

Installation Instructions

Original Instructions

RightSight S18 General Purpose Photoelectric Sensors

Catalog Numbers 42EA-B2MEB1-xx, 42EA-B2MEB2-xx, 42EA-D1MEA1-xx, 42EA-E1EZB1-xx, 42EA-P2MEA1-xx, 42EA-R1MEA1-xx

Description

The Allen-Bradley® RightSight™ S18 family of photoelectric sensors offers a wide range of sensing modes, an adjustment knob that simplifies sensitivity adjustment, and push-pull (PNP and NPN) outputs for maximum application flexibility.

The RightSight offers an industry standard 18 mm (0.71 in.) housing and 25.4 mm (1 in.) for fast mounting and replacement.

Features

- 360° highly visible operation status indicators
- A visible light source is offered on select models for ease of alignment
- Industry standard 25.4 mm (1 in.) side mounting holes
- 4-in-1 outputs offer PNP and NPN outputs, light operate, and dark operate
- Input to disable the light source on the transmitted beam emitter
- IP67 rated enclosure

Status Indicators and User Interface

Figure 1 - Diffuse, Polarized Retroreflective, and Transmitted Beam Receiver Models

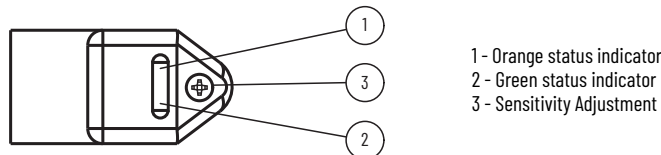


Figure 2 - Background Suppression and Transmitted Beam Emitter Models

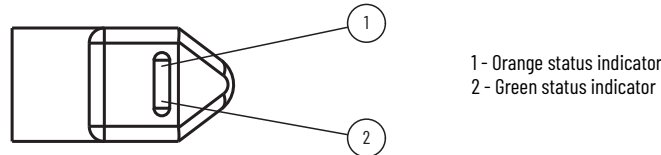


Table 1 provides an indicator status in RUN mode during operation for all sensing models: diffuse, polarized retroreflective, background suppression, background reflection, and transmitted beam.

Table 1 - Operating Mode Indication

Status Indicator Color	Status	Description
Green	OFF	Power is OFF
	ON	Power is ON
Orange	OFF	Output de-energized
	ON	Output energized

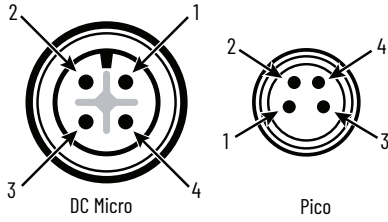
Specifications

Attribute	Value
Certifications	cULus Listed and CE Marked for all applicable directives
EMC Directive	EN 60947-5-2
Standards	UL 60947-5-2
Ambient light immunity	EN 60697-5-2:2007+A:2012
Functional Safety Parameters Diffuse	
MTBF	514 years
MTTFd	1028.6 years
Background Suppression	
MTBF	510 years
MTTFd	1021 years
Polarized Retroreflective	
MTBF	540.6 years
MTTFd	1081.2 years
Transmitted Beam Emitter	
MTBF	844.6 years
MTTFd	1689.2 years
Transmitted Beam Receiver	
MTBF	658 years
MTTFd	1316 years
User Interface	
Status indicators	Green and orange
Adjustments	Adjustment knob (specific models)
Optical	
LED	Red (626 nm) and infrared (950 nm) on select models
Electrical	
Operating voltage	10...30V DC
Current consumption	Less than 25 mA
Sensor protection	Reverse polarity and short circuit
Output	
Output types	Two push-pull outputs (PNP and NPN), light operate, and dark operate
Response Time	
Diffuse, background suppression, and polarized retroreflective	1 ms max
Transmitted beam	3 ms max
Load current	100 mA max, resistive load
Mechanical	
Housing material	ABS
Lens material	Acrylic
Environmental	
Enclosure rating	IP67
Operating temperature	-20...+55 °C (-4...+131 °F)

Wiring

Figure 3 shows the quick disconnect connector. The pin numbers correspond to the convex connectors on the sensor.

