

Installation Instructions

PHOTOSWITCH® Bulletin 42KA Subminiature Flat Pack

IMPORTANT: SAVE THESE INSTRUCTIONS FOR FUTURE USE.

Description

Extremely small Bulletin 42KA self contained Subminiature Flat Pack photoelectric sensors are useful in short range sensing applications where compact size is a primary concern. Their fast 500µs response time and compact size make them a practical, lower-cost alternative to separate sensors and fiber optic cables in many applications.

Most Bulletin 42KA photoelectric sensors are available with or without a sensitivity adjustment. Models without a sensitivity adjustment are useful in applications where maximum range is always required. Adjustable models feature a unique cable mounted sensitivity adjustment to allow for the smallest possible sensor size.

Each Bulletin 42KA comes complete with mounting hardware.

General Specifications

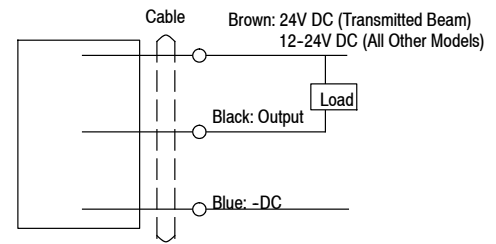
Relative Humidity	85% max
Ambient Temperature	-13°F to 131°F (-25°C to +55°C)
Lens Material	Polycarbonate, except 42KA-T2KNTK-A2, 42KA-T2KPTK-A2, 42KA-S2JPJA-A2 and 42KA-S2JNSA-A2 have vinyl chloride lenses
Housing Material	Polyester
Operating Environment	NEMA 1 and IP40
Approvals	UL listed, CSA certified, class 2 source required, CE marked for applicable directives
Weight	40 grams max (1.4oz)

Features

- Dual LED indicators: output energized (red), alignment (green)
- Models with in-line sensitivity adjustment potentiometer
- Reverse polarity protection (Standard Diffuse units without sensitivity adjustment only: 42KA-D2JNHC-A2, 42KA-D2JNHA-A2, 42KA-D2JPHC-A2, 42KA-D2JPHA-A2)
- Transient noise protection

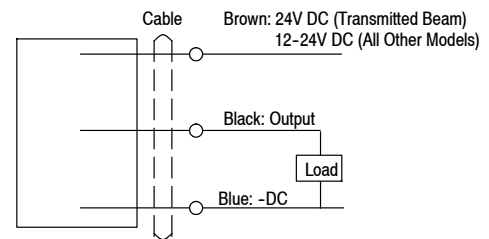
Wiring

NPN Output



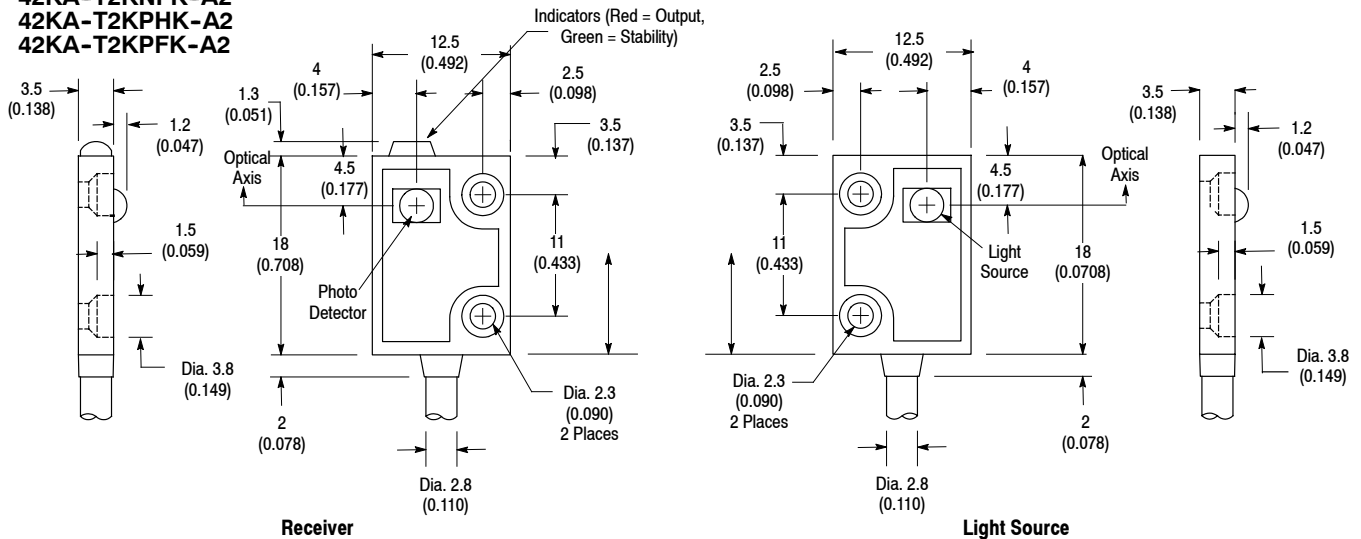
Note: Details regarding connection of Allen-Bradley Bulletin 42KA Photoelectric sensors to Allen-Bradley programmable controllers can be found in Publication 42BCFK-70.

