

# 871TM Long Range Inductive Proximity Sensors



Tough construction, with up to 3x the standard sensing range

## Features and Benefits

- Long range 8 mm, 12 mm, 18 mm and 30 mm diameters
- IO-Link communications help minimize downtime and increase productivity
- Heavy duty stainless steel face and barrel are ideal for harsh or extremely demanding environments
- Electromagnetic protection up to 40 mT (400 gauss) on weld field immune models prevents false triggering during welding processes
- Long range models offer equal sensing distance for all metals
- IP69K and 1200 psi wash-down rated
- Chemical and abrasion resistant

## What is IO-Link?

IO-Link is a worldwide open-standard protocol 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 enabled sensors offer advanced features and diagnostics that can only be accessed through an IO-Link master.

- Real time diagnostics and sensor health
- Automatic device configuration (ADC)
- Multiple profiles
- Descriptive tags
- Device specific parameters



1732 ArmorBlock®  
IO-Link Master



Rockwell Automation announces enhancements to the Allen-Bradley® 871TM Inductive Long Range Proximity Sensors family to include embedded IO-Link functionality on select 8 mm, 12 mm, 18 mm and 30 mm models. IO-Link allows sensors to easily integrate with The Connected Enterprise, delivering data from the sensor directly into a control system in a very cost-efficient and easy-to-use manner via an IO-Link Master and EtherNet/IP™.

For welding environments and other applications where large magnetic fields are present, the 871TM weld field immune sensors are offered in 8 mm, 12 mm and 18 mm models. These sensors provide electromagnetic protection up to 40 mT (400 gauss) and help avoid false triggering during the welding process.

The 871TM stainless steel sensors are designed to resist impact and abrasion in harsh or extremely tough environments. The corrosion resistant body is IP69K and 1200 psi wash-down rated and features full epoxy encapsulation for optimal performance in demanding applications. With two to three times greater sensing distance compared to standard models, the rugged 871TM sensors offer increased sensing distances for all metals, including copper and brass. Installation, setup and maintenance of these sensors is simplified through the use of the multi-purpose highly visible LED.

LISTEN.  
THINK.  
SOLVE.®

## 871TM, IO-Link Version 1.0

- IO-Link is a worldwide open-standard peer-to-peer serial communication protocol (IEC 61131-9) that allows sensors and actuators to easily integrate into The Connected Enterprise.
- The IO-Link enabled 871TM proximity sensor – when connected to an IO-Link master – shares device identity, parameters, real-time diagnostics and process data with the control system to optimize machine setup, maintenance and troubleshooting.
- By combining simple implementation with powerful data and diagnostics, IO-Link sensors provide simplified integration and seamless visibility of your processes to increase uptime and productivity.

## 871TM, IO-Link Device Specific Parameters

- **Output status** provides indication when the target is detected.
- **Margin status** provides indication when the target is detected beyond 80% of the specified operating range.
- **Timer functions** enable the manipulation of the sensor's output signal (i.e., Delay On, Stretch On...etc.) in relation to a selection of predetermined time periods.
- **Switching mode polarity** allows the device output type (i.e., N.O. or N.C.) to be changed for use in standard IO mode.



1734 POINT IO Master  
for POINT I/O™

## Product Selection - 871TM

Additional product selection available on <http://ab.rockwellautomation.com/>, including NPN and NC models.

Barrel Diameter (mm)	Nominal Sensing Distance [mm(in.)]	Shielded	Output Configuration		Switching Frequency	PUR Cable Style	Micro QD Style	Pico QD Style
8	3 (0.12)	Yes	N.O.	PNP	700 Hz	871TM-M3NP8-J2	871TM-M3NP8-D4	871TM-M3NP8-P3
	6 (0.23)	No				871TM-N6NP8-J2	871TM-N6NP8-D4	871TM-N6NP8-P3
12	6 (0.23)	Yes			400 Hz	871TM-M6NP12-A2	871TM-M6NP12-D4	–
	10 (0.39)	No				871TM-N10NP12-A2	871TM-N10NP12-D4	–
18	10 (0.39)	Yes			200 Hz	871TM-M10NP18-A2	871TM-M10NP18-D4	–
	20 (0.79)	No				871TM-N20NP18-A2	871TM-N20NP18-D4	–
30	20 (0.79)	Yes			80 Hz	871TM-M20NP30-A2	871TM-M20NP30-D4	–
	40 (1.57)	No				871TM-N40NP30-A2	871TM-N40NP30-D4	–

Note: IO-Link Master Module (Catalog No. 1734-4IO1 or 1732-8IOLM12R) is required for premier IO-Link integration experience.

☞ IO-Link enabled.

## Product Selection - 871TM, Weld Immune Models

Barrel Diameter (mm)	Nominal Sensing Distance [mm(in.)]	Shielded	Output Configuration		Switching Frequency	Micro QD Style
8	3 (0.11)	Yes	N.O.	PNP	≤15 Hz	871TM-MW3NP8-P3
12	6 (0.23)					871TM-MW6NP12-D4
18	10 (0.39)					871TM-MW10NP18-D4

## Cordsets and Accessories

Description	Catalog Number
IO-Link Master Module for POINT I/O™	1734-4IOL
ArmorBlock IO-Link Master	1732E-8IOLM12R
DC micro (M12) QD cordset, straight, 4-pin, 2 m (6.5 ft)	889D-F4AC-2
Pico Cordset (M8) QD cordset, straight, 3-pin, 2 m (6.5 ft)	889P-F3AB-2
3-pin Pico (M8) to 4-pin Micro (M12) cable, 2 m (6.5 ft)	889P-F3ABDM4-2
Right angle mounting bracket	871A-BRN*
Snap clamp mounting bracket	871A-SCPB**

\* Add 8, 12, 18 or 30 to the end of the catalog number for sensor barrel diameter in mm.

\*\* Add 12 or 18 to the end of the catalog number for sensor barrel diameter in mm.

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

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