



Foxboro[®] Field Devices

Worry Less. Measure More.

www.schneider-electric.com

Life Is 

Foxboro
by Schneider Electric

The Impact of Control

A single innovative instrument can give you better process control and improve the performance of any one of your production assets: personnel, equipment, energy use, or inventory. Employing multiple instruments can positively impact the performance of all areas of your enterprise.

Foxboro instruments are allied with various industry-leading brands that result in systems, software, and services that dramatically improve your operation's economic, safety, and environmental performance. In addition, the deployment of multiple, advanced measurement systems will enhance the availability and utilization of all the assets on which your success depends.

For decades, the Foxboro brand has driven the development of various breakthrough measurement technologies: The first d/p cell, the dual-phase Digital Coriolis Mass Flowmeter, the DolpHin™ pH Sensor, and the Magnetic Flowmeter.

Foxboro instrumentation sets the industry standard for performance in a wide variety of measurement technologies:

- **Pressure transmitters** that provide best-in-class accuracy levels and the longest standard and optional warranties in the industry
- **Flowmeter technologies:** Magnetic, Vortex shedding and Coriolis that provide unparalleled solution for liquids, gases and steam
- **Process analytical** sensors that revolutionize pH and conductivity measurement
- **Temperature transmitters** providing accurate and reliable measurements in the harshest of environments
- **Level measurement** including LevelStar Buoyancy and LevelWave Radar devices for the widest choice of installation and applications
- **Accutech** provides wireless measurements where traditional instruments struggle with operation and budget goals

Foxboro instruments provide accurate, reliable measurement and analysis of pressure, flow, level, and process analytical variables so you have the process control you need for maximum integration and interoperability — all at competitive prices, low cost of ownership, and 24-hour worldwide support from a single source.



Pressure Product Portfolio

S Series Pressure Transmitters



IDP10S

IAP10S / IGP10S

I/A Series Pressure Transmitters



IDP10 / IDP50

IDP31D / IDP15D

IAP10 / IGP10 / IGP50

Multivariable Pressure Transmitters



IMV25 / IMV30 / IMV31

Accessories (seals, remote seals, manifolds)



Pressure Measurements

Foxboro Pressure Transmitter Family:

Gauge, absolute, differential pressure, flange level and remote seals — from basic requirements to the most comprehensive and challenging applications in your plant.

The Foxboro Pressure Transmitter Family: The Perfect Fit for Your Application

Foxboro pressure transmitters combine field-proven, reliable silicon strain-gauge sensor technology and quality manufacturing processes.

This family covers a broad range of pressure applications, including differential, gauge, and absolute pressure, as well as remote seal and flanged level. A wide variety of materials, flange sizes, and other options will suit every application.

Each transmitter uses the same innovative topworks packaging with modular intelligent electronics — greatly simplifying your installation, operation, maintenance, and spare parts requirements.

The premium Foxboro line includes pressure transmitters with the highest accuracy and longest warranties (5 years) in the business.



Pressure Measurements

S Series: New Generation of Pressure Transmitters — IDP10S, IGP10S and IAP10S

Intelligent, two-wire transmitters provide precise, reliable measurement of differential, absolute, or gauge pressure, and transmit a 4-20 mA output signal with a superimposed HART® digital signal for remote configuration and digital transmitter output.

Key S Series Features

- FoxCal technology — 11 calibration curves stored internally
- Time in Service
- 100 mSec Response Time
- 5-year warranty as standard
- Local Display configuration capability
- High Turndown¹ (400:1) capability

Innovative Fox-Cal Technology

So what are the benefits for you?

- Increase accuracy with the patented Foxboro multiple calibration technology (FoxCal)
- Reduce inventory costs over a wide range of applications that traditionally require multiple stocked transmitters
- Time in Service for advanced diagnostics
- Easy to use with LCD indicator and onboard push buttons for easy configuration
- 5-year warranty as standard
- Industry leading turndown capability

Multiple Calibration Technology

Unique patented multiple calibration technology (FoxCal) feature eliminates the need for a traditional single span calibration at an application-specific pressure range.