PNP Output



Dimensions—mm (inches)

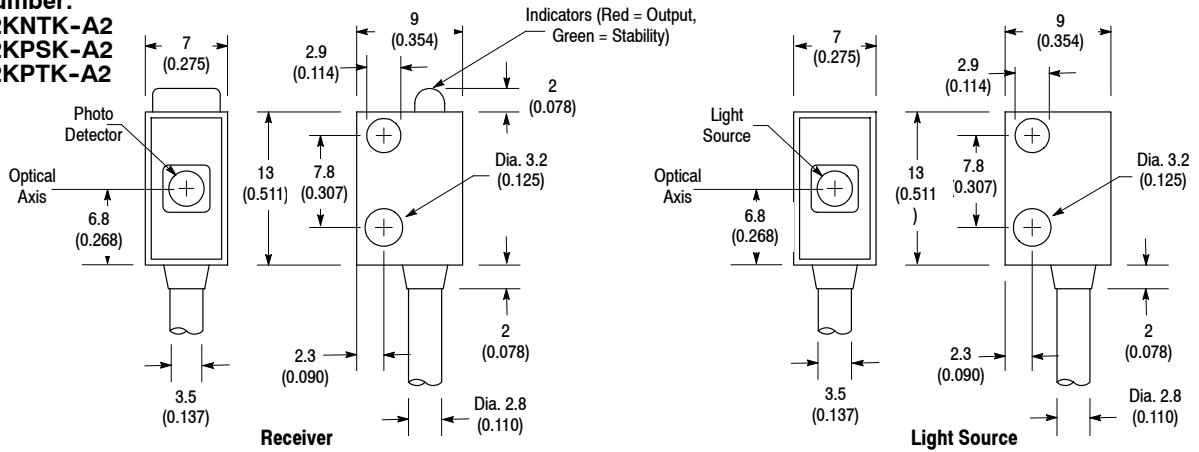
Catalog Number:
42KA-T2KNHK-A2
42KA-T2KNFK-A2
42KA-T2KPHK-A2
42KA-T2KPFK-A2



Dimensions—mm (inches) (continued)

Catalog Number:

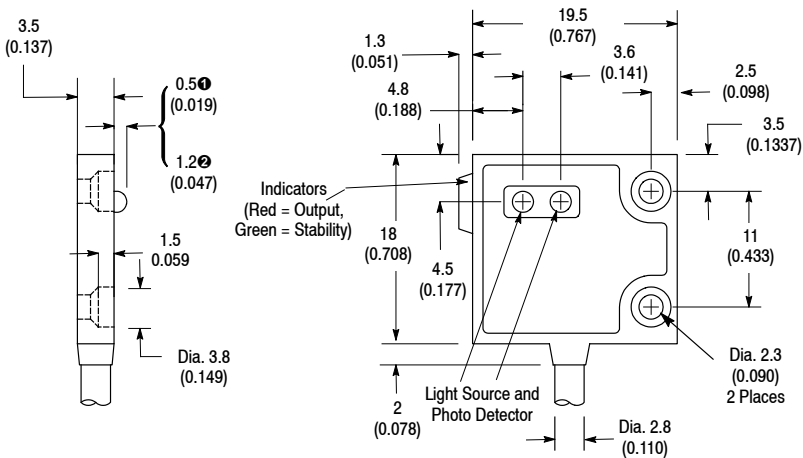
- 42KA-T2KN TK-A2
- 42KA-T2KPSK-A2
- 42KA-T2KPTK-A2



Catalog Number:

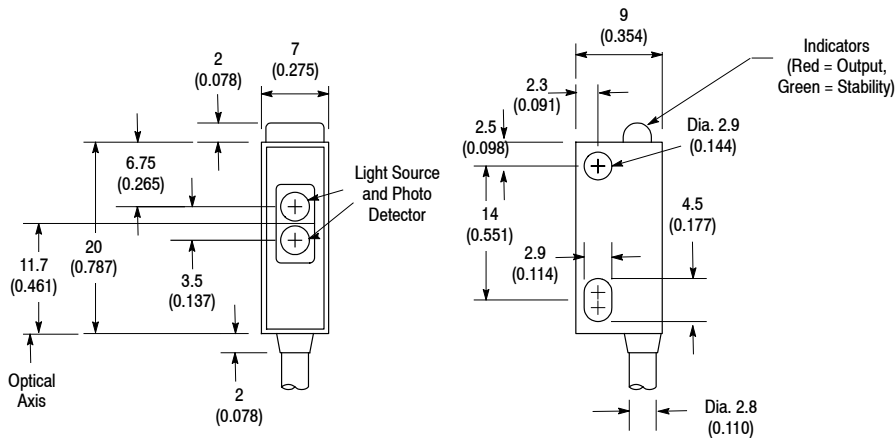
- 42KA-D2JNHA-A2
- 42KA-D2JPHA-A2
- 42KA-D2JNFA-A2
- 42KA-D2JPFA-A2

- 42KA-D2JNHC-A2
- 42KA-D2JNFC-A2
- 42KA-D2JPHC-A2
- 42KA-D2JPFC-A2



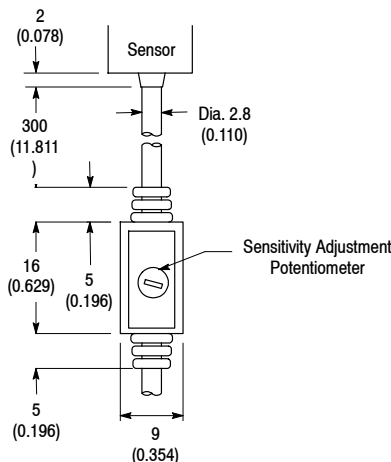
Catalog Number:

- 42KA-S2JNSA-A2
- 42KA-S2JPFA-A2



Sensitivity Adjustment for:

- 42KA-T2KNFK-A2
- 42KA-T2KPSK-A2
- 42KA-D2JNFC-A2
- 42KA-S2JNSA-A2
- 42KA-T2KPFK-A2
- 42KA-D2JPFC-A2
- 42KA-S2JPFA-A2
- 42KA-D2JNFA-A2
- 42KA-D2JPFA-A2



	Standard Diffuse	Sharp Cutoff Diffuse	Transmitted Beam
Field of View	42KA-D2JNHA-A2: 30° 42KA-D2JPHA-A2: 30° 42KA-D2JNFA-A2: 30° 42KA-D2JPFA-A2: 30° 42KA-D2JNHC-A2: 18° 42KA-D2JNFC-A2: 18° 42KA-D2JPHC-A2: 18° 42KA-D2JPFC-A2: 18°	18°	42KA-T2KNHK: 40° 42KA-T2KPHK: 40° 42KA-T2KNTK: 50° 42KA-T2KPTK: 50° 42KA-T2KNFK: 50° 42KA-T2KPFK: 50° 42KA-T2KPSK: 50°
Transmitting LED	Visible red 660nm	Visible red 660nm	Visible red, 660nm
Connections	3-conductor 500V PVC jacketed cable 6.5ft (2m)	3-conductor 500V PVC jacketed cable 6.5ft (2m)	Source: 2-conductor 500V PVC jacketed cable 6.5ft (2m) Receiver: 3-conductor 500V PVC jacketed cable 6.5ft (2m)
1:1 Margin	3cm (1.18in) 5cm (1.96in)	42KA-D2JNHA-A2 42KA-D2JPHA-A2 42KA-D2JNFA-A2 42KA-D2JPFA-A2 42KA-D2JNHC-A2 42KA-D2JNFC-A2 42KA-D2JPHC-A2 42KA-D2JPFC-A2	0.5cm-3cm (0.19in-1.18in) 50cm (19.68in)

Standard Diffuse

Operating Voltage	Supply Current	Output Energized	Output Characteristics			Response Time	Size	Catalog Number
			Type	Max Load Current	Max Leakage Current			Cable
12-24V DC ±10%	20mA	Light	NPN	80mA	0.5mA	0.5ms	3.5mm x 18mm x 19.5mm	42KA-D2JNHA-A2
			PNP					42KA-D2JNHC-A2
			NPN					42KA-D2JPHA-A2
	27mA		PNP					42KA-D2JPHC-A2
			NPN					42KA-D2JNFA-A2①
			PNP					42KA-D2JNFC-A2①
							42KA-D2JPFA-A2①	
							42KA-D2JPFC-A2①	

