



SmartLine Pressure Selection Guidelines



Honeywell's SmartLine® smart measurement system sets the standard for total performance in harsh process environments.

SmartLine offers industry-leading performance, unique features such as modularity, a graphics display and polarity insensitivity that lower the total cost of ownership and is the only pressure transmitter equipped with Smart Connection Suite to deliver the best control system integration.

Redefining Smart. SmartLine Pressure Transmitters.

Leading Performance:

SmartLine provides better performance with industry leading accuracy, response time and stability. When combined with Honeywell's proven static pressure & temperature compensation you get unbeatable total performance better than 0.12% of span under actual process conditions.

Lowest Total Cost of Ownership:

- Honeywell's unique approach to modularity helps reduce maintenance costs and make repairs safer and faster. With the ability to repair the transmitter in place we can avoid the need to break a process line connection, even in an intrinsically safe environment. And with no need to inventory complete units, inventory costs are lower.
- An advanced graphic display and optional three button external configuration provide capabilities for field operators to more efficiently perform tasks, solve problems and avoid errors with no need for a handheld device. The display shows rich graphics, bar graphs, trends and messages from the control room.
- With polarity Insensitivity SmartLine transmitter wiring can be reversed without damaging or effecting the normal operation of the transmitter. This avoids costly rework on large installations where multiple contractors may use different wiring standards and eliminates return trips to re-wire "incorrectly wired" devices.

Smart Connection Suite Features:

- Transmitter Messaging allows the operator to send and display custom messages to the display so field operators can quickly identify the right transmitter and task.
- Maintenance Mode Indication displays a message on the display that the transmitter and/or the loop is in a mode suitable for maintenance.
- Unique Tamper Reporting notifies the control room that an attempt to change a write-protect configuration has been made or that the write protection has been switched off.
- Field Device Manager (FDM) is Honeywell's centralized asset management system for smart field device configuration and maintenance. When SmartLine data is integrated into FDM, users can create hierarchical screen displays for quick and easy views of device health from areas of the plant or process.
- With comprehensive testing, we provide trouble-free integration for faster startups and reliability. Honeywell even tests with other supplier's configuration tools.

SmartLine ST 800

Performance Characteristics

Accuracy:

- Up to 0.0375% of span standard
- 0.025% span optional high accuracy

Stability:

- Up to 0.01% per year for ten years

Response Time:

- As fast as 80 ms

Total Performance:

- Up to 0.12%

Turndown Ratios up to 400:1

Compound Characterized Ranges

Temperature and Static Pressure Compensated

Product Features & Options

HART 7, DE & Foundation Fieldbus Communication Protocols

Polarity Insensitive Electrical Connections

Modular Design Components

- Simple faster repairs with less downtime

Experion Smart Connection Suite

- Transmitter Messaging *
- Maintenance Mode Indication
- Tamper Alerts *
- FDM Plant Area Views
- Comprehensive Experion integration testing

SIL 2 Certified/SIL 3 Capable Standard

Certified for Dual Seal Compliance

Comprehensive & Advanced Diagnostics

User Interface Options:

- Optional basic alphanumeric display
- Optional advance graphics display
- Multiple PV display screens including bar graph and trend displays
- Comprehensive diagnostic messages
- Supports transmitter messaging and maintenance mode indication
- Comprehensive DDs & DTMs for remote configuration and device management
- Optional External 3 button programming capability

Optional Extended Warranties

- 1, 2, 3, 4, & 15 year warranties

* Also compatible with other HART 7 enabled hosts

SmartLine ST 700

Performance Characteristics

Accuracy:

- Up to 0.05% of span

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Stability:

- Up to 0.02% per year for five years

Response Time:

- As fast as 100 ms

Total Performance:

- Up to 0.2%

Turndown Ratios up to 100:1

Compound Characterized Ranges

Temperature and Static Pressure Compensated

Product Features & Options

HART 7, DE & Foundation Fieldbus Communication Protocols

Polarity Insensitive Electrical Connections

Modular Design Components

- Simple faster repairs with less downtime

Experion Smart Connection Suite

- Tamper Alerts *

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- FDM Plant Area Views

- Comprehensive Experion integration testing

SIL 2 Certified/SIL 3 Capable Standard

Certified for Dual Seal Compliance

Comprehensive Diagnostics

User Interface Options:

- Optional basic alphanumeric display
- Optional external 3 button programming capability
- Comprehensive DDs & DTMs for remote configuration and device management
- Optional external 3-button programming capability

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Lower Your Total Cost of Ownership

With Plug-In Modules, Users Can Easily Add Or Upgrade

All SmartLine pressure transmitters are modular in design, making it easy to replace hardware, add indicators, change electronic modules or even meter bodies without affecting overall performance or impinging on approval body certifications.