Figure 3 - Pinouts



Wiring Diagrams

Figure 4 - NPN and PNP - Pin 4 (Light Operate), Pin 2 (Dark Operate)

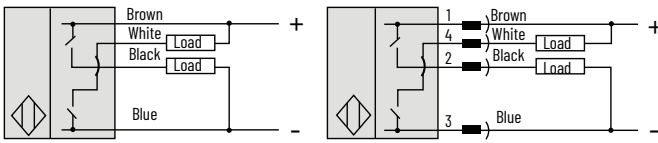


Figure 5 - NPN and PNP - Pin 4 (Dark Operate), Pin 2 (Light Operate)

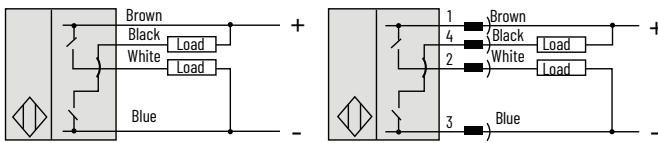
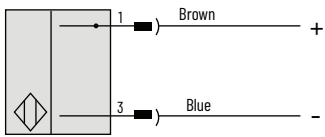


Figure 6 - Transmitted Beam Emitter



Dimensions

Figure 7 - 2 m (6.6 ft) Cable Models [mm (in.)]

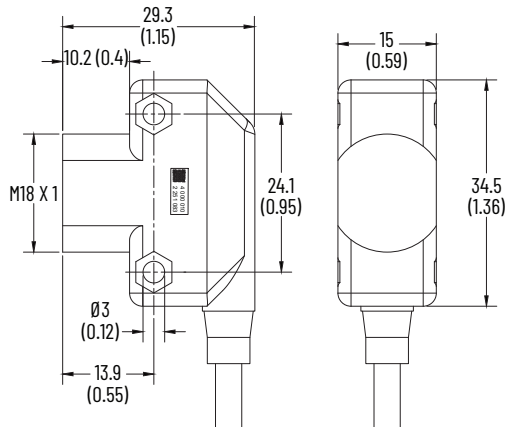


Figure 8 - Integral M8 Pico QD Models [mm (in.)]

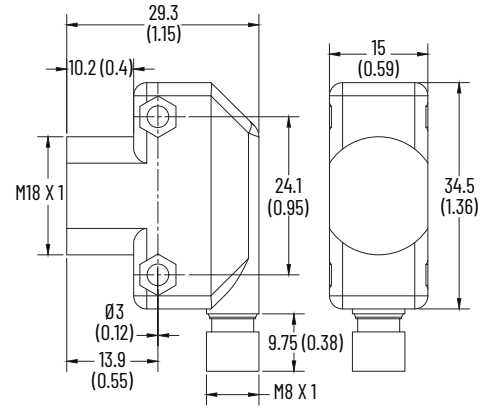
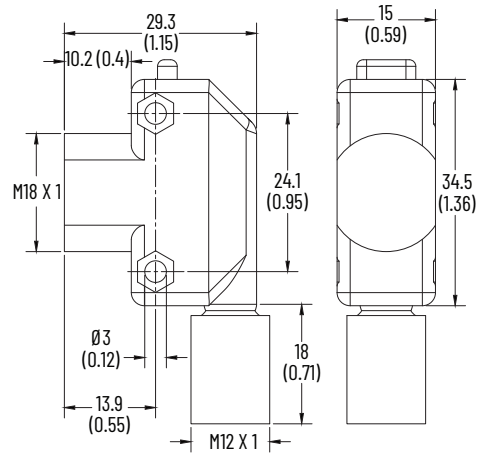


Figure 9 - Integral M12 Micro QD Models [mm (in.)]