Sharp Cutoff Diffuse

Operating Voltage	Supply Current	Output Energized	Output Characteristics			Response Time	Size	Catalog Number
			Type	Max Load Current	Max Leakage Current			Cable
12-24V DC ±10%	27mA	Light	NPN	80mA	0.5mA	0.5ms	7mm x 9mm x 20mm	42KA-S2JNSA-A2①
			PNP					42KA-S2JPSA-A2①

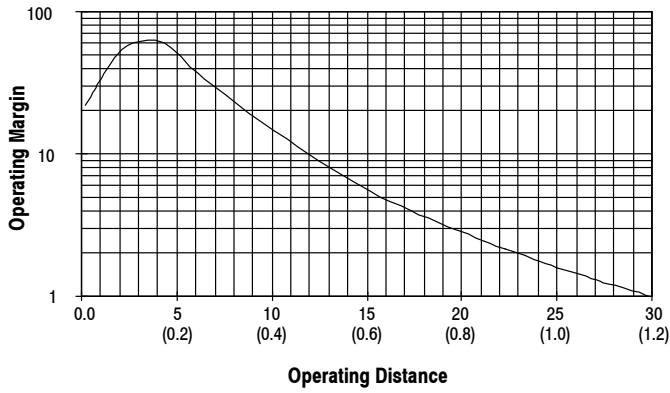
Transmitted Beam

Operating Voltage	Supply Current	Output Energized	Output Characteristics			Response Time	Size	Catalog Number
			Type	Max Load Current	Max Leakage Current			Cable
24V DC ±10%	Source: 15mA Receiver: 15mA	Dark	NPN	80mA	0.5mA	0.5ms	3.5mm x 12.5mm x 18mm	42KA-T2KNHK-A2
			PNP					42KA-T2KPHK-A2
			NPN				7mm x 9mm x 13mm	42KA-T2KNTK-A2
	PNP		42KA-T2KPTK-A2					
	PNP		42KA-T2KPSK-A2①					
	Source: 15mA Receiver: 22mA		NPN				3.5mm x 12.5mm x 18mm	42KA-T2KNFK-A2①
PNP		42KA-T2KPFK-A2①						

① Includes sensitivity adjustment

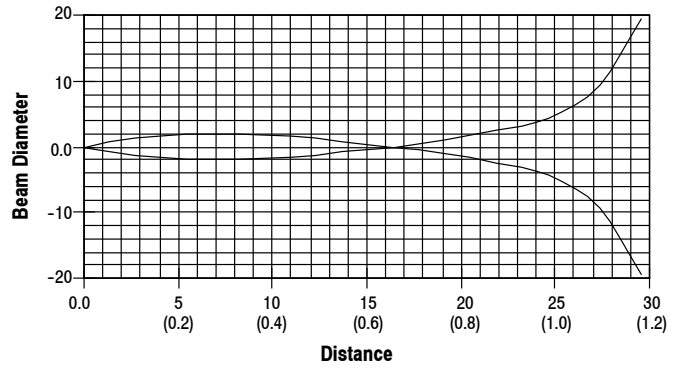
Response Curves—mm (inches)

Standard Diffuse: 30mm

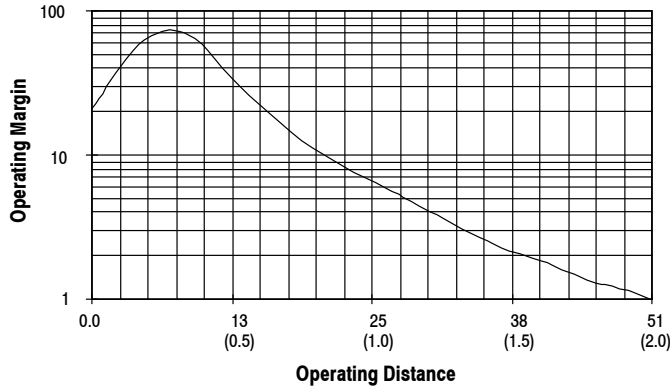


Beam Patterns—mm (inches)