- Uses multiple calibrated ranges stored in the onboard memory
- 11 calibration ranges are pre-set in the factory
- No re-calibration required from 2.5% to 100% of the upper range limit (URL)

Time in Service

Enables customers to accurately track time in service and allows for predictive maintenance.

Similar to how an odometer allows an automobile owner to track the total number of miles driven and a trip odometer tracks the number of miles driven since a user-defined starting point, the IDP10S, IGP10S, and IAP10S transmitters allow you to keep track of the number of days the transmitter has been in service.

- Tracks total number of days the transmitter has been powered up in the field over its lifetime (total days)
- Tracks the number of days the transmitter has been powered up since the last Time in Service meter reset (user days)

Wide Turndown Ranges

Excellent performance is maintained over an industry leading wide turndown range, meaning that an IDP10S, IGP10S, or IAP10S transmitter performs better than two to three separate transmitters designed to cover the same turndown range.

Setting the Standard

Models IDP10S, IGP10S, and IAP10S provide superior functionality, performance, and durability, as well as a broad selection of materials, connections, and ranges. They offer high performance with accuracy of $\pm 0.060\%$ of span at turndowns or exceeding up to 10:1 for popular models and 0.05% of reading (digital mode) at turndowns of 30:1 or greater.

This greatly simplifies your planning, ordering, spares procurement, and stocking.



IDP10S



IAP10S / IGP10S

¹ 400:1 — Turndown refers to maximum resolution

Pressure Measurements

S Series: Patented FoxCal™ Multiple Technology Embedded

A totally unique patented technology that contributes to precise reliable measurement, high turndown without sacrificing reference accuracy, and excellent stability.



Improved Process Accuracy

Our unique FoxCal technology eliminates the need for traditional single span curve calibrations at application-specific pressure ranges. The device can automatically transition to the most appropriate calibration curve based on the transmitter input, therefore maintaining measurement reference accuracy.

Increased Plant Efficiency

Time in Service meter tracks both total number of days powered up over a device lifetime and is read-only. A second Time in Service meter can be reset to zero and accommodates periodic annunciations for maintenance scheduling.

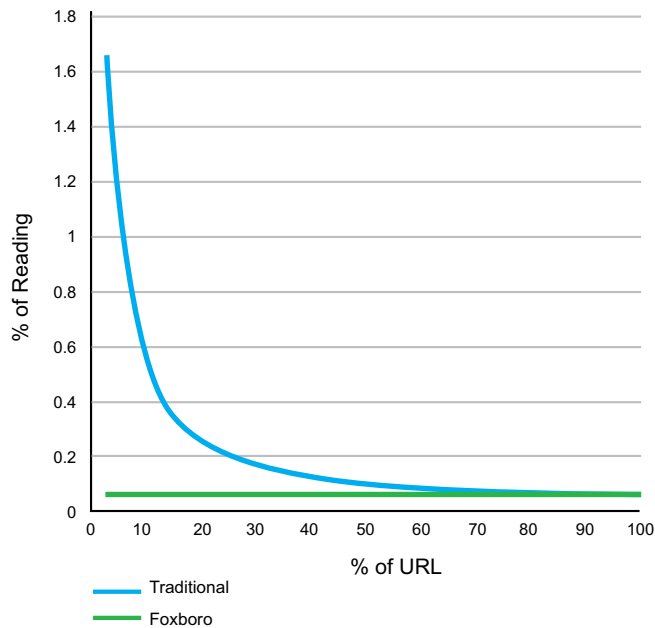
Reduced Inventory Cost

A wide range of applications that normally would use multiple separate transmitters now need only one. Fewer types of transmitter sensors are required, which means fewer spare parts and reduced inventory.