Typical Response Curves

Figure 10 - Background Suppression - 50 mm (1.97 in.) Beam Pattern

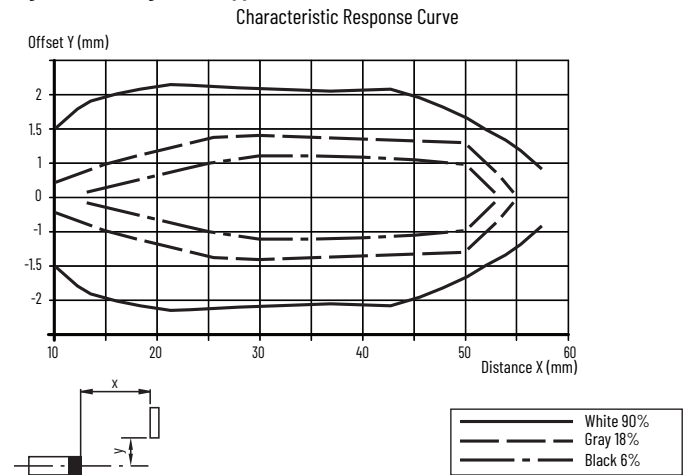


Figure 11 - Background Suppression - 50 mm (1.97 in.) Detection Distance

Object color

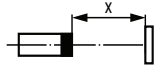
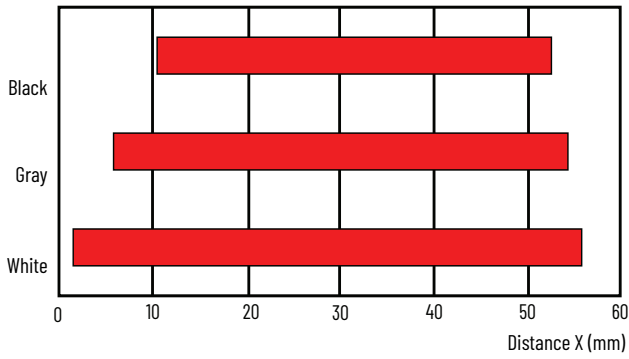
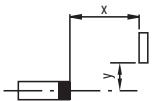
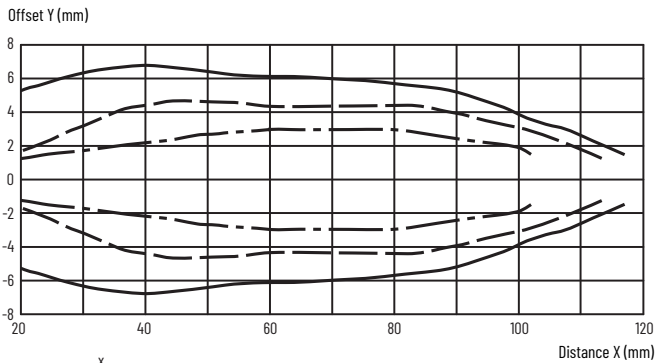


Figure 12 - Background Suppression - 100 mm (3.94 in.) Beam Pattern

Characteristic Response Curve



White 90%	(Solid line)
Gray 18%	(Dashed line)
Black 6%	(Dash-dot line)

Figure 13 - Background Suppression - 100 mm (3.94 in.) Detection Distance

Object color

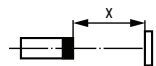
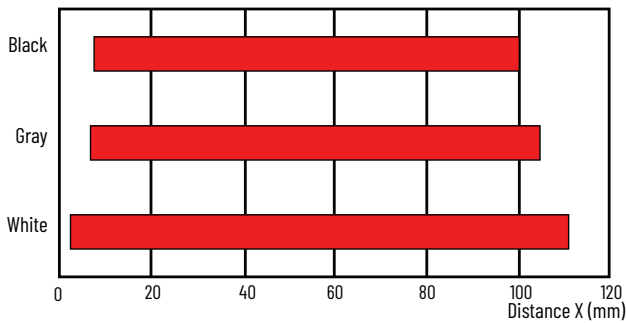


Figure 14 - Diffuse - Beam Pattern

Characteristic Response Curve

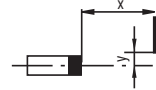
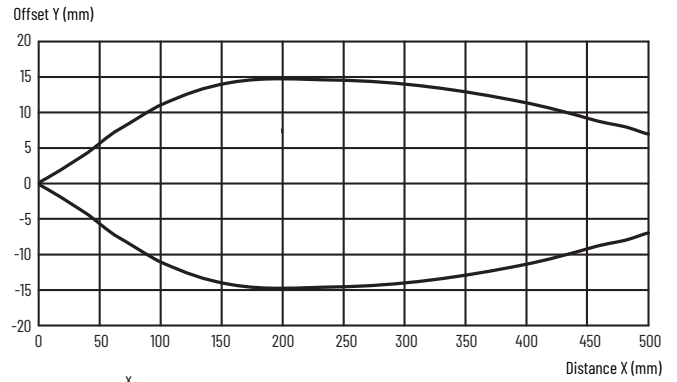


