



Photoelectric Reflectors

Bulletin 92

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Round Reflectors

Product Selection

Diameter [mm (in.)]	Cube Style	Mounting	Temperature	Cat. No.
76.2 (3)	Corner cube	Through-hole	≤65 °C (149 °F)	92-39
76.2 (3)				92-89
31.75 (1.25)		Adhesive		92-47
31.75 (1.25)		M5 screw		92-105
31.75 (1.25)		Snap-fit		92-106
31.75 (1.25)	Micro cube	Adhesive		92-114
31.75 (1.25)		Snap-fit		92-115
31.75 (1.25)		M5 screw		92-116
19.05 (0.75)	Corner cube	Adhesive		92-46
57.15 (2.25)		Through-hole (x2)		92-90

Specifications

Description	Suitable for Polarized Sensor	Cube Style	Optimum Range ⁽¹⁾	Recommended Application	Cat. No.
76 mm (3 in.) diameter with center mount hole. (Plastic back) (ABS)	✓	Corner cube	150 mm...2 m (5.9...78.7 in.)	- General-purpose applications ≤65 °C (149 °F)	92-39
16 mm (0.625 in.) diameter	✓		51...150 mm (2...5.9 in.)		92-46 ⁽²⁾
32 mm (1.25 in.) diameter	✓		150 mm...1.5 m (5.9...59.1 in.)		92-47 ⁽²⁾
76 mm (3 in.) diameter with center mount hole. (Aluminum back)	✓		150 mm...2 m (5.9...78.7 in.)		92-89
86 mm (3 in.) diameter with mounting tabs.	✓		51 mm...1.5 m (2...59.1 in.)	- ClearSight™ photoelectric sensors - General-purpose applications ≤65 °C (149 °F)	92-90
32 mm (1.25 in.) diameter with M5 screw	✓			- General-purpose applications ≤65 °C (149 °F)	92-105
32 mm (1.25 in.) diameter with snap-fit post	✓				92-106
34 mm (1.35 in.) diameter	✓	Micro cube	—	- Laser-based photoelectric sensors (example, LaserSight™ sensors) - General-purpose applications ≤65 °C (149 °F)	92-114 ⁽²⁾
34 mm (1.35 in.) diameter with snap-fit post	✓				92-115
34 mm (1.35 in.) diameter with threaded post	✓				92-116

(1) Optimum range varies with sensor optics. See [Relative Reflectivity on page 9](#) for reflectivity performance.

(2) Can be mounted with adhesive tape (not included).

Approximate Dimensions

Figure 1 - Cat. Nos. 92-39 and 92-89 [mm (in.)]

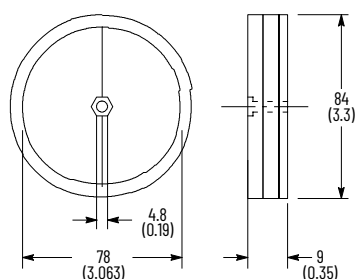


Figure 2 - Cat. No. 92-46 [mm (in.)]

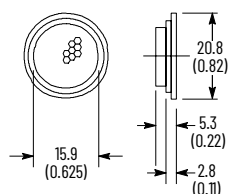


Figure 3 - Cat. No. 92-47 [mm (in.)]

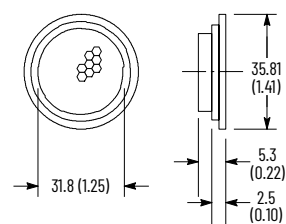


Figure 4 - Cat. No. 92-90 [mm (in.)]

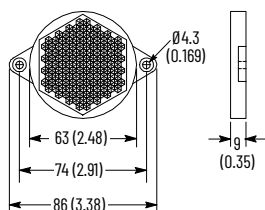


Figure 5 - Cat. No. 92-105 [mm (in.)]

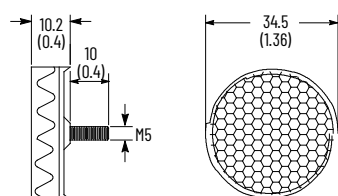


Figure 6 - Cat. No. 92-106 [mm (in.)]

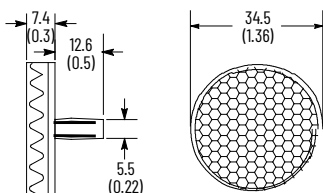


Figure 7 - Cat. No. 92-114 [mm (in.)]