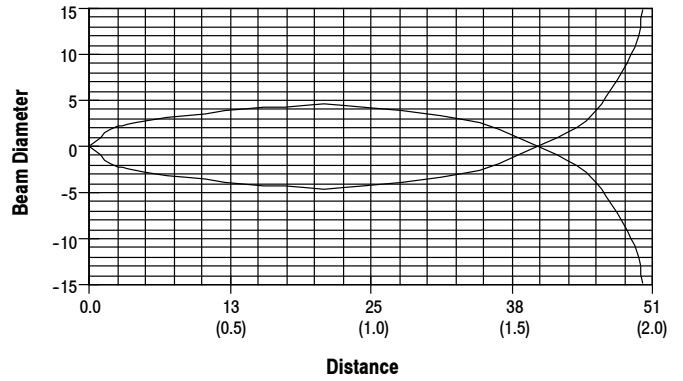
Standard Diffuse: 30mm



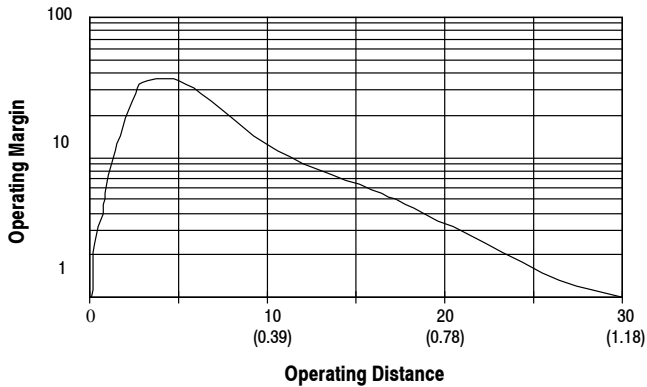
Standard Diffuse: 50mm



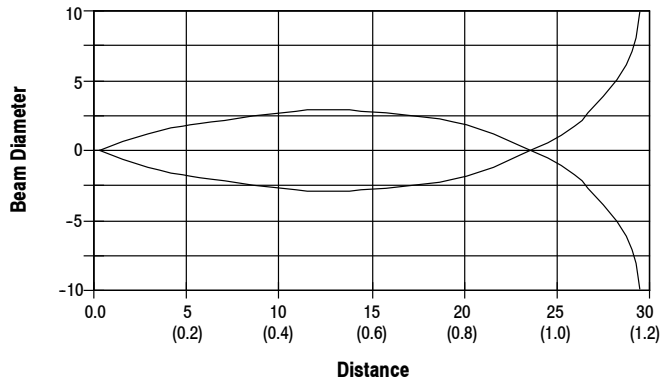
Standard Diffuse: 50mm



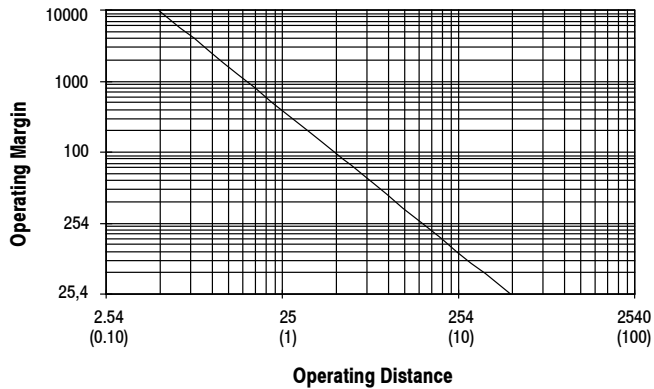
Sharp Cutoff Diffuse



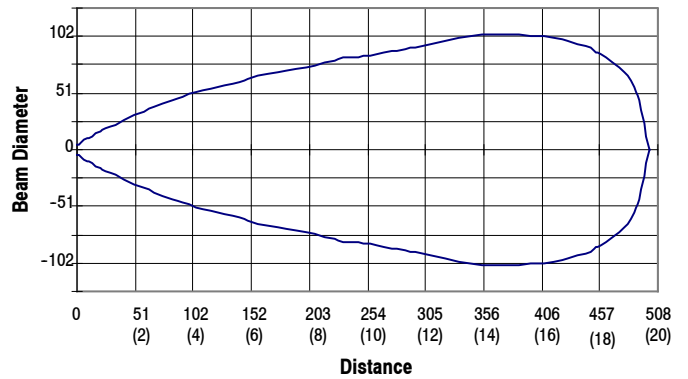
Sharp Cutoff Diffuse



Transmitted Beam



Transmitted Beam



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