Less Chance of Wrong Sensor Selection

Additionally, the transmitter will transition to the most appropriate calibration curve, delivering the most accurate data even if the operating pressure is temporarily increasing. Typically, one S Series range covers 95% of plant pressure sensor requirements.

Accuracy of Transmitters



S Series maintains the same accuracy until 2.5% of the URL. Traditional transmitters begin to degrade at a much higher percentage.

Pressure Measurements

A Whole Range for Your Applications,
Including the Most Specific Ones

Our IMV30 multivariable transmitter measures absolute pressure, differential pressure, and process and transmitter temperatures, as well as calculating mass flow rate.



Multivariable for Multiple Savings

The Foxboro Model IMV25 multivariable transmitter supplies pressure, differential pressure, and temperature measurement in a single instrument. It takes full advantage of digital communications for multiple measurements.

Minimizing the number of transmitters and process penetrations will give you significant savings for purchase, installation, and maintenance.

Solve the Multivariable Flow Equation

Our Model IMV30 is designed so comprehensive flow equations reside right in the transmitter. You receive highly accurate pressure- and temperature-compensated mass or volumetric flow rate calculations.

With this impressive meter, DP at full flow can be as low as 0.12 kPa (0.5 in H₂O) and as high as 210 kPa (840 in H₂O).

Boiler Drum Level Issues?

Our Model IMV31 is designed to accurately measure drum level. This IMV31 has built-in steam density tables and helps compensate for boiler shrinkage and swelling.

Pressure Measurements

Integration and Design to Fit Your Needs

Easy Integration into Your System

Select the level of transmitter output you need: analog outputs of 4-20 mA or 1 to 5 V dc (low power) or digital communications using HART or FOUNDATION Fieldbus protocol. Modbus communication is also supported on the IMV25 multivariable transmitter.

Installation Versatility

Choose from traditional or new low-profile structures to get the best installation method for your application. The traditional structure retains the industry standard “right-angle” design with process connections in the horizontal plane.

Low-profile structures provide process connections in the vertical plane, facing downward when the transmitter is in the upright position. They are ideal for replacing Coplanar™ transmitters or for meeting Coplanar-type installation requirements that use a similar mounting arrangement.

LP1 low-profile structures make economical, small, lightweight transmitters that are ideal for direct manifold mounting. A single vent/drain screw is provided on each side, positioned to allow both vertical and horizontal mounting.

LP2 low-profile structures are full-featured designs suitable for either direct manifold or bracket mounting. Threaded holes are provided for mounting to existing or new brackets. Separate vent and drain screws on both sides offer complete venting and draining in the upright position.

Need More Performance?

Need the best possible performance for both DP and GP applications? Turn to our IDP50 and IGP50 premium-performance transmitter models. These models are ideal for challenges such as differential head measurement for wide-ranging flows, or applications demanding low ambient temperature effect, small spans, or high stability.

Accuracy leads the industry at $\pm 0.025\%$ of span for turndowns up to 10:1 and within $\pm 0.05\%$ even at turndowns as high as 80:1; stability is better than $\pm 0.02\%$ URL per year for five years, with extremely low total probable error (TPE).

The interchangeability and intelligence of our differential pressure transmitter comes through when the pressure is on. A choice of traditional or low-profile structures allows you to select the best installation method for each application, while maintaining common configuration, operation, and maintenance procedures.