It takes only a matter of minutes to replace the electronics, even in the field under power with no re-calibration required. This avoids the time-consuming procedure of removing a sensor from a pipeline or network, particularly in highly critical processes.

Best of all, Honeywell's unique modularity reduces inventory requirements and lowers overall operating costs.

Field-exchangeable communication modules to deploy HART, Honeywell Digital Enhanced (DE), FOUNDATION fieldbus or Profibus communication

Basic or advanced digital display as determined by their application requirements

Three-button local configuration

Wiring terminal boards for standard or advanced lightning-protected applications

Flexible Configuration

In addition to configuring with any handheld device or through asset management DTMs, users can configure the transmitters through externally accessible buttons, even in an intrinsically safe, Class I, Div. 1 environment.

Now, whether on the bench or in the field, configure, change tag information, change languages and even more without needing a handheld device.

Advanced Graphics LCD Display:

- Up to eight separate screens with three formats to meet unique display requirements: process variable, bar graph and trend
- Full library of engineering units with the ability to add custom units
- Configurable screen rotation timing
- Supports multiple languages
- Two diagnostic indications
- 90-degree position adjustments to facilitate all installation positions

Smartline Pressure Selection Guide

Model Types, Ranges and Spans

SmartLine ST800

Model	Upper Range Limit	Lower Range Limit	Max Span	Min Span	Units	Standard Accuracy % of span	Turndown Capability
Differential Pressure							
STD810	10 (25.0)	-10 (-25.0)	10 (24.9)	0.1 (0.25)	" H ₂ O (mbar)	0.0750%	25:1
STD820	400 (1000)	-400 (-1000)	400 (1000)	1.0 (2.5)	" H ₂ O (mbar)	0.0375%	400:1
STD830	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.0500%	100:1
STD870	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)	psi (bar)	0.0500%	100:1
Gauge Pressure							
Dual Head							
STG830	50 (3.5)	-14.7 (-1.0)	50 (3.5)	0.5 (.035)	psi (bar)	0.0550%	100:1
STG840	500 (35)	-14.7 (-1.0)	500 (35)	5 (.35)	psi (bar)	0.0550%	100:1
STG870	3000 (210)	-14.7 (-1.0)	3000 (210)	30 (2.1)	psi (bar)	0.0550%	100:1
In-Line							
STG83L	50 (3.5)	-14.7 (-1.0)	50 (3.5)	0.5 (.035)	psi (bar)	0.0550%	100:1
STG84L	500 (35)	-14.7 (-1.0)	500 (35)	5 (.35)	psi (bar)	0.0550%	100:1
STG87L	3000 (210)	-14.7 (-1.0)	3000 (210)	30 (2.1)	psi (bar)	0.0550%	100:1
STG88L	6000 (420)	-14.7 (-1.0)	6000 (420)	60 (4.2)	psi (bar)	0.0550%	100:1
STG89L	10000 (690)	-14.7 (-1.0)	10000 (690)	100 (6.9)	psi (bar)	0.0550%	100:1
Absolute Pressure							
Dual Head							
STA822	780 (1040)	0 (0)	780 (1040)	50 (65.0)	mm HgA (mbarA)	0.055%	15:1
STA840	500 (35)	0 (0)	500 (35)	5 (.35)	psia (barA)	0.055%	100:1
In-Line							
STA82L	780 (1040)	0 (0)	780 (1040)	50 (65.0)	mm HgA (mbarA)	0.055%	15:1
STA84L	500 (35)	0 (0)	500 (35)	5 (.35)	psia (barA)	0.055%	100:1
STA87L	3000 (210)	0 (0)	3000 (210)	30 (2.1)	psia (barA)	0.055%	100:1
Flanged Mount Differential							
STF828	400 (1000)	-400 (-1000)	400 (1000)	4 (10.0)	" H ₂ O (mbar)	0.0375%	100:1
STF832	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.050%	100:1
STF82F	400 (1000)	-400 (1000)	400 (1000)	1 (2.5)	" H ₂ O (mbar)	0.0375%	400:1
STF83F	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.050%	100:1
Differential & Absolute Remote Seals							
STR82D	400 (1000)	-400 (-1000)	400 (1000)	4 (10.0)	" H ₂ O (mbar)	0.065%	100:1
STR83D	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.065%	100:1
STR84A	500 (35)	5.0 (0.35)	500 (35)	5 (0.35)	psia (bar A)	0.065%	100:1
STR84G	500 (35)	-14.7 (-1)	500 (35)	5 (0.35)	psi (bar)	0.065%	100:1
STR87G	3000 (210)	-14.7 (-1)	3000 (210)	30 (2.1)	psi (bar)	0.065%	100:1