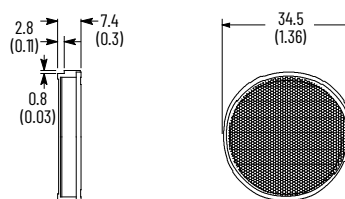


Figure 8 - Cat. No. 92-115 [mm (in.)]

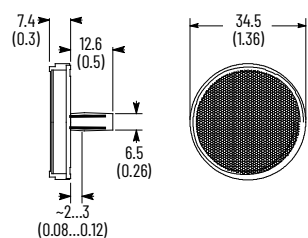
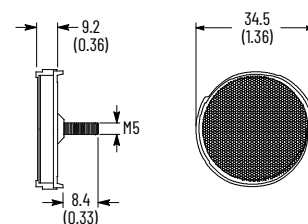


Figure 9 - Cat. No. 92-116 [mm (in.)]



Reflective Tape

Product Selection

Length x Height [mm (in.)]	Cube Style	Mounting	Temperature	Cat. No.
50 x 50 (2 x 2) (16 per sheet)	Glass bead	Adhesive	<121 °C (250 °F)	92-97
76 x 76 (3 x 3) (9 per sheet)				92-98
100 x 100 (3.94 x 3.94)			<60 °C (140 °F)	92-104
			<480 °C (900 °F)	92-91
2510 x 25 (98.8 x 0.98) (1 roll)			≤65 °C (149 °F)	92-99
			<79 °C (175 °F)	92-100

Specifications

Description	Suitable for Polarized Sensor	Cube Style	Optimum Range ⁽¹⁾	Recommended Application	Cat. No.
100 x 100 mm (4 x 4 in.) square	—	Glass bead	150 mm...1.5 m (5.9...59.1 in.)	• High-temperature applications • ≤480 °C (900 °F)	92-91 ⁽²⁾
51 mm (2 in.) square, sheet of 16 pieces with adhesive backing	✓			• General-purpose applications • Polarized retroreflective sensors • ≤121 °C (250 °F)	92-97
76 mm (2.75 in.) square, sheet of 9 pieces with adhesive backing	✓			—	92-98
Roll of 25 x 2540 mm (1 x 100 in.)	✓		150 mm...1 m (5.9...39.4 in.)	• General-purpose applications • ≤65 °C (150 °F)	92-99
25 x 2540 mm (1 x 100 in.)	—			• General-purpose applications • ≤79 °C (175 °F)	92-100
215.9 x 279.4 mm (8.5 x 11 in.) sheet with adhesive backing	✓		200 mm...1.5 m (7.9...59.1 in.)	• General-purpose applications • Polarized retroreflective sensors • ≤60 °C (140 °F)	92-104

(1) Optimum range varies with sensor optics. See [Relative Reflectivity on page 9](#) for reflectivity performance.

(2) Not for use with polarized retroreflective sensors.

Approximate Dimensions

Figure 10 - Cat. No. 92-91 [mm (in.)]

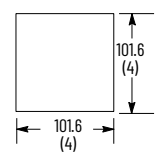


Figure 11 - Cat. No. 92-97 [mm (in.)]

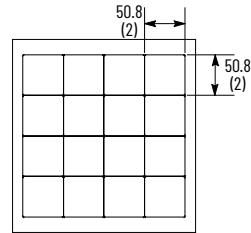


Figure 12 - Cat. No. 92-98 [mm (in.)]

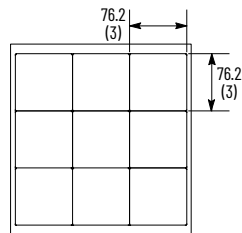


Figure 13 - Cat. Nos. 92-99 and 92-100 [mm (in.)]

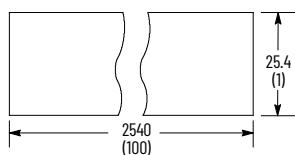
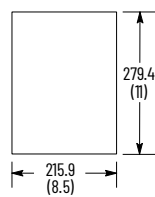


Figure 14 - Cat. No. 92-104 [mm (in.)]



