

# 42AF RightSight M30 Photoelectric Sensors



A High-Power, Mid-Size Solution for a Wide Range of Applications

## Features and Benefits

- Universal 30 mm nose and 18 mm base mounts help make installation and replacement 50% faster than other mounting methods with minimal or no tools
- 360-degree highly visible status indicator LEDs ease troubleshooting and help confirm proper sensor operation
- Dual auto PNP/NPN on DC only and Universal (AC/DC) gives you comprehensive coverage from smart sensing to high voltage/high current applications
- Dual auto PNP/NPN helps streamline inventory by reducing the amount of SKUs needed to stock
- Transmitted beam (80 m) and polarized retroreflective (10 m) sensing modes
- Embedded IO-Link communications enable access to enhanced diagnostic features
- Firmware upgrade and embedded IODD ready
- IP67, 1,200 psi and IP69k rated enclosure

## What is IO-Link?

IO-Link is a worldwide open-standard peer-to-peer serial communication protocol (IEC 61131-9) that allows sensors to easily integrate into The Connected Enterprise.

Benefits of IO-Link technology include:

- Reduced inventory and operating costs
- Increased uptime/productivity
- Simplified design, installation, setup and maintenance
- Enhanced flexibility and scalability



 IO-Link

Rockwell Automation announces a new sensor family that expands our industry-leading line of PHOTOSWITCH® photoelectric sensors. The new Allen-Bradley® 42AF RightSight™ M30 family of high-power sensors introduces a flexible, mid-sized right-angle housing. Addressing the challenges of a wide range of industries and applications, the RightSight M30 is also a smart sensing solution thanks to embedded IO-Link functionality. IO-Link allows sensors to easily integrate into The Connected Enterprise, delivering data from the sensor directly into a control system to help minimize downtime and increase productivity.

The Allen-Bradley RightSight M30 family offers long sensing range in a compact new housing that features a threaded 30 mm nose and threaded 18 mm base for flexible mounting and fast installation. The rugged IP67/IP69k housing is also fully sealed, allowing the RightSight M30 to withstand tough industrial environments, including those involving high-pressure and high-temperature washdowns. The ultra-bright status and power LEDs can be seen from 360 degrees, simplifying setup, monitoring and troubleshooting.

Featuring multiple sensing modes, the RightSight M30 is available in easy-to-apply adjustment-free models and teachable versions that adjust sensitivity and output configuration at the push of a button. The unique “Auto PNP/NPN” output continuously monitors how the load is connected and automatically configures the output for proper operation. And when connected to an IO-Link master the RightSight M30 can take advantage of advanced functionality including real-time diagnostics, Automatic Device Configuration (ADC) and multiple job-specific profiles. Not only do these features make the 42AF RightSight M30 ideal for a broad range of challenging applications, but they help simplify product selection and reduce stocking costs.

LISTEN.  
THINK.  
SOLVE.®

## 42AF RightSight M30 IO-Link Features and Benefits

- **Triggered (output status):** indicates when the target is detected
- **Margin Low Alarm:** indicates when the target signal is marginal and about to fail
- **Proximity Alarm:** indicates if there is a target in the background that may be in close proximity to the threshold
- **Signal Strength:** provides the raw signal strength value reflected by the target (diffuse) or the reflector (retro)
- **Location Indication:** helps distinguish sensors in applications where you may need to identify in a large machine
- **Alignment Mode:** helps sensor alignment in diffuse and polarized retroreflective applications
- **Internal Temperature:** provides the sensor's internal temperature which helps you determine if the sensor is operating close to its minimum and maximum temperature range
- **Counter:** counts the amount of times the target has been detected
- **Timer:** indicates the amount of time the output was present or absent to help determine the how fast your system is operating

## Product Selection

Sensing Mode	Operating Voltage	Light Source	Sensing Distance	Sensitivity Adjustment	Output Function	Output Type	Catalog Number
Polarized Retroreflective	10...30V DC	Visible red	0.025...10 m (0.03...33 ft) with 92-125 reflector	No adjustment	Light and dark operate	Dual auto PNP or NPN	42AF-P2MAB1-D4
	Light operate				SPDT EM relay	42AF-P2RHB1-G4	
	Dark operate					42AF-P2SHB1-G4	
	Light and dark operate					42AF-P2CHB1-A2	
Transmitted Beam	10...30V DC	Infrared	0...80 m (0...262 ft)	No adjustment	Transmitted beam emitter	N/A	42AF-E1EZB1-D4
	20...250V DC 24...250V AC						42AF-E1UZB1-G4
	10...30V DC				Light and dark operate	Dual auto PNP or NPN	42AF-R1MAB1-D4
	20...250V DC 24...250V AC				Light operate	SPDT EM relay	42AF-R1RHB1-G4
					Dark operate		42AF-R1SHB1-G4
					Light and dark operate		42AF-R1CHB1-A2

**Connection Options:** The following suffixes describe the available connection options:

-D4: Describes an Integral 4-pin DC micro (M12) quick-disconnect for DC models

-G4: Describes a 4-pin AC micro (M12) quick-disconnect on a 150 mm (6 in.) length pigtail on AC/DC models

-F4: Describes a 4-pin DC micro (M12) quick-disconnect on a 150 mm (6 in.) length pigtail on DC models

-A2: Describes a 2 m PVC cable

*Additional connection options may be available. Refer to ProposalWorks for available options by sensing mode.*

## Product Specifications

Specifications	
Certifications	CCC, c-UL-us and CE marked for all applicable directives
<b>User Interface</b>	
Status indicators	Green and orange LED
<b>Electrical</b>	
Adjustments	No physical adjustment IO-Link adjustable
Operating voltage	DC models: 10...30V DC, IO-Link: 18...30V AC/DC models: DC: 20V DC to 250V DC AC: 24V AC to 250V AC AC/DC: Reverse polarity
<b>Discrete Output</b>	
Response time	DC: 1 ms AC/DC: 15 ms max
Output type	DC: Dual Auto PNP or NPN AC/DC: EM relay
Load current	DC: 100 mA max AC/DC SPDT: 10...30V DC: 3 A 31...125V DC: 200 mA 24...250V AC: 3 A

Specifications	
<b>IO-Link</b>	
Communications mode	COM2
Cycle time, min	2 ms
Process data bit length	32 bits (4 bytes)
Specifications	1:1
<b>Mechanical</b>	
Housing material	PBT
Lens material	PMMA

## Mounting Accessories

Description	Catalog Number
4-pin DC micro, 2 m (6.5 ft) cordset	889D-F4AC-2
18 mm straight bracket	60-2656
18 mm right angle bracket	60-2657
30 mm stainless steel mounting bracket	60-2421
30 mm swivel/tilt bracket	60-2439
18 mm swivel/tilt bracket	60-2649
76 mm (3 in.) diameter reflector	92-39
47 mm (1.85 in.) diameter reflector	92-47
84 mm (3.3 in.) diameter reflector	92-125

Other accessories – including apertures and stainless steel mounting hardware – are available. Go to [www.ab.com](http://www.ab.com) to see the full line of 42AF RightSight M30 sensors and accessories.

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**[www.rockwellautomation.com](http://www.rockwellautomation.com)**

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