

# 836P Solid-State Pressure Sensors



Compact, Cost-Effective and Ready for The Connected Enterprise

## Features and Benefits

### Display

- Pressure range: -1...551 bar (-14.5 psi to 8,000 psi)
- Embedded IO-Link communication protocol helps minimize downtime and increase productivity
- Available in various process connections to fit your application needs
- Rotatable housing (320°) and head (330°) provide application flexibility
- Large visual display rotates 180° to accommodate user
- IP67 enclosure rating

### Non-Display

- Tough, miniature form factor – one of the smallest on the market
- Available in various process connections to fit your application needs
- -1...689 bar (-30 in. Hg to 10,000 psi)
- IP67 enclosure rating

### 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



IO-Link Master



Display model

 **IO-Link**



Non-Display model

Rockwell Automation knows condition sensing controls are vital components in today's control systems. High-accuracy, new technology, and rigid standards are combined to manufacture these reliable world-class products. Capable of measuring pressure of liquid or gases, the new Allen-Bradley® Solid-State 836P Pressure Sensors are available in display and non-display models in rugged, compact housings with corrosion-resistant 316L solid-state sensor elements. The display model features embedded IO-Link 1.1 communications protocol, which allows for easy integration with The Connected Enterprise while delivering data directly into a control system in a very cost-efficient and easy-to-use manner when connected to an IO-Link Master and EtherNet/IP.™ For easy on-machine programming, it can be configured manually as well as through the Studio 5000 Logix Designer® software.

With a rotatable housing (320°) and head (330°), the flexible 836P display model accommodates the most space-critical applications. And for even greater adjustability, the large visual display can be rotated 180°. Additional features include pressure ranges from -1...551 bar (-14.5 psi to 8,000 psi), tactile push buttons for easy setup, and an IP67 enclosure rating. These sensors have dual PNP or one PNP + one 4...20 mA output configurations and are in gauge, absolute and vacuum pressure measurement types with a large selection of process connections.

The 836P non-display model offers a wide pressure range from -1...689 bar (-30 in. Hg to 10,000 psi) and has one of the the smallest footprints on the market, making it ideal for applications with limited mounting space. Non-display models have 4...20 mA analog outputs and an IP67 enclosure rating.

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## 836P 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 836P 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.



IO-Link Master

## 836P IO-Link Benefits



















- **Teaching the sensor** can be accomplished with IO-Link via the Add-On-Profile through Studio 5000 Logix Designer software or by using the tactile pushbuttons on the sensor.
- **Pressure information** in PSI eliminates the need to scale the pressure data on the PLC and saves commissioning time.
- **Application-specific names** help the user quickly locate the sensor on the machine.
- **Locking options** are available to lock local settings when operating in IO-Link mode, and therefore any user changes will not change the settings of the sensor.


## Comparison Chart


Features/ Product Family	Sensor Model		Pressure Range Bar (psi)			Process Connection				Pressure Type			Output Type			Connection Style
	Standard	Hygienic	-1 to 20 (-14.5 to 300)	0 to 550 (0 to 8,000)	0 to 689 (0 to 10,000)	NPT (male/female)	G BSPP (male/female)	SAE (male)	Sanitary	Vacuum	Absolute	Gauge	2 x PNP, IO-Link	1 x PNP + 1 x Analog (4...20 mA), IO-Link	Analog (4...20 mA)	4 Pin DC Micro (M12) Integral QD
<p>Diameter: 38 mm</p> <p>92 mm (approx.)</p>	✓	◆	✓	✓		✓	✓	✓	◆	✓	✓	✓	✓	✓		✓
<p>Diameter: 29 mm</p> <p>33 mm (approx.)</p>	✓		✓		✓	✓	✓	✓		✓	✓	✓			✓	✓

Note: Hygienic Models (◆) will be released Summer 2016.

