

STD800 SmartLine Differential Pressure Specification 34-ST-03-82



Introduction

Part of the SmartLine® family of products, the STD800 is a high performance differential pressure transmitter featuring piezoresistive sensor technology. By combining differential pressure sensing with on chip static and temperature compensation the STD800 offers high accuracy and stability over a wide range of application pressures and temperatures. The SmartLine family is also fully tested and compliant with Experion® PKS providing the highest level of compatibility assurance and integration capabilities. SmartLine easily meets the most demanding application needs for pressure measurement applications.

Best in Class Features:

- Accuracies up to 0.0375% standard
- Stability up to 0.01% of URL per year for ten years
- Automatic static pressure & temperature compensation
- Rangeability up to 400:1
- Response times as fast as 90ms
- Multiple local display capabilities
- External zero, span, & configuration capability
- Polarity insensitive electrical connections
- Comprehensive on-board diagnostic capabilities
- Integral Dual Seal design for highest safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- World class overpressure protection
- Full compliance to SIL 2/3 requirements.
- Modular design characteristics
- Available with 15 year warranty

Span & Range Limits:

Model	URL "H ₂ O (mbar)	LRL "H ₂ O (mbar)	Max Span "H ₂ O (mbar)	Min Span "H ₂ O (mbar)
STD810	10 (25)	-10 (-25)	10 (25)	0.1 (0.25)
STD820	400 (1000)	-400 (-1000)	400 (1000)	1.0 (2.5)
Model	psi (bar)	psi (bar)	psi (bar)	psi (bar)
STD830	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)
STD870	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)



Figure 1 – STD800 Differential Pressure Transmitters feature field-proven piezoresistive sensor technology

Communications/Output Options:

- 4-20mA dc
- Honeywell Digitally Enhanced (DE)
- HART® (version 7.0)
- FOUNDATION™ Fieldbus

All transmitters are available with the above listed communications protocols.

Description

The SmartLine family of gauge pressure, differential pressure, and absolute pressure transmitters is designed around a high performance piezo-resistive sensor. This one sensor actually integrates multiple sensors linking process pressure measurement with on-board static pressure (DP Models) and temperature compensation measurements resulting in the best total performance available. This level of performance allows the ST 800 to replace virtually any competitive transmitter available today.

Unique Indication/Display Options

The ST 800 modular design accommodates a basic alphanumeric LCD display or a unique advanced graphics LCD display with many unparalleled features.

Basic Alphanumeric LCD Display Features

- Modular (may be added or removed in the field)
- 0, 90, 180, & 270 degree position adjustments
- Pa, KPa, MPa, KGcm², Torr, ATM, iH₂O, mH₂O, bar, mbar, inH₂O, inHG, FTH₂O, mmH₂O, mm HG, & psi measurement units
- 2 Lines 16 Characters (4.13H x 1.83W mm)
- Square root output indication

Advanced Graphics LCD Display Features

- Modular (may be added or removed in the field)
- 0, 90, 180, & 270 degree position adjustments
- Standard and custom measurement units available.
- Eight display screens with 3 formats are possible
Large PV with Bar Graph or PV with Trend Graph
- Configurable screen rotation timing
- Display Square Root capabilities may be set separately from the 4-20mA dc output signal
- Unique "Health Watch" indication provides instant visibility of diagnostics

Diagnostics

SmartLine transmitters all offer digitally accessible diagnostics which aid in providing advanced warning of possible failure events minimizing unplanned shutdowns, providing **lower overall operational costs**

Configuration Tools

Integral Three Button Configuration Option

Suitable for all electrical and environmental requirements, SmartLine offer the ability to configure the transmitter and display via three externally accessible buttons when either display option is selected. Zero/span capabilities are also optionally available via these buttons with or without selection of a display option.

Hand Held Configuration

SmartLine transmitters feature two-way communication and configuration capability between the operator and the transmitter. This is accomplished via Honeywell's field-rated Multiple Communication Configurator (MCT202).