Rectangular Reflectors

Product Selection

Length x Height [mm (in.)]	Cube Style	Mounting	Temperature	Cat. No.
40.5 x 60 (1.59 x 2.36)	Corner cube	Through-hole (x2)	<55 °C (131 °F)	92-113
50.6 x 101 (1.99 x 3.98)		Adhesive	<65 °C (149 °F)	92-119
18.5 x 120 (0.73 x 4.72)		Through-hole (x2)		92-107
55 x 23.5 (2.17 x 0.93)			<55 °C (131 °F)	92-112
72.5 x 19 (2.85 x 0.75)			<55 °C (131 °F)	92-111
42 x 22 (1.65 x 0.87)				92-93

Specifications

Description	Suitable for Polarized Sensor	Cube Style	Optimum Range ⁽¹⁾	Recommended Application	Cat. No.
23 x 42.5 mm (0.91 x 1.67 in.) rectangular with mounting tabs and bracket. Right-angle bracket and adhesive tape	✓	Corner cube	51...150 mm (2...5.9 in.)	- General-purpose applications ≤55 °C (131 °F)	92-93
18.5 x 120 mm (0.73 x 4.72 in.) rectangular with mounting tabs	✓		51 mm...1.5 m (2...59.1 in.)	- General-purpose applications ≤65 °C (149 °F)	92-107
19 x 72.5 mm (0.75 x 2.85 in.) rectangular with mounting tabs	✓		—	- General-purpose applications ≤55 °C (131 °F)	92-111
23.5 x 55 mm (0.924 x 2.17 in.) rectangular with mounting tabs	✓			- General-purpose applications ≤55 °C (131 °F)	92-112
40.5 x 60 mm (1.6 x 2.36 in.) rectangular with mounting tabs	✓			- General-purpose applications ≤55 °C (131 °F)	92-113
51 x 101 mm (2 x 4 in.) rectangular with adhesive backing	✓			- General-purpose applications ≤65 °C (149 °F)	92-119

(1) Optimum range varies with sensor optics. See [Relative Reflectivity on page 9](#) for reflectivity performance.

Approximate Dimensions

Figure 15 - Cat. No. 92-93 [mm (in.)]

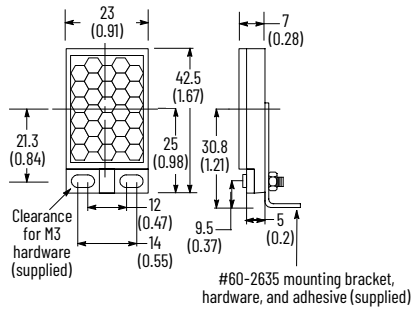


Figure 16 - Cat. No. 92-107 [mm (in.)]

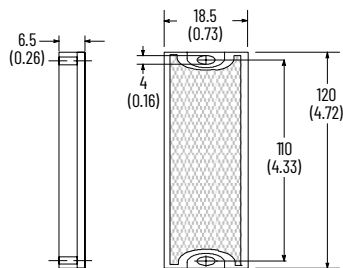


Figure 17 - Cat. No. 92-111 [mm (in.)]

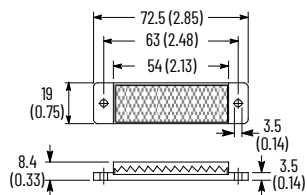


Figure 18 - Cat. No. 92-112 [mm (in.)]

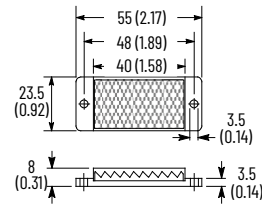


Figure 19 - Cat. No. 92-113 [mm (in.)]

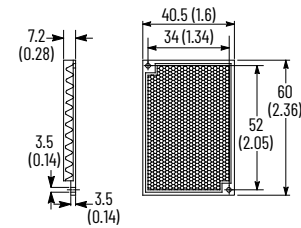
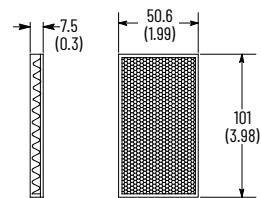


Figure 20 - Cat. No. 92-119 [mm (in.)]