Selection Guide

Pressure Transmitters



Model		IAP10S / IGP10S
Type / Design		Absolute / Gauge / Inline
Communication Protocols		HART
FoxCal Technology (Patented)		Yes
Reference Accuracy	HART - Analog	±0.060% Span
	HART - Digital FOUNDATION Fieldbus	±0.05% Reading
	4-20 mA	n/a
	1 to 5 V dc	n/a
Response Time		100 mSec
Turndown Ratio		400:1
Temperature Range		-40°C to +85°C -40°F to +185°F
Process Temperature Range	Silicone Fill Fluid	-46°C to +121°C -51°F to +250°F
	Inert Fill Fluid	-29°C to +121°C -20°F to +250°F
Supply Voltage	HART	11.5 to 42 V dc
	FOUNDATION Fieldbus	n/a
	Analog	n/a
	Low Power	n/a
Ingress Protection Rating		IP66 / IP68
Housing Material		Aluminum & 316 Stainless Steel
Certifications and Approvals		FM, CSA, ATEX, IECEx
Warranty		5 Years
Process Connections	Standard	1/2" NPT External; 1/4" NPT Internal
	Sanitary	No
	Pulp & Paper	No
	High Pressure	No
Remote Seals and Closed-Coupled Seals	Yes	Yes
Specifications*		PSS 2A-1C13 P



IAP10 / IGP10

IAP20 / IGP20

IGP50

Absolute / Gauge / Inline

Absolute / Gauge / Dual Head

Gauge / Inline

HART, FF¹ ITK5

HART, FF¹ ITK5

HART, FF¹ ITK5

No

No

No

±0.060% Span

±0.060% Span

±0.025% Span

±0.050% Span

±0.050% Span

±0.025% Span

±0.20% Span

±0.20% Span

n/a

±0.10% Span

±0.10% Span

n/a

500 mSec

500 mSec

500 mSec

30:1

30:1

80:1

-40°C to +85°C
-40°F to +185°F

-40°C to +85°C
-40°F to +185°F

-40°C to +85°C
-40°F to +185°F

-46°C to +121°C
-51°F to +250°F

-46°C to +121°C
-51°F to +250°F

-46°C to +121°C
-51°F to +250°F

-29°C to +121°C
-20°F to +250°F

-29°C to +121°C
-20°F to +250°F

-29°C to +121°C
-20°F to +250°F

11.5 to 42 V dc

11.5 to 42 V dc

11.5 to 42 V dc

9 to 32 V dc

9 to 32 V dc

9 to 32 V dc

11.5 to 42 V dc

11.5 to 42 V dc

n/a

9 to 30 V dc

9 to 30 V dc

n/a

IP66 / IP68

IP66 / IP68

IP66 / IP68

Aluminum & 316 Stainless Steel

Aluminum & 316 Stainless Steel

Aluminum & 316 Stainless Steel

FM, CSA, ATEX, IECEx,
TÜV SIL2

FM, CSA, ATEX, IECEx,
TÜV SIL2

FM, CSA, ATEX, IECEx

5 Years

5 Years

5 Years

1/2" NPT External;
1/4" NPT Internal

1/4" & 1/2" NPT;
1/4" & 1/2" RC

1/2" NPT External;
1/4" NPT Internal

Yes

Yes

No

Yes

Yes

No

Yes

No

No

Yes

No

No

PSS 2A-1C13 E

PSS 2A-1C13 E

PSS 2A-1C13 H

¹ FF = FOUNDATION Fieldbus.

* Please use this term in our search window on www.schneider-electric.com to access more product details.

Selection Guide

Pressure Transmitters

(continued)