The MCT202 is capable of field configuring DE and HART Devices and can also be ordered for use in intrinsically safe environments. All Honeywell transmitters are designed and tested for compliance with the offered communication protocols and are designed to operate with any properly validated hand held configuration device.

Personal Computer Configuration

Honeywell's SCT 3000 Configuration Toolkit provides an easy way to configure Digitally Enhanced (DE) instruments using a personal computer as the configuration interface. Field Device Manager (FDM) Software and FDM Express are also available for managing HART & Fieldbus device configurations.

System Integration

- SmartLine communications protocols all meet the most current published standards for HART/DE/Fieldbus.
- Integration with Honeywell's Experion PKS offers the following unique advantages.
 - Transmitter messaging
 - Maintenance mode indication
 - Tamper reporting
 - FDM Plant Area Views with Health summaries
 - All ST 800 units are Experion tested to provide the highest level of compatibility assurance

Modular Design

To help contain maintenance & inventory costs, all ST 800 transmitters are modular in design supporting the user's ability to replace meter bodies, add indicators or change electronic modules without affecting overall performance or approval body certifications. Each meter body is uniquely characterized to provide in-tolerance performance over a wide range of application variations in temperature and pressure and due to the Honeywell advanced interface, electronic modules may be swapped with any electronics module without losing in-tolerance performance characteristics.

Modular Features

- Meter body replacement
- Exchange/replace electronics/comms modules*
- Add or remove integral indicators*
- Add or remove lightning protection (terminal connection)*

* Field replaceable in all electrical environments (including IS) except flameproof without violating agency approvals.

With no performance effects, Honeywell's unique modularity results in **lower inventory needs and lower overall operating costs.**

Performance Specifications¹

Reference Accuracy² (conformance to +/-3 Sigma)

Model	URL	LRL	Min Span	Maximum Turndown Ratio	Stability (% URL/ Year for ten years)	Reference Accuracy ¹ (% Span)
STD810	10 in H ₂ O/25mbar	-10 in H ₂ O/-25mbar	0.1 in H ₂ O/0.25mbar	100:1	n/a	0.0750%
STD820	400 in H ₂ O/1000mbar	-400 in H ₂ O/-1000mbar	1 in H ₂ O/2.5mbar	400:1	0.010	0.0375%
STD830	100 psi/7.0 bar	-100 psi/-7.0 bar	1 psi/0.07 bar	100:1	0.040	0.0500%
STD870	3000 psi/210 bar	-100 psi/-7.0 bar	30 psi/2.1 bar	100:1	0.030	

Zero and span may be set anywhere within the listed (URL/LRL) range limits

Accuracy at Specified Span, Temperature and Static Pressure: (conformance to +/-3 Sigma)

Model	URL	Accuracy ¹ (% of Span)			Temperature Effect (% Span/50°F)		Static Line Pressure Effect (% Span/1000psi) ³		
		Turn down greater than	A	B	C	D	E	F	G
STD810	10 in H ₂ O/25mbar	10:1	0.025	0.050	1	0.070	0.040	0.050	0.050
STD820	400 in H ₂ O/1000mbar	16:1	0.0125	0.025	25	0.025	0.010	0.075	0.0075
STD830	100 psi/7.0 bar	6.7:1							
STD870	3000 psi/210 bar	15:1							
			Turn Down Effect $\pm \left[A + B \left(\frac{C}{\text{Span}} \right) \right]$ % Span			Temp Effect $\pm \left[D + E \left(\frac{\text{URL}}{\text{Span}} \right) \right]$ % Span per 28°C (50°F)		Static Effect $\pm \left[F + G \left(\frac{\text{URL}}{\text{Span}} \right) \right]$ % Span per 1000 psi	

Total Performance (% of Span):

$$\text{Total Performance} = \pm \sqrt{(\text{Accuracy})^2 + (\text{Temp Effect})^2 + (\text{Static Line Pressure Effect})^2}$$

Total Performance Examples: (5:1 Turndown, up to 50 °F shift & up to 1000 psi Static Pressure³)