Square Reflectors

Product Selection

Length x Height [mm (in.)]	Cube Style	Mounting	Temperature	Cat. No.
100 x 100 (3.94 x 3.94)	Corner cube	Through-hole (x2)	65 °C (149 °F)	92-108
51.5 x 61 (2.08 x 2.40)				92-109
40 x 60 (1.57 x 2.36)				92-117
51 x 60.7 (2.01 x 2.39)	Micro cube			92-118

Specifications

Description	Suitable for Polarized Sensor	Cube Style	Optimum Range ⁽¹⁾	Recommended Application	Cat. No.
100 x 100 mm (4 x 4 in.) square with mounting tabs	✓	Corner cube	150 mm...3 m (5.9...118.1 in.)	• General-purpose applications • ≤65 °C (149 °F)	92-108
51 x 61 mm (2 x 2.5 in.) rectangular with mounting tabs	✓	Corner cube	51 mm...3 m (2...118.1 in.)	• General-purpose applications • ≤65 °C (149 °F)	92-109
40.5 x 60 mm (1.6 x 2.36 in.) rectangular with mounting tabs	✓	Micro cube	—	• Laser-based photoelectric sensors (example, LaserSight sensors) • General-purpose applications • ≤55 °C (131 °F)	92-117
51 x 61 mm (2 x 2.5 in.) rectangular with mounting tabs	✓	Micro cube	—	• Laser-based photoelectric sensors (example, LaserSight sensors) • General-purpose applications • ≤65 °C (149 °F)	92-118

(1) Optimum range varies with sensor optics. See [Relative Reflectivity on page 9](#) for reflectivity performance.

Approximate Dimensions

Figure 21 - Cat. No. 92-108 [mm (in.)]

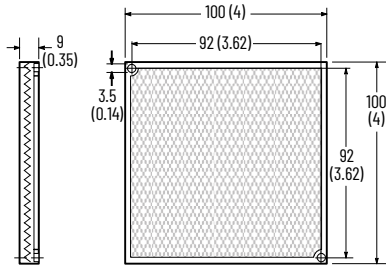


Figure 22 - Cat. No. 92-109 [mm (in.)]

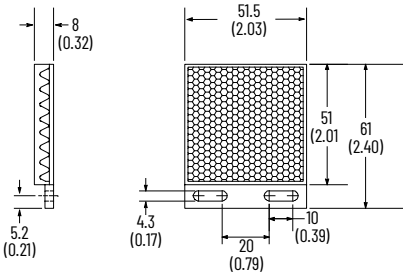


Figure 23 - Cat. No. 92-117 [mm (in.)]

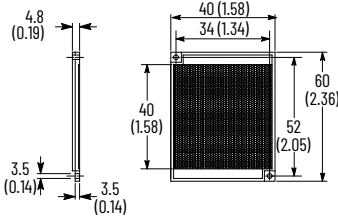
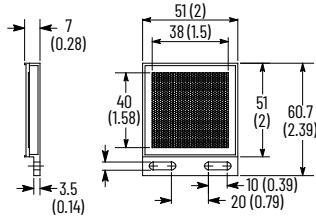


Figure 24 - Cat. No. 92-118 [mm (in.)]



Relative Reflectivity

Reflectivity varies with distance and with sensor optics. The following table can be used as a comparison between reflectors. The numbers represent a reflectivity at a given range by a class of sensors relative to the standard 92-39 3-in. round reflector.

The classes of sensors that are shown represent optic styles. The standard-size optic includes the Series 9000™, Series 10000, Series 5000, and Series 4000 sensors.

The miniature optics are used in the smaller sensor families, such as RightSight™ sensors, MiniSight™ sensors, Series 5000, Series 6000, and Series 7000 sensors.

IMPORTANT Some variation can be seen across the reflector. Data was measured with reflector rotating to normalize reflectance.

