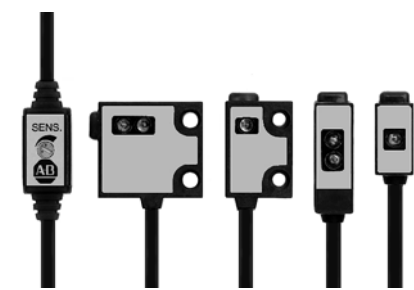


PHOTOSWITCH® Photoelectric Sensors
42KA

Ultra-Miniature Flat Pack



Features

- Subminiature package style
- Three sensing modes
- Models with and without sensitivity adjustment
- Highly visible LED Indicators
- NPN or PNP output models
- 2 m cable connection

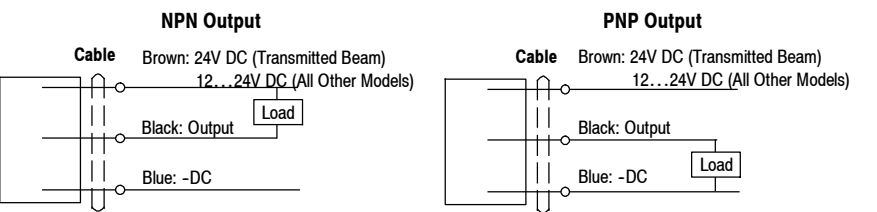
Specifications

Environmental	
Certifications	UL Listed, CSA Approved, and CE Marked for all applicable directives
Operating Environment	NEMA 1, IP40
Operating Temperature [C(F)]	-25...+55° (-13...+131°)
Vibration	10...55 Hz, 1 mm amplitude, meets or exceeds IEC 60068-2-6
Shock	30 g with 1 ms pulse duration, meets or exceeds IEC 60068-2-27
Relative Humidity	5...85%
Optical	
Sensing Modes	Diffuse, sharp cutoff, transmitted beam
Sensing Range	See Product Selection table on page 1-91
Field of View	See Product Selection table on page 1-91
Light Source	Visible red LED (660 nm)
LED Indicators	See User Interface below
Adjustments	See Product Selection table on page 1-91
Electrical	
Voltage	12...24V DC
Current Consumption	30 mA max
Sensor Protection	Reverse polarity for standard diffuse without adjustment, transient noise
Outputs	
Response Time	500 µS
Output Type	PNP or NPN by cat. no.
Output Mode	See Product Selection table on page 1-91
Output Current	80 mA @ 24V DC
Output Leakage Current	0.5 mA max
Mechanical	
Housing Material	Polyester
Lens Material	Polycarbonate
Connection Types	2 m cable