STD810 @ 2" H₂O: 0.51% of span

STD830 @ 20 psi: 0.14 % of span

STD820 @ 80" H₂O: 0.13% of span

STD870 @ 600 psi: 0.13 % of span

Typical Calibration Frequency:

Calibration verification is recommended every four (4) years

Notes:

1. Terminal Based Accuracy - Includes combined effects of linearity, hysteresis, and repeatability. Analog output adds 0.005% of span.
2. For zero based spans and reference conditions of: 25 °C (77°F), 0 psig static pressure, 10 to 55% RH, and 316 Stainless Steel barrier diaphragm.
3. STD810 Includes only zero shift with static pressure. Results are % of span/25 psig

Operating Conditions – All Models

Parameter	Reference Condition		Rated Condition		Operative Limits		Transportation and Storage	
	°C	°F	°C	°F	°C	°F	°C	°F
Ambient Temperature¹ STD800	25±1	77±2	-40 to 85	-40 to 185	-40 to 85	-40 to 185	-55 to 120	-67 to 248
Meter Body Temperature² STD810, 820, 830, 870	25±1	77±2	-40 to 110 ¹	-40 to 230 ¹	-40 to 125	-40 to 257	-55 to 120	-67 to 248
Humidity %RH	10 to 55		0 to 100		0 to 100		0 to 100	
Vac. Region – Min. Pressure All Models Except STD810 mmHg absolute inH₂O absolute	Atmospheric Atmospheric		25 13		2 (short term) ³ 1 (short term) ³			
Supply Voltage Load Resistance	10.8 to 42.4 Vdc at terminals (IS versions limited to 30 Vdc) 0 to 1,440 ohms (as shown in Figure 2)							
Maximum Allowable Working Pressure (MAWP)^{4,5} <small>(ST 800 products are rated to Maximum Allowable Working Pressure. MAWP depends on Approval Agency and transmitter materials of construction.)</small>	Standard: STD810 = 50 psi, 3.45 bar STD820, STD830 and STD870 = 4,500 psi, 310.2 bar Optional: STD820, STD830, STD870 = 6,000 psi, 420 bar Static Pressure Limit = Maximum Allowable Working Pressure (MAWP) = Overpressure Limit for ST 800 Differential Pressure Transmitters							

- ¹ LCD Display operating temperature -20°C to +70°C . Storage temperature -30°C to 80°C.
- ² For CTFE fill fluid, the rating is -15 to 110°C (5 to 230°F)
- ³ Short term equals 2 hours at 70°C (158°F)
- ⁴ MAWP applies for temperatures -40 to 125°C. Static Pressure Limit is de-rated to 3,000 psi for -26°C to -40°C. for all models except STD810. Use of graphite o-rings de-rates transmitter to 3,625 psi. Use of 1/2." process adaptors with graphite o-rings de-rates transmitter to 3,000 psi.
- ⁵ Consult factory for MAWP of ST 800 transmitters with CRN approval.