Reflector		Standard Polarized Sensors			Miniature Polarized Sensors			Laser-based Sensors	
		Series 10000, 9000, 5000, and 4000			RightSight, MiniSight, Series 6000, 7000, and 42xx			LaserSight	
Cat. No.	Description	3 m (9.8 ft)	1.5 m (4.9 ft)	0.61 m (2 ft)	450 mm (17.7 in.)	200 mm (7.9 in.)	100 mm (3.9 in.)	15.2 m (49.9 ft)	3.05 m (10 ft)
92-39, 92-89	Reflector, 3 in. round	100	100	100	100	100	100	100	100
92-46	Reflector, 3/4 in. round	—	—	50	50	40	25	—	100
92-47	Reflector, 1 1/4 in. round	—	40	100	100	80	30	—	90
92-90	Reflector, 2 in. hexagon	70	150	150	350	150	200	130	100
92-91	Reflective tape, high temperature	—	—	—	—	—	—	—	—
92-93	Reflector, 3/4 x 1.5 in. rectangular	—	—	50	50	50	25	—	100
92-97	Reflector, 2 in. ²	—	90	150	200	80	50	—	80
92-98	Reflector, 2 3/4 in. ²	—	100	150	200	80	50	—	70
92-99	Reflective tape, polarized	—	40	70	100	50	30	—	—
92-100	Reflective tape, nonpolarized	—	—	—	—	—	—	—	—
92-104	Reflective tape, 8.5 x 11 in.	25	50	50	70	30	40	—	70
92-105	Reflector, 1 1/4 in. round	—	40	75	100	120	200	70	90
92-106	Reflector, 1 1/4 in. round	—	40	75	100	120	200	70	90
92-107	Reflector, 3/4 x 4 3/4 in. rectangular	—	50	100	100	60	60	—	110
92-108	Reflector, 4 in. ² square	250	150	100	120	90	150	—	100
92-109	Reflector, 2 in. ² square	100	150	100	100	90	150	150	110
92-111	Reflector, 2 x 1, rectangular	20	50	90	100	60	100	—	—
92-112	Reflector, 2.8 x 3/4 in. rectangular	20	60	100	100	60	110	—	100
92-113	Reflector, 1.6 x 2 1/4 in. rectangular	90	115	50	90	50	170	210	110
92-114	Reflector, 1 1/4 in. round	20	70	70	90	20	—	110	110
92-115	Reflector, 1 1/4 in. round	20	70	70	90	20	—	110	110
92-116	Reflector, 1 1/4 in. round	20	70	70	90	20	—	110	110
92-117	Reflector, 1 1/2 x 2 1/4 in. rectangular	30	130	140	200	60	50	30	100
92-118	Reflector, 2 x 2 rectangular	80	70	50	50	30	—	260	90

Mounting Brackets for Reflectors

Description	Used with	Cat. No.
Right-angle reflector bracket set for mounting up to 3-in. diameter reflectors.	92-39	60-2717
	92-46	
	92-47	
	92-89	
	92-105	
	92-106	
Reflector vertical height adjustment bracket for mounting up to 3-in. diameter reflectors.	92-39	60-2718 (50.8 x 203.2 mm [2 x 8 in.]) 60-2719 (50.8 x 254 mm [2 x 10 in.]) 60-2720 (50.8 x 304.8 mm [2 x 12 in.])
	92-46	
	92-47	
	92-89	
	92-105	
	92-106	
Reflector bracket provides both vertical and horizontal height adjustment. Bracket comes with 3-in. reflector (Cat. No. 92-39).	92-39	60-2685
	92-46	
	92-47	
	92-89	
	92-105	
	92-106	
Mounting bracket with reflector (Cat. No. 92-47) mounted at right angle	92-47	60-2692
Right-angle mounting bracket for both reflectors and fiber-optic cables	92-47	60-2696
	92-46	
	92-105	
	92-106	

Approximate Dimensions

Figure 25 - Cat. No. 60-2717

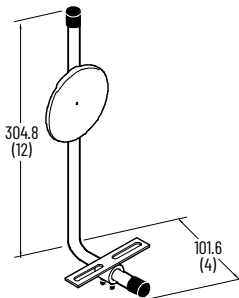


Figure 26 - Cat. Nos. 60-2718, 60-2719, and 60-2720

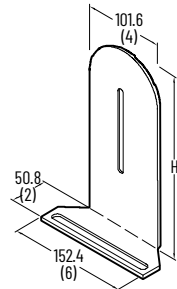


Figure 27 - Cat. No. 60-2685

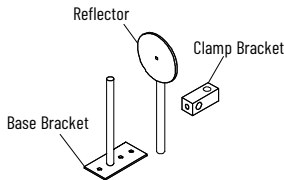


Figure 28 - Cat. No. 60-2692

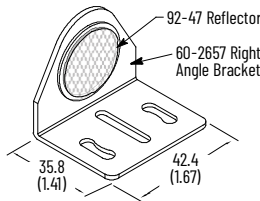
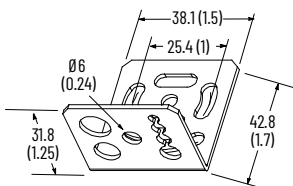


Figure 29 - Cat. No. 60-2696



Notes:

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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