SmartLine ST700

Model	Upper Range Limit	Lower Range Limit	Max Span	Min Span	Units	Standard Accuracy % of span	Turndown Capability
Differential Pressure							
STD720	400 (1000)	-400 (-1000)	400 (1000)	1.0 (2.5)	" H ₂ O (mbar)	0.05%	100:1
STD730	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.05%	100:1
STD770	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)	psi (bar)	0.05%	100:1
Gauge Pressure							
Dual Head							
STG730	50 (3.5)	-14.7 (-1.0)	50 (3.5)	0.5 (.035)	psi (bar)	0.065%	100:1
STG740	500 (35)	-14.7 (-1.0)	500 (35)	5 (.35)	psi (bar)	0.065%	100:1
STG770	3000 (210)	-14.7 (-1.0)	3000 (210)	30 (2.1)	psi (bar)	0.065%	100:1
In-Line							
STG73L	50 (3.5)	-14.7 (-1.0)	50 (3.5)	0.5 (.035)	psi (bar)	0.065%	100:1
STG74L	500 (35)	-14.7 (-1.0)	500 (35)	5 (.35)	psi (bar)	0.065%	100:1
STG77L	3000 (210)	-14.7 (-1.0)	3000 (210)	30 (2.1)	psi (bar)	0.065%	100:1
STG78L	6000 (420)	-14.7 (-1.0)	6000 (420)	60 (4.2)	psi (bar)	0.065%	100:1
STG79L	10000 (690)	-14.7 (-1.0)	10000 (690)	100 (6.9)	psi (bar)	0.065%	100:1
Absolute Pressure							
Dual Head							
STA722	780 (1040)	0 (0)	780 (1040)	50 (65.0)	mm HgA (mbarA)	0.065%	100:1
STA740	500 (35)	0 (0)	500 (35)	5 (.35)	psia (barA)	0.065%	100:1
In-Line							
STA72L	780 (1040)	0 (0)	780 (1040)	50 (65.0)	mm HgA (mbarA)	0.065%	100:1
STA74L	500 (35)	0 (0)	500 (35)	5 (.35)	psia (barA)	0.065%	100:1
STA77L	3000 (210)	0 (0)	3000 (210)	30 (2.1)	psia (barA)	0.065%	100:1
Flanged Mount Differential							
STF724	400 (1000)	-400 (1000)	400 (1000)	4 (10.0)	" H ₂ O (mbar)	0.05%	100:1
STF732	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.05%	100:1
STF72F	400 (1000)	-400 (1000)	400 (1000)	1 (2.5)	" H ₂ O (mbar)	0.05%	100:1
STF73F	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.05%	100:1
Differential & Absolute Remote Seals							
STR73D	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	0.075%	100:1
STR74G	500 (35)	-14.7 (-1)	500 (35)	5 (0.35)	psi (bar)	0.075%	100:1

For More Information

To learn more about Honeywell's SmartLine Pressure Transmitters, visit www.honeywellprocess.com/smartline or contact your Honeywell account manager.

Honeywell Process Solutions

Honeywell

512 Virginia Drive
Fort Washington, PA 19034 USA

Honeywell House, Arlington Business Park
Bracknell, Berkshire, England RG12 1EB

17 Changi Business Park Central 1
Singapore 486073

www.honeywellprocess.com

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