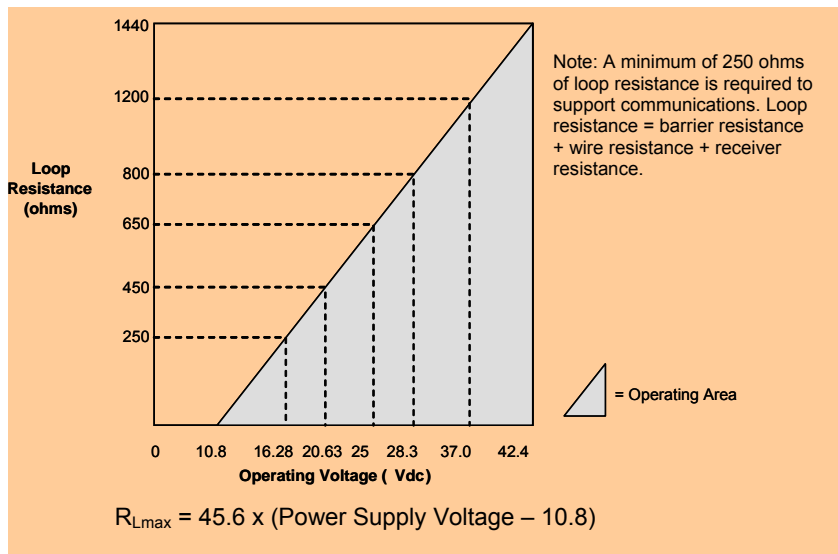


Figure 2 - Supply voltage and loop resistance chart & calculations

Communications Protocols & Diagnostics

HART Protocol

Version:

HART 7

Power Supply

Voltage: 10.8 to 42.4Vdc at terminals

Load: Maximum 1440 ohms See figure 2

Minimum Load: 0 ohms. (For handheld communications a minimum load of 250 ohms is required)

Foundation Fieldbus (FF)

Power Supply Requirements

Voltage: 9.0 to 32.0Vdc at terminals

Steady State Current: 17.6mAdc

Software Download Current: 27.4mAdc

Available Function Blocks

Block Type	Qty	Execution Time
Resource	1	n/a
Transducer	1	n/a
Diagnostic	1	n/a
Analog Input	1*	30 ms
PID w/Autotune	1	45 ms
Integrator	1	30 ms
Signal Char (SC)	1	30 ms
LCD Display	1	n/a
Flow Block	1	30 ms
Input Selector	1	30 ms
Arithmetic	1	30 ms

* AI block may have two (2) additional instantiations.

All available function blocks adhere to FOUNDATION Fieldbus standards. PID blocks support ideal & robust PID algorithms with full implementation of Auto-tuning.

Link Active Scheduler

Transmitters can perform as a backup Link Active Scheduler and take over when the host is disconnected.

Acting as a LAS, the device ensures scheduled data transfers typically used for the regular, cyclic transfer of control loop data between devices on the Fieldbus.

Number of Devices/Segment

Entity IS model: 6 devices/segment

Schedule Entries

18 maximum schedule entries

Number of VCR's: 24 max

Compliance Testing: Tested according to ITK 6.0.1

Software Download

Utilizes Class-3 of the Common Software Download procedure as per FF-883 which allows the field devices of any manufacturer to receive software upgrades from any host.

Honeywell Digitally Enhanced (DE)

DE is a Honeywell proprietary protocol which provides digital communications between Honeywell DE enabled field devices and Hosts.

Power Supply

Voltage: 10.8 to 42.4Vdc at terminals

Load: Maximum 1440 ohms See figure 2

Standard Diagnostics

ST 800 top level diagnostics are reported as either critical or non-critical and readable via the DD/DTM tools or integral display as shown below.

Critical Diagnostics		
HART DD/DTM tools	Advanced Display	Basic Display
Electronic Module DAC Failure	Electronics Module fault	Electronics Module fault
Meter Body NVM Corrupt	Meterbody fault	Meterbody fault
Config Data Corrupt	Electronics Module fault	Electronics Module fault
Electronic Module Diag Failure	Electronics Module fault	Electronics Module fault
Meter Body Critical Failure	Meterbody fault	Meterbody fault
Sensor Comm Timeout	Meterbody Comm fault	Meterbody Comm fault

Non-Critical Diagnostics		
HART DD/DTM tools	Advanced Display	Basic Display
Display Failure	n/a	n/a
Electronic Module Comm Failure	n/a	n/a
Meter Body Excess Correct	Zero Correct (OK or EXCESSIVE) Span Correct (OK or EXCESSIVE)	n/a
Sensor Over Temperature	Meterbody Temp (OK, OVER TEMP)	n/a
Fixed Current Mode	Analog Out mode (Fixed or Normal)	n/a
PV Out of Range	Primary PV (OK or OVERLOAD)	n/a
No Factory Calibration	Factory Cal (OK, NO FACTORY CAL)	n/a
No DAC Compensation	DAC Temp Comp (OK, NO COMPENSATION)	n/a
LRV Set Error – Zero Config Button	n/a	n/a
URV Set Error – Span Config Button	n/a	n/a
AO Out of Range	n/a	n/a
Loop Current Noise	n/a	n/a
Meter Body Unreliable Comm	Meterbody Comm (OK, SUSPECT)	n/a
Tamper Alarm	n/a	n/a
No DAC Calibration	n/a	n/a
Sensor Supply Voltage Low	Supply Voltage (OK, LOW, or HIGH)	n/a

