KC-T2LPGP-A2
						4-pin pico QD	42KC-T2LPGP-P4
					Side	2m 500V cable	42KC-T2LPTP-A2
						4-pin pico QD	42KC-T2LPTP-P4

① See page 1-175 for detailed dimensions.

② 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-T2LNNGP-A2 contains one 42KC-E2LNNGP-A2 Light Source and one 42KC-R2LNNGP-A2 Receiver. Light Sources and Receivers are not available separately.