Model		IDP10S	IDP10
Type / Design		Differential / Traditional Low-Profile 1 and 2	Differential / Traditional Low-Profile 1 and 2
Communication Protocols		HART	HART, FF ¹ ITK5 Analog, Low Power
FoxCal Technology (Patented)		Yes	No
Reference Accuracy	HART - Analog	±0.060% Span	±0.060% Span
	HART - Digital FOUNDATION Fieldbus	±0.05% Reading	±0.050% Span
	4-20 mA	n/a	±0.20% Span
	1 to 5 V dc	n/a	±0.10% Span
Response Time		100 mSec	500 mSec
Turndown Ratio		400:1	30:1
Temperature Range		-40°C to +85°C -40°F to +185°F	-40°C to +85°C -40°F to +185°F
Process Temperature Range	Silicone Fill Fluid	-46°C to +121°C -51°F to +250°F	-46°C to +121°C -51°F to +250°F
	Inert Fill Fluid	-29°C to +121°C -20°F to +250°F	-29°C to +121°C -20°F to +250°F
Supply Voltage	HART	11.5 to 42 V dc	11.5 to 42 V dc
	FOUNDATION Fieldbus	n/a	9 to 32 V dc
	Analog	n/a	11.5 to 42 V dc
	Low Power	n/a	9 to 30 V dc
Ingress Protection Rating		IP66 / IP68	IP66 / IP68
Housing Material		Aluminum & 316 Stainless Steel	Aluminum & 316 Stainless Steel
Certifications and Approvals		FM, CSA, ATEX, IECEx	FM, CSA, ATEX, IECEx, TÜV SIL2
Warranty		5 Years	5 Years
Process Connections	Standard	1/2" NPT External; 1/4" NPT Internal	1/4" & 1/2" NPT; 1/4" & 1/2" RC
	Sanitary - Remote Seals Close Coupled	Yes	Yes
	Pulp & Paper - Remote Seals Close Coupled	Yes	Yes
	High Pressure	No	No
Remote Seals and Closed-Coupled Seals		Yes	Yes
Specifications*		PSS 2A-1C14 M	PSS 2A-1C14 C



IDP50

Differential / Traditional
Low-Profile 1 and 2

HART, FF¹ ITK5

No

±0.025% Span

±0.025% Span

n/a

n/a

500 mSec

80:1

-40°C to +85°C
-40°F to +185°F

-46°C to +121°C
-51°F to +250°F

-29°C to +121°C
-20°F to +250°F

11.5 to 42 V dc

9 to 32 V dc

n/a

n/a

IP66 / IP68

Aluminum & 316 Stainless Steel

FM, CSA, ATEX, IECEx

5 Years

1/4" & 1/2" NPT; 1/4" & 1/2" RC

No

No

No

No

PSS 2A-1C14 L

IDP31D

Differential / Traditional

HART

No

±0.050% Span

±0.050% Span

n/a

n/a

500 mSec

400:1

-40°C to +85°C
-40°F to +185°F

-46°C to +121°C
-51°F to +250°F

-29°C to +121°C
-20°F to +250°F

11.5 to 42 V dc

n/a

n/a

n/a

IP66 / IP68

Aluminum & 316 Stainless Steel

FM, CSA, ATEX, IECEx, TÜV SIL2

2 Years

1/4" & 1/2" NPT; 1/4" & 1/2" RC

Yes

Yes

No

No

PSS 2A-1C17 A

IDP15D

Draft Range
Differential / Traditional

HART

No

±0.04% Span

n/a

n/a

n/a

500 mSec

80:1

-40°C to +85°C
-40°F to +185°F

-40°C to +70°C
-40°F to +158°F

-40°C to +70°C
-40°F to +158°F

11.5 to 42 V dc

n/a

n/a

n/a

IP66 / IP68

Aluminum & 316 Stainless Steel

FM, CSA, ATEX, IECEx

2 Years

1/4" & 1/2" NPT; 1/4" & 1/2" RC

Yes

Yes

No

No

PSS 2A-1C17 A

¹ FF = FOUNDATION Fieldbus.

* Please use this term in our search window on www.schneider-electric.com to access more product details.