Refer to ST 800 diagnostics tech note for additional level diagnostics.

Other Certification Options

Materials

- NACE MRO175, MRO103, ISO15156

Approval Certifications:

AGENCY	TYPE OF PROTECTION	COMM. OPTION	FIELD PARAMETERS	AMBIENT TEMP (Ta)
FM Approvals™	Explosionproof: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T4 Class I, Zone 1/2, AEx d IIC T4 Class II, Zone 21, AEx tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T4 Class 1, Zone 0, AEx ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D locations, Class 1, Zone 2, AEx nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	All	All	-
Canadian Standards Association (CSA)	Explosion Proof: Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T4 Ex d IIC T4 Ex tD A21 T 95°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T4 Ex nA IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D; T4 Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	All	All	-
	Canadian Registration Number (CRN):	All models except STG89L, STG870 and have been registered in all provinces and territories in Canada and are marked CRN: 0F8914.5C.		

Approval Certifications: (Continued)

ATEX	Flameproof: II 1/2 G Ex d IIC T4 II 2 D Ex tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: II 1 G Ex ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: II 3 G Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
Enclosure: IP66/ IP67	All	All	All	
IECEX (World)	Flameproof : Ga/Gb Ex d IIC T4 Ex tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Ex ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
Enclosure: IP66/ IP67	All	All	All	
SAEx (South Africa)	Flameproof : Ga/Gb Ex d IIC T4 Ex tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Ex ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
Enclosure: IP66/ IP67	All	All	All	
INMETRO (Brazil)	Flameproof: Br- Ga/Gb Ex d IIC T4 Br- Ex tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Br- Ex ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
Enclosure : IP 66/67	All	All	-	

NEPSI (China)	Flameproof: Br- Ga/Gb Ex d IIC T4 Br- Ex tb IIIC T 85°C IP 66	All	Note 1	-50 °C to 85°C
	Intrinsically Safe: Br- Ex ia IIC T4	4-20 mA / DE/ HART	Note 2a	-50 °C to 70°C
		Foundation Fieldbus	Note 2b	-50 °C to 70°C
	Nonincendive: Ex nA IIC T4	4-20 mA / DE/ HART	Note 1	-50 °C to 85°C
		Foundation Fieldbus	Note 1	-50 °C to 85°C
	Enclosure : IP 66/67	All	All	-

Notes:

1. Operating Parameters:

Voltage= 11 to 42 V DC Current= 4-20 mA Normal (3.8 – 23 mA Faults)
= 10 to 30 V (FF) = 30 mA (FF)

2. Intrinsically Safe Entity Parameters

a. Analog/ DE/ HART Entity Values:

