

# Foxboro "S" Series Pressure Transmitters

## IDP10S Differential Pressure Transmitters

The Foxboro Pressure "S" Series Model IDP10S transmitter is an intelligent, two-wire transmitter that provides precise, reliable differential pressure measurement and transmits a 4 to 20 mA output signal with a superimposed HART digital signal for remote configuration and monitoring.

The IDP10S pressure transmitter enables customers to accurately track in-service time, which allows for predictive maintenance and can reduce inventory costs with a wide range of applications that traditionally require two separate transmitters.



# Foxboro IDP10S Series Pressure Transmitters

## Features



### Product at a Glance

- Industry leading 400:1 turndown
- Patented FoxCal multiple calibration technology
- Time in Service features for advanced diagnostics
- LCD indicator with on-board pushbuttons for configuration
- 5-year standard warranty

### Precise and Reliable Measurement

The Foxboro I/A Series Pressure “S” Series Model IDP10S transmitter is an intelligent, two-wire transmitter that provides precise, reliable measurement of differential pressure and transmits a 4 to 20 mA output signal with a superimposed HART digital signal for remote configuration and monitoring.

### Time in Service

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 transmitter allows you to keep track of the number of days the transmitter has been in service. The Time In Service meter tracks both the total number of days the transmitter has been powered up in the field over its lifetime (total days), and also tracks the number of days the transmitter has been powered up since the last Time in Service meter reset (user days). You can reset the user day’s value to zero using a HART communicator, a PC-based configurator, or the optional local indicator, but you cannot reset the lifetime service parameter.

### Wide Turndown Ranges

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

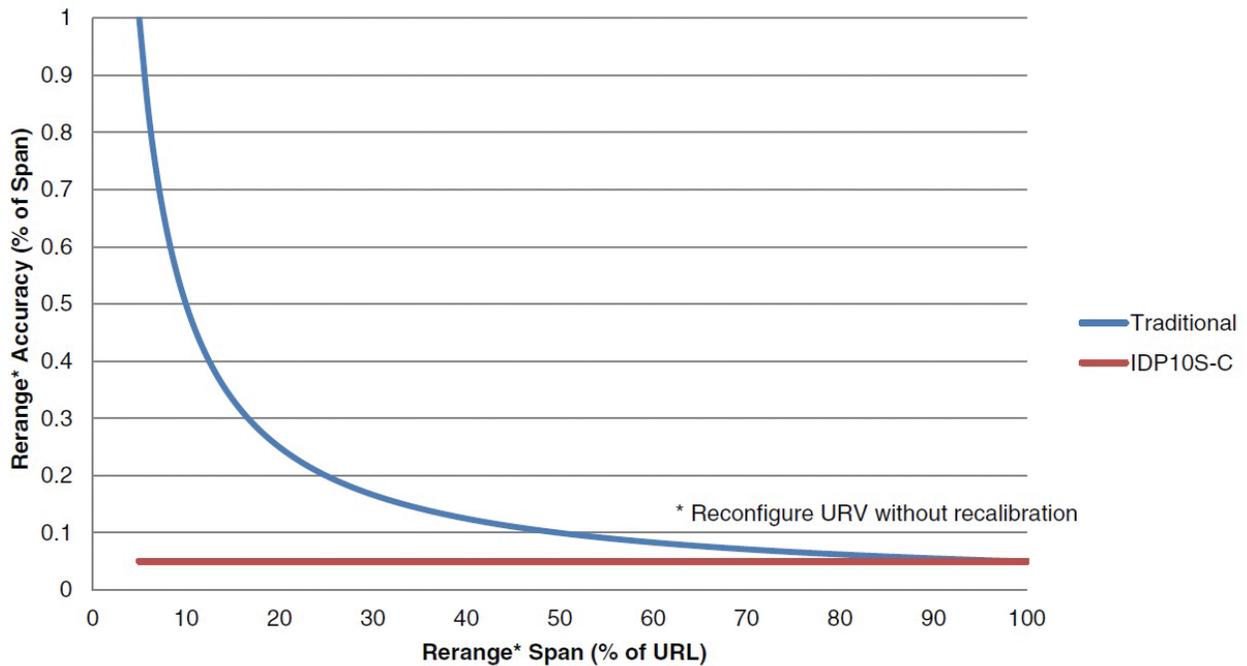
The turndown ratio for span adjustment is up to 400:1. This means that the IDP10S transmitter with its 1000” H<sub>2</sub>O URL sensor can be set to provide a 4 to 20 mA output for any range between -1000” to +1000” H<sub>2</sub>O (-250 to +250 kPa). Similarly the IDP10S with a 200” sensor covers any range between -200” and +200” H<sub>2</sub>O (-50 to +50 kPa). The IDP10S 200” sensor can measure spans between 0.5” and 200” H<sub>2</sub>O (1.2 to 500 mbar) and the 1000” sensor can measure spans between 2.5” and 1000” H<sub>2</sub>O (6.25 to 2500 mbar).

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## Multiple Calibration Feature

The Foxboro IDP10S pressure transmitters offer a unique patented multiple calibration technology feature that eliminates the need for a traditional single-span calibration at an application-specific pressure range. Transmitters with the multiple calibration feature enabled use multiple calibrated ranges that are stored in the on-board memory. The multiple (11) calibration ranges are preset in the factory and cover the full pressure range of the transmitter. During operation, a real-time, seamless transition from one calibrated range to another maintains accuracy as a percent of reading from 3% to 100% of the upper range limit (URL).

Factory calibration and field calibration for specific applications are not required for zero-based ranges. You can simply configure or rerange the upper range value (URV) without performing a recalibration at the URV. You only need to perform a zero adjustment after installation to obtain the performance to the specified reference accuracy.

When ordering the IDP10S transmitter, there is an option to request a calibration certificate, which demonstrates 11 multiple calibration ranges. The LRV and URV points are configured (reranged) to the user-specified values, and the accuracy is verified over that specific range.

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## Functional Specifications

### Span Limits for IDP10S Transmitters

Span Code	kPa	psi	mbar	bar or kg/cm <sup>2</sup>	In H <sub>2</sub> O (a)
B	0.12 and 50	0.02 and 7.21	1.2 and 497	0.0012 and 0.5	0.5 and 200
C	0.62 and 249	0.09 and 36.06	6.22 and 2486	0.006 and 2.5	2.5 and 1000
D	26 and 2068	3.75 and 300	259 and 20,684	0.26 and 21	104 and 8319
E (b)	259 and 20,684	37.5 and 3000	2586 and 206,843	2.6 and 207	1040 and 83,189

(a) Represents inches of water at 68° F.

(b) When certain options are specified, the upper span and range limits are reduced.

Span Limit Code E is not available with Structure Codes 78 and 79 (PVDF inserts in HI-side cover).

### Range Limits for IDP10S Transmitters (a)

Span Code	kPa	MPa	psi	In H <sub>2</sub> O (b)
B	-50 and +50	-0.05 and +0.05	-7.21 and +7.21	-200 and +200
C	-249 and +249	-0.25 and +0.25	-36.06 and +36.06	-1000 and +1000
D	-207 and +2068	-0.21 and +2.1	-30 and +300	-832 and +8319
E (c)	0 and 20,684	0 and 21	0 and 3000	0 and 83,189

(a) Positive values indicate HI side of sensor at the high pressure, and negative values indicate LO side of sensor at the high pressure.

(b) Represents inches of water at 68° F.

(c) When certain options are specified, the upper span and range limits are reduced.

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