## Product Selection

836P- Display Model					
	Lower Pressure Range Bar (psi) <sup>1</sup>	Pressure Type	Process Connection <sup>1</sup>	Output Type	Catalog No.
	-1...1 (-14.5...14.5)	Gauge *	1/4" NPT female	2 x PNP	836P-D1NFGA14PP-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D1NFGA14PA-D4 
	-1...10 (-14.5...145)		1/4" NPT female	1 x PNP + 1 analog (4...20 mA)	836P-D1NFGB14PA-D4 
			1/4" NPT male	1 x PNP + 1 analog (4...20 mA)	836P-D1NMGB14PA-D4 
			G 1/4" BSPP male	1 x PNP + 1 analog (4...20 mA)	836P-D1GMGB14PA-D4 
	0...1 (0...14.5)		1/4" NPT female	2 x PNP	836P-D2NFGA14PP-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D2NFGA14PA-D4 
	0...2.5 (0...36.2)		1/4" NPT female	2 x PNP	836P-D2NFGA36PP-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D2NFGA36PA-D4 
	0...25 (0...362)		1/4" NPT female	2 x PNP	836P-D2NFGB36PP-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D2NFGB36PA-D4 
			1/4" NPT male	1 x PNP + 1 analog (4...20 mA)	836P-D2NMGB36PA-D4 
				G 1/4" BSPP female	1 x PNP + 1 analog (4...20 mA)
			0...100 (0...1450)	1/4" NPT female	2 x PNP
	1 x PNP + 1 analog (4...20 mA)				836P-D2NFGC14PP-D4 
	0...248 (0...3600)		1/4" NPT female	2 x PNP	836P-D2NFGC14PA-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D2NFGC36PP-D4 
	0...400 (0...5800)		1/4" NPT female	2 x PNP	836P-D2NFGC36PA-D4 
				1 x PNP + 1 analog (4...20 mA)	836P-D2NFGC58PP-D4 
				SAE 7/16-20 UNF female	2 x PNP

 IO-Link enabled

836P- Non-Display Model					
	Lower Pressure Range Bar (psi) <sup>1</sup>	Pressure Type	Process Connection <sup>1</sup>	Output Type	Catalog No.
	-1.01...10 (-30 in. Hg...145)	Gauge *	1/4" NPT male	Analog (4...20mA)	836P-N3NMGB14A-D4
			1/4" NPT female		836P-N3NFGB14A-D4
	0...1 (0...14.5)		1/4" NPT male		836P-N2NMGA14A-D4
	0...2 (0...30)		1/4" NPT male		836P-N2NMGA30A-D4
			1/4" NPT female		836P-N2NFGA30A-D4
	0...6.89 (0...100)		1/4" NPT male		836P-N2NMGB10A-D4
			1/4" NPT female		836P-N2NFGB10A-D4
	0...10 (0...145)		1/4" NPT male		836P-N2NMGB14A-D4
			1/4" NPT female		836P-N2NFGB14A-D4
	0...34 (0...500)		1/4" NPT male		836P-N2NMGB50A-D4
	0...68 (0...1000)		1/4" NPT male		836P-N2NMGC10A-D4
	0...206 (0...3000)		1/4" NPT male		836P-N2NMGC30A-D4
	0...344 (0...5000)		1/4" NPT male		836P-N2NMGC50A-D4

\* Absolute pressure models also available









<sup>1</sup> Additional pressure ranges and process connections are available and can be configured on our website

### 836P- Pressure Sensor Accessories

Description	Catalog No.
M12 x 1 Connector	889D-F4AC-2
M12 x 1 Right-angle connector	889D-F4AC-2
IO-Link Master Module for POINT I/O™	1734-4IOL
POINT I/O EtherNet/IP Adapter Module	1734-AENTR (dual-port Ethernet) *
POINT I/O EtherNet/IP Adapter Module	1734-AENT (single Ethernet port) *

\* Compatible only with Series B, firmware version 5.012 or later

## Typical Applications

Skids	Balers	Filter Press Machines	Wastewater
			
CIP Machines	Hydraulic Power Units	Automotive	Tank Level Detection
			



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Our portfolio of pressure sensors are designed to protect your manufacturing investments.

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### The Connected Enterprise

Learn more about the Connected Enterprise transforms real-time data, from intelligent assets and multi-disciplined control from a plant, or a remote site into actionable information.

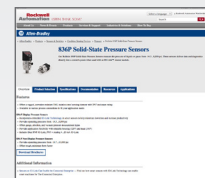
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### Product Selection Toolbox

Our powerful range of product selection and system configuration tools assist you in choosing and applying our products.

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