Vmax= Ui = 30V Imax= li= 105 mA Ci = 4.2nF Li = 820uH Pi =0.9W

b. Foundation Fieldbus Entity Values

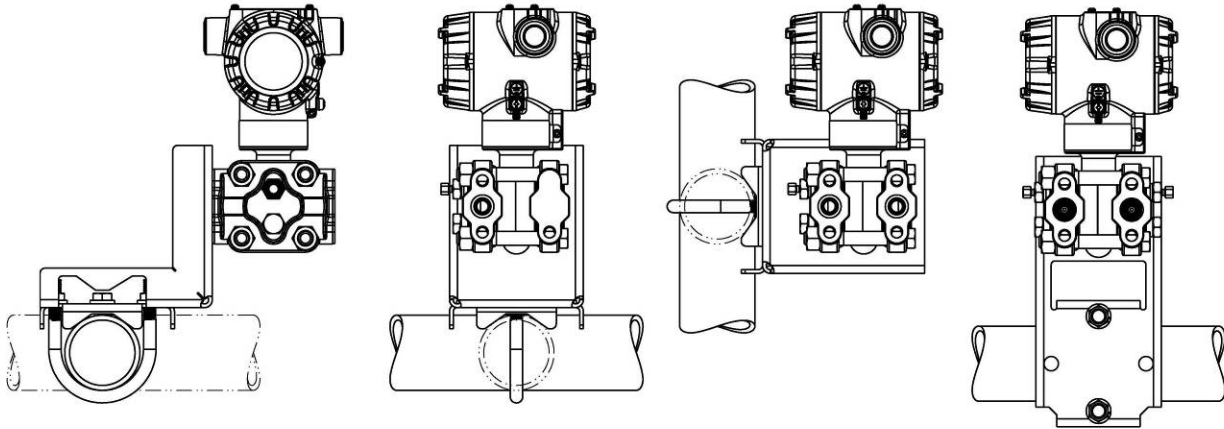
Vmax= Ui = 30V Imax= li= 225mA Ci = 0 Li = 0 Pi =1W

Marine Certificates	<p>This certificate defines the certifications covered for the ST 800 Pressure Transmitter family of products, including the SMV 800 Smart Multivariable Transmitter. It represents the compilation of the five certificates Honeywell currently has covering the certification of these products into marine applications.</p> <p>For ST 800 Smart Pressure Transmitter and SMV800 Smart Multivariable Transmitter</p>
	<p>American Bureau of Shipping (ABS) - 2009 Steel Vessel Rules 1-1-4/3.7, 4-6-2/5.15, 4-8-3/13 & 13.5, 4-8-4/27.5.1, 4-9-7/13. Certificate number: 04-HS417416-PDA</p>
	<p>Bureau Veritas (BV) - Product Code: 389:1H. Certificate number: 12660/B0 BV</p>
	<p>Det Norske Veritas (DNV) - Location Classes: Temperature D, Humidity B, Vibration A, EMC B, Enclosure C. For salt spray exposure; enclosure of 316 SST or 2-part epoxy protection with 316 SST bolts to be applied. Certificate number: A-11476</p>
	<p>Korean Register of Shipping (KR) - Certificate number: LOX17743-AE001</p>
	<p>Lloyd's Register (LR) - Certificate number: 02/60001(E1) & (E2)</p>
SIL 2/3 Certification	<p>IEC 61508 SIL 2 for non-redundant use and SIL 3 for redundant use according to EXIDA and TÜV Nord Sys Tec GmbH & Co. KG under the following standards: IEC61508-1: 2010; IEC 61508-2: 2010; IEC61508-3: 2010.</p>