Selection Guide

Pressure Multivariable



Model ¹		IMV25
Digital Output		HART, Modbus
4-20 mA Output		HART
Analog Output		4-20 mA and 1 to 5 V dc
Remote Communication		HART, HART Communicator, PC-Based Configurator
Local Communication	Optional	LCD Indicator with Push Buttons and HART Transmitters
	Standard	LCD Indicator with Push Buttons and 4-20 mA / 1 to 5 V dc Transmitters
Accuracy — Under Reference Operating Conditions in % of Calibrated Span		Pressure and DP (10:1 turndown) $\pm 0.05\%$ Span Digital; $\pm 0.075\%$ Span 4-20 mA
Stability — Long-Term Drift		Less than $\pm 0.05\%$ of URL per Year over a 5-Year Period
Measurement Type		Silicone Strain Gauge Sensors – Successfully Field-Proven
Sensor Material		316L Stainless Steel or Hastelloy C for Both Traditional and Low-Profile Structures
Sensor Fill Fluid		Silicone, Fluorinert
Upper Range Limit — Maximum²		36.5 MPa (5,300 psi)
Ambient Temperature Range		-29°C to +82°C / -20°F to +180°F – Normal Operating Conditions
Process Temperature Range		-200°C and +850°C / -328°F and +1562°F
Supply Voltage	HART 4-20 mA	11.5 to 42 V dc; a Minimum Output Load of 250 Ω is Required
	4-20 mA Analog Output	11.5 to 42 V dc
	1 to 5 V dc Analog Output	9 to 15.5 V dc
Certifications and Approvals		EMC, ATEX, PED, CSA IEC IP66 / IP68 and NEMA 4X NAMUR NE 21 and NAMUR 105
Warranty		5 Years
Bypass Manifolds		Yes
Specifications*	HART	PSS 2A-1C15 B
	Modbus	PSS 2A-1C15 D



IMV30



IMV31

HART	HART
HART	HART
4-20 mA	4-20 mA
HART, HART Communicator, PC-Based Configurator	HART, HART Communicator, PC-Based Configurator
LCD Indicator with Push Buttons with HART Transmitters	LCD Indicator with Push Buttons with HART Transmitters
LCD Indicator with Push Buttons and 4-20 mA / 1 to 5 V dc Transmitters	LCD Indicator with Push Buttons and 4-20 mA / 1 to 5 V dc Transmitters
DP and AP $\pm 0.05\%$ Span Digital Flow Rate $\pm 1.0\%$ of Flow Rate for Typical Head Class Meter Applications	DP and AP $\pm 0.05\%$ Span Digital Level: $\pm 0.3\%$ of Maximum Level
Less than $\pm 0.05\%$ of URL per Year over a 5-Year Period	Less than $\pm 0.05\%$ of URL per Year over a 5-Year Period
Silicone Strain Gauge Sensors – Successfully Field-Proven	Silicone Strain Gauge Sensors – Successfully Field-Proven
316L Stainless Steel or Hastelloy C for Both Traditional and Low-Profile Structures	316L Stainless Steel or Hastelloy C for Both Traditional and Low-Profile Structures
Silicone, Fluorinert	Silicone, Fluorinert
36.5 MPa (5,300 psi)	20 MPa (3,000 psi)
-29°C to +82°C / -20°F to +180°F – Normal Operating Conditions	-29°C to +82°C / -20°F to +180°F – Normal Operating Conditions
-200°C and +850°C / -328°F and +1562°F	-200°C and +850°C / -328°F and +1562°F
11.5 to 42 V dc; a Minimum Output Load of 250 Ω is Required	11.5 to 42 V dc; a Minimum Output Load of 250 Ω is required
11.5 to 42 V dc	11.5 to 42 V dc
9 to 15.5 V dc	9 to 15.5 V dc
EMC, ATEX, PED, CSA IEC IP66 / IP68 and NEMA 4X NAMUR NE 21 and NAMUR 105	EMC, ATEX, PED, CSA IEC IP66 / IP68 and NEMA 4X NAMUR NE 21 and NAMUR 105
5 Years Standard / 17 Years Optional	5 Years Standard / 17 Years Optional
Yes	Yes
PSS 2A-1C15 A	PSS 2A-1C15 C

¹ NOTE: This is just a guide. Please consult the individual PSS's for exceptions, restrictions and more detailed information.

² Absolute Pressure measured directly. Gauge Pressure calculated from user-entered barometric pressure constant.

* Please use this term in our search window on www.schneider-electric.com to access more product details.