Figure 15 - Diffuse - Margin Curve

Relative Received Light Strength

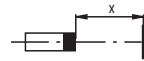
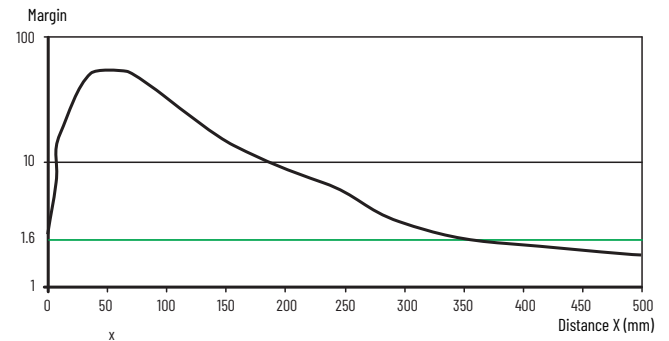
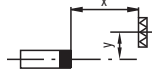
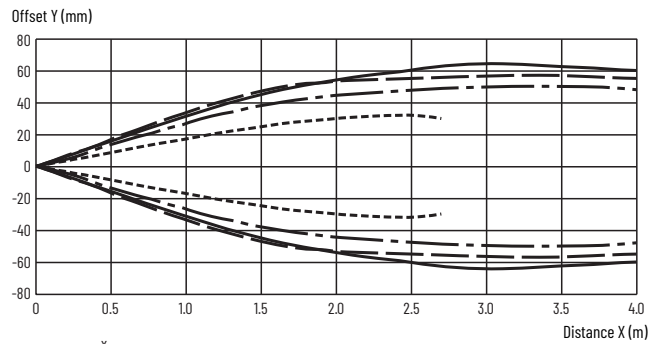


Figure 16 - Polarized Retroreflective - Beam Pattern

Characteristic Response Curve



92-125	(Solid line)
92-39	(Dashed line)
H50	(Dash-dot line)
92-47	(Dotted line)

Figure 17 - Transmitted Beam - Beam Pattern

Characteristic Response Curve

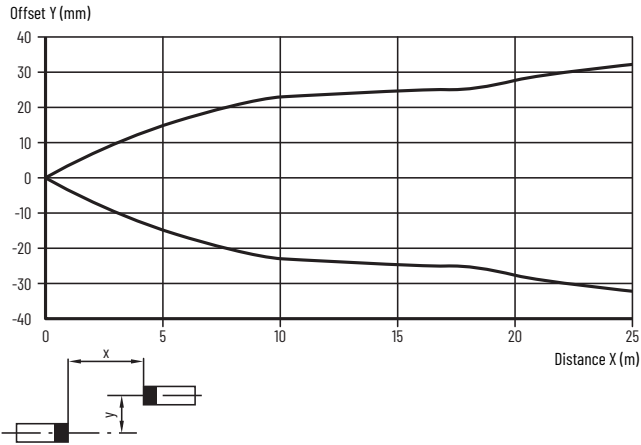
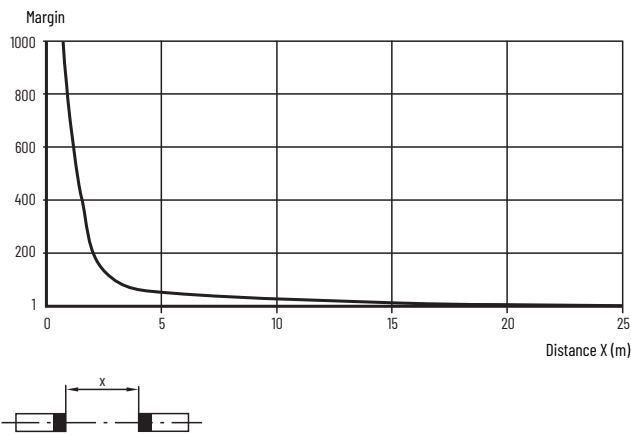


Figure 18 - Transmitted Beam - Margin Curve

Relative Received Light Strength



Waste Electrical and Electronic Equipment (WEEE)







At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

For technical support, visit rok.auto/support.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.    

rockwellautomation.com ————— expanding **human possibility**[®]

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Allen-Bradley, expanding human possibility, RightSight, and Rockwell Automation are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

Publication 42EA-IN001B-EN-P - April 2022 | Supersedes Publication 42EA-IN001A-EN-P - July 2021

Copyright © 2022 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.

10005997431 Ver 01