Mounting & Dimensional Drawings

Reference Dimensions: $\frac{\text{millimeters}}{\text{inches}}$

Mounting Configurations



Dimensions

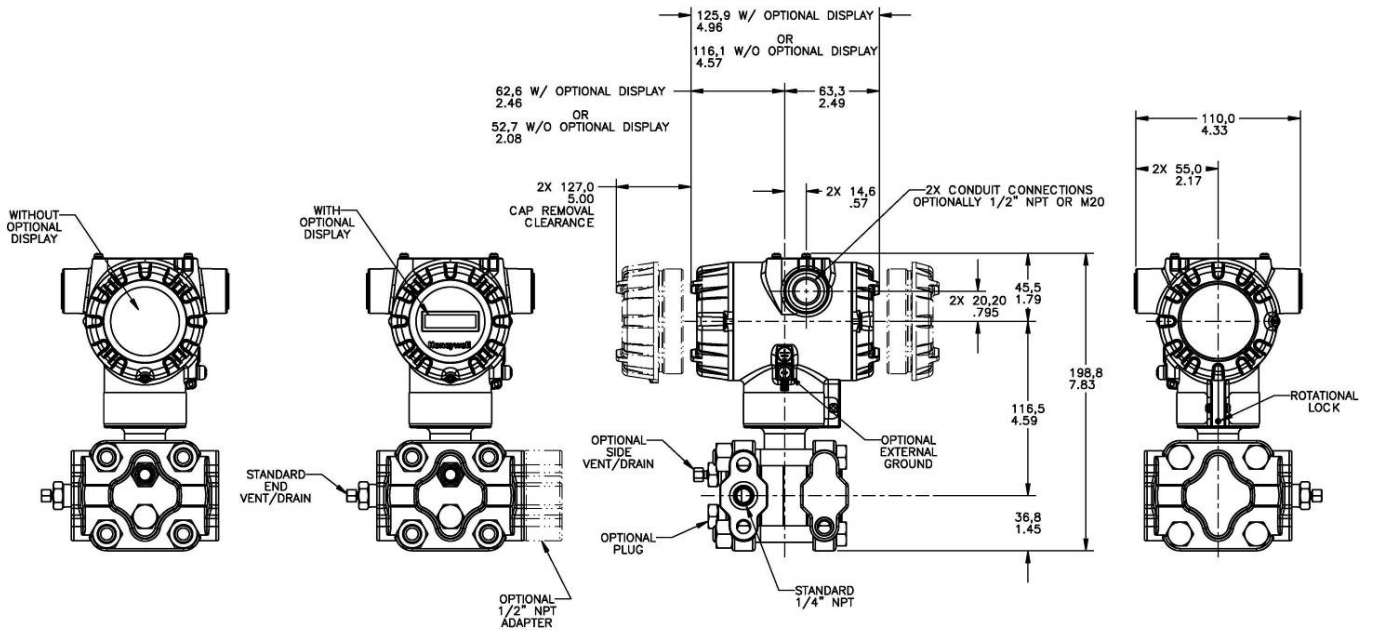


Figure 4 – Typical mounting dimensions of STD810, STD820, STD830 & STD870 for reference

Model Selection Guides are subject to change and are inserted into the specifications as guidance only. Prior to specifying or ordering a model check for the latest revision Model Selection Guides which are published at:

www.honeywellprocess.com/en-US/pages/default.aspx

Model Selection Guide

**Model STD800
Differential Pressure Transmitter
Model Selection Guide**

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Instructions: Make selections from all Tables Key through XIII using column below the proper arrow. Asterisk indicates availability. Letter (a) refer to restrictions highlighted in the restrictions table. Tables delimited with dashes.
List Price: Price equals the sum of prices for all selections made.

Key I II III IV V VI VII VIII (Optional) IX
STD _ _ _ . _ _ _ _ _ . _ _ . _ _ . _ _ _ . _ _ _ . _ _ . _ _ _ _ . _ _ _ _ _ . [0 0 0 0]

KEY NUMBER	URL	LRL	Max Span	Min Span	Units
Measurement Range	10 (25.0)	-10 (-25.0)	10 (24.9)	0.1 (0.25)	" H ₂ O (mbar)
	400/(1000)	-400/(-1000)	400/(1000)	1.0 (2.5)	" H ₂ O (mbar)
	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)
	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)	psi (bar)

Selection	Availability	
STD810	↓	✓
STD820	↓	✓
STD830	↓	✓
STD870	↓	✓

TABLE I		METER BODY SELECTIONS	
	Process Head Material	Diaphragm Material	
a. Process Wetted Heads & Diaphragm Materials	Plated Carbon Steel	316L Stainless Steel Hastelloy® C-276 Monel® 400 Tantalum Gold Plated Stainless Steel Gold Plated Hastelloy C-276 Gold Plated Monel 400	
		316 Stainless Steel 316L Stainless Steel Hastelloy C-276 Monel 400 Tantalum Gold Plated Stainless Steel Gold Plated Hastelloy C-276 Gold Plated Monel 400	
	Hastelloy C-276	Hastelloy C-276 Tantalum Gold Plated Hastelloy C-276	
	Monel 400	Monel 400 Gold Plated Monel 400	
b. Fill Fluid	Silicone Oil (DC 200) Fluorinated Oil CTFE		
c. Process Connection	None 1/2" NPT female	None (1/4" NPTF female thread Std) Materials to Match Head & Head Bolt Materials Selections ¹	
d. Bolt/Nut Materials	Carbon Steel 316 SS Grade 660 (NACE A286) with NACE 304 SS Nuts Grade 660 (NACE A286) Bolts & Nuts Monel K500 Super Duplex B7M		
e. Vent/Drain Type/Location	Head Type	Vent/Drain Location	Vent Material
	Single Ended	None	None
	Single Ended	Side w/Vent	Matches Head Material ¹
	Single Ended	Side w/Center Vent	Stainless Steel Only
	Dual Ended	End w/Vent	Matches Head Material ¹
Dual Ended	End w/Center Vent	Stainless Steel Only	
Dual Ended	Side w/ Vent & End w/Plug	Matches Head Material ¹	
f. Gasket Material	Teflon® or PTFE (Glass Filled) Viton® or Fluorocarbon Elastomer Graphite		
g. Static Pressure	Standard Static Pressure - 4500 psig (315 bar) except STD810: 50 psi (3.5 bar) High Pressure 6000 psi		

A	*	*	*	*	✓
B	*	*	*	*	
C	a	a	a	a	
D	*	*	*	*	
1	*	*	*	*	
2	*	*	*	*	
3	a	a	a	a	
E	*	*	*	*	✓
F	*	*	*	*	
G	a	a	a	a	
H	*	*	*	*	
4	*	*	*	*	
5	*	*	*	*	
6	a	a	a	a	
J	*	*	*	*	
K	*	*	*	*	
7	*	*	*	*	
L	a	a	a	a	
8	a	a	a	a	
-1	*	*	*	*	✓
-2	*	*	*	*	
A	*	*	*	*	✓
H	*	*	*	*	✓
C	a	a	a	a	✓
S	a	a	a	a	✓
N	*	*	*	*	✓
K	p	p	p	p	✓
M	r	r	r	r	
D	p	p	p	p	
B	*	*	*	*	
1	*	*	*	*	
2	*	*	*	*	
3	t	t	t	t	
4	*	*	*	*	✓
5	t	t	t	t	
6	*	*	*	*	
A	*	*	*	*	✓
B	*	*	*	*	
C	*	*	*	*	
S	*	*	*	*	✓
H	k	k	k	k	

Indicates Models with best delivery

¹Except Carbon Steel Heads shall use 316SS Vent/Drain, Plugs & Adapters when required

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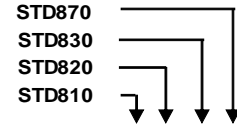
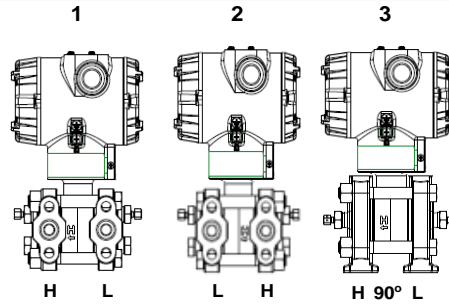


TABLE II	Meter Body & Connection Orientation	
Head/Connect Orientation	Standard	High Side Left, Low Side Right ² / Std Head Orientation
	Reversed	Low Side Left, High Side Right ² / Std Head Orientation
	90/Standard	High Side Left, Low Side Right ² / 90 ^u Head Rotation

1	*	*	*	*	✓
2	*	*	*	*	✓
3	h	h	h	h	

TABLE III	Agency Approvals (see data sheet for Approval Code Details)	
Approvals	No Approvals Required	
	FM Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	
	CSA Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	
	ATEX Explosion proof, Intrinsically Safe & Non-incendive	
	IECEX Explