

871FM Miniature Metal Flat Pack Inductive Sensors



Two Rugged and Compact Smart Sensors Built for Harsh Environments

Features and Benefits

- Stainless steel housing with stainless steel face provides a rugged solution in harsh environments
- Compact, rectangular sizes are ideal for space critical applications
 - 20 x 32 x 8 mm (0.78 x 1.25 x 0.31 in.)
 - 30 x 52 x 14 mm (1.18 x 2.04 x 0.55 in.)
- IO-Link communications help minimize downtime and increase productivity
- General purpose and welding models with ToughCoat Finish™ to help prevent weld slag buildup
- Sensing ranges from 7 mm (0.27 in.) to 10 mm (0.39 in.)
- Equal/Factor-1 sensing for all metals
- Enclosure Ratings
 - General purpose model: IP69K
 - Welding model: IP67

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 a new line of Allen-Bradley® 871FM Miniature Metal Flat Pack inductive proximity sensors. These IO-Link enabled sensors include fully shielded, stainless steel rectangular housings with stainless steel face and are available in two compact, rectangular housings (8 mm (0.31 in.) and 14 mm (0.55 in.)).

The 871FM rectangular sensors can be applied where traditional tubular proximity sensors cannot, whether you're trying to sense small parts, space is at a premium, or both. These sensors are designed to sense the presence of ferrous and nonferrous metal objects without touching them at equal sensing range. The 871FM is offered in general purpose and rugged welding versions with sensing ranges up to 10 mm (0.39 in.).

The weld immune model features ToughCoat Finish™ to help prevent weld slag buildup on the sensor. These sensors have Equal/Factor-1 sensing for all metals and easily mount flush onto the base metal, resulting in a very low profile sensing solution. A variety of quick disconnect and cable options are available. Typical applications include stamping and die, welding, automotive, conveying, food and beverage and more.

IO-Link allows these smart sensors to easily integrate with The Connected Enterprise, delivering data from the sensor directly into a control system in a cost-efficient and easy-to-use manner via an IO-Link master and EtherNet/IP™.

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THINK.
SOLVE.™

871FM Miniature Metal Flat Pack, IO-Link Version 1.1

- 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 871FM 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.



1734 POINT I/O Master for POINT I/O™

871FM Miniature Metal Flat Pack, 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** when enabled, reports the sensor output time from ON (Duration Triggered) to OFF (Duration Not Triggered).
- **Switching mode polarity** allows the device output type (i.e., N.O. or N.C.) to be changed for use in standard IO mode.
- **Detection counter** tallies the number of switching operations.
- **Temperature functions** identify the actual internal temperature of the sensor and the maximum internal temperature of the device recorded over the operating life of the sensor.
- **Signal strength** reports information about the quality of the signal received by the sensor. The higher the signal strength, the stronger the signal received by the sensor.
- **Proximity alarm** provides information when the target is approaching and detected but not close enough to switch sensor output on.

Product Selection - 871FM Miniature Metal Flat Pack

Additional product selection available on <http://ab.rockwellautomation.com/>.

Dimensions W x L x H [mm (in.)]	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency	Weld Immune	Connector Type	Catalog Number
20(W)x32(L)x8(H) (0.78 x 1.25 x 0.31)	7 mm (0.27)	Yes	Complementary N.O./N.C	<=200	No	PVC Pigtail, DC Micro QD, 4-pin	871FM-M7BA20-FD02
				<=200	No	PVC Cable, 2m	871FM-M7BA20-E2
				<=50	Yes - ToughCoat Finish weld slag coating	PVC Pigtail, DC Micro QD, 4-pin, Weld tube cable protection	871FM-MV7BA20-FD02X
30(W)x52(L)x14(H) (1.18 x 2.04 x 0.55)	10 mm (0.39)			<=200	No	PVC Pigtail, DC Micro QD, 4-pin	871FM-M10BA30-FD02
				<=200	No	PVC Cable, 2m	871FM-M10BA30-E2
				<=50	Yes - ToughCoat Finish weld slag coating	PVC Pigtail, DC Micro QD, 4-pin, Weld tube cable protection	871FM-MV10BA30-FD02X

Note: IO-Link Master Module (Catalog No. 1734-4I01 or 1732-8IOLM12R) is required for premier IO-Link integration experience.

Cordsets and Accessories

Description	Catalog Number
IO-Link Master Module for POINT I/O	1734-4IOL
ArmorBlock IO-Link Master	1732E-8IOLM12R
DC Micro QD cordset, 4-pin, 2 m (6.5 ft)	889D-F4AB-2

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