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

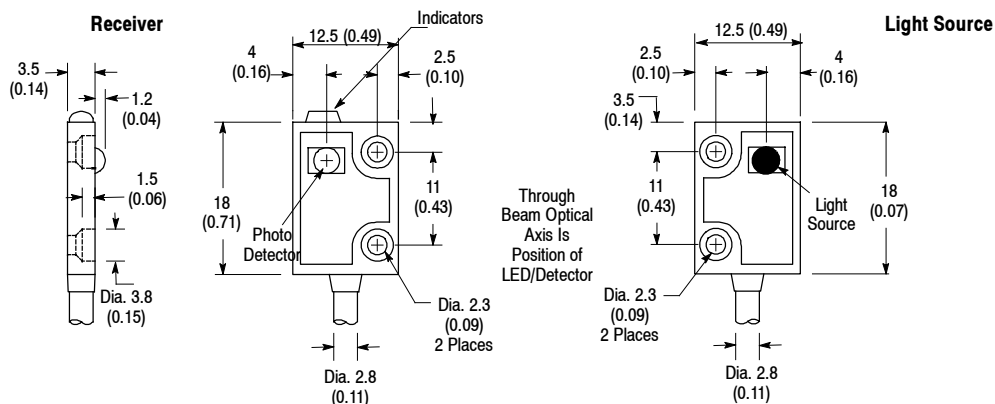
Wiring Diagrams



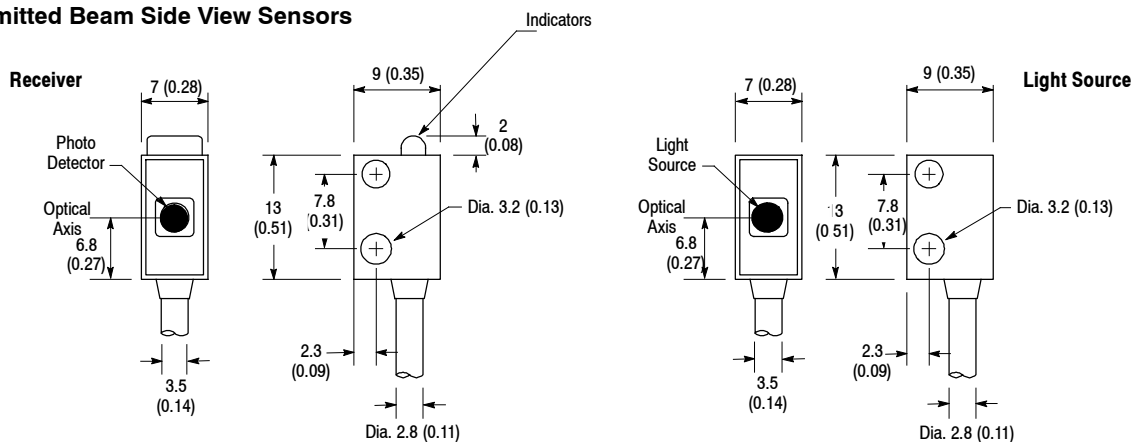
Note: Details regarding connection of Rockwell Automation Bulletin 42KA photoelectric sensors to Rockwell Automation Programmable Controllers can be found in publication 42-2.0.

Approximate Dimensions [mm (in.)]

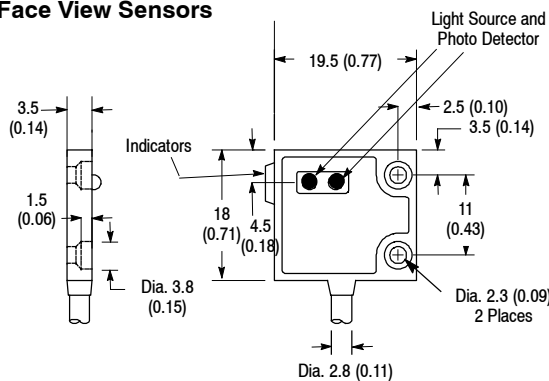
Transmitted Beam Face View Sensors



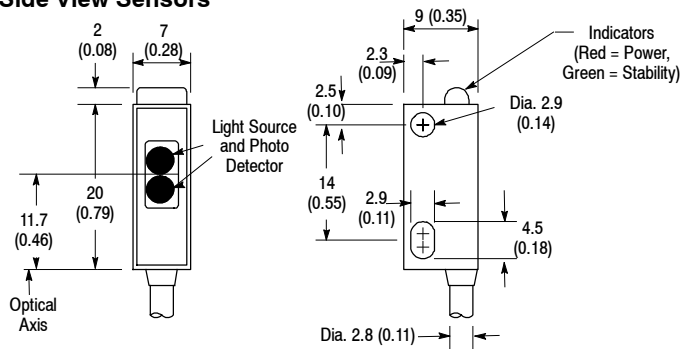
Transmitted Beam Side View Sensors



Face View Sensors

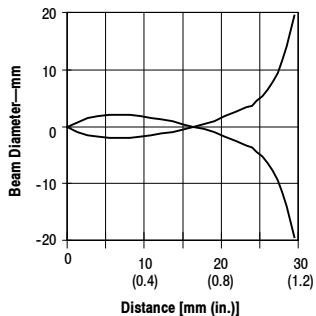
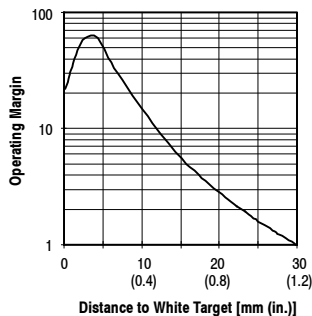


Side View Sensors



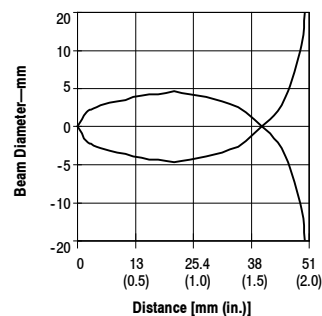
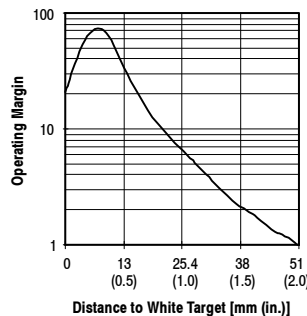
Typical Response Curve Beam Pattern

Standard Diffuse—30 mm

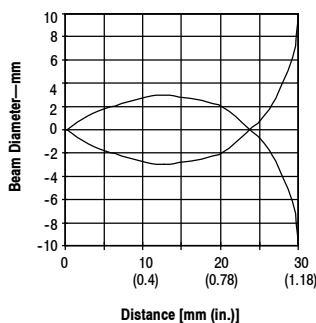
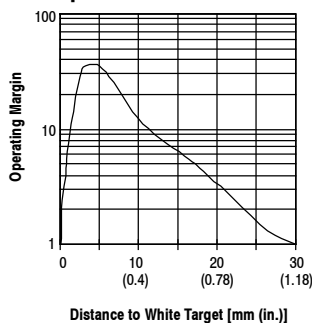


Typical Response Curve Beam Pattern

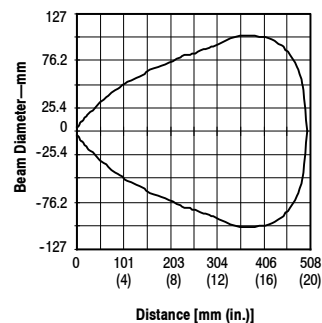
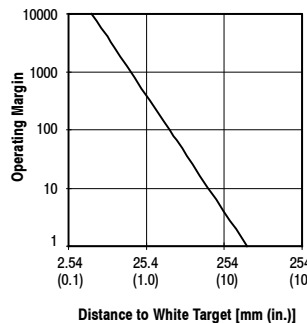
Standard Diffuse—50 mm



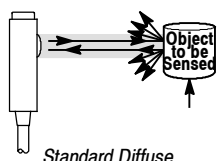
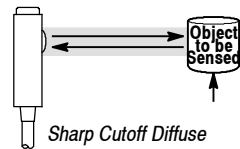
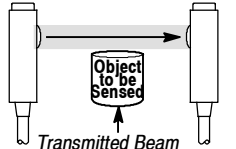
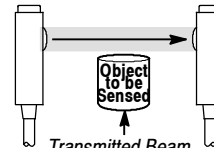
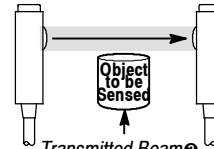
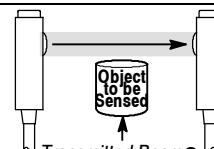
Sharp Cutoff Diffuse



Transmitted Beam



Product Selection

Sensing Mode	Operating Voltage Supply Current	Sensing Distance	Output Energ.	Output Type Capacity Response Time	Face or Side View ①	Sensitiv. Adjust.	Connection Type	Cat. No.
 Standard Diffuse Field of View: 18° Emitter LED: Visible red 660 nm Face or Side View: Face View	12...24V DC ±10% 20 mA	3...50 mm (0.12... 2.0 in.)	Light	NPN 80 mA 0.5 ms	Face	No	2 m 500V cable	42KA-D2JNHC-A2
	12...24V DC ±10% 29 mA			PNP 80 mA 0.5 ms				42KA-D2JPHC-A2
	12...24V DC ±10% 27 mA			NPN 80 mA 0.5 ms	Face	Yes		42KA-D2JNFC-A2
	12...24V DC ±10% 29 mA			PNP 80 mA 0.5 ms				42KA-D2JPFC-A2
 Sharp Cutoff Diffuse Field of View: 18° Emitter LED: Red 660 nm	12...24V DC ±10% 27 mA	3...30 mm (0.12... 1.2 in.)	Light Operate	NPN 80 mA 0.5 ms	Side	Yes	2 m 500V cable	42KA-S2JNSA-A2
	12...24V DC ±10% 29 mA			PNP 80 mA 0.5 ms				42KA-S2JPASA-A2
 Transmitted Beam Field of View: 40° Emitter LED: Red 660 nm	24V DC ±10% Source: 15 mA Receiver: 15 mA	3...500 mm (0.12... 19.7 in.)	Dark	NPN 80 mA 0.5 ms	Face	No	2 m 500V cable	42KA-T2KNHK-A2
 Transmitted Beam Field of View: 50° Emitter LED: Red 660 nm					Side			42KA-T2KNTK-A2
 Transmitted Beam Field of View: 40° Emitter LED: Red 660 nm	24V DC ±10% Source: 15 mA Receiver: 22 mA			Face	Yes	42KA-T2KNFK-A2		
				 Transmitted Beam Field of View: 50° Emitter LED: Red 660 nm	24V DC ±10% Source: 15 mA Receiver: 17 mA	Face		No
 Transmitted Beam Field of View: 50° Emitter LED: Red 660 nm	Side					42KA-T2KPTK-A2		
 Transmitted Beam Field of View: 50° Emitter LED: Red 660 nm	24V DC ±10% Source: 15 mA Receiver: 24 mA			Face	Yes	42KA-T2KPFK-A2		

① See page 1-89 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 cat. no. with "E." To identify the receiver, replace the "T" in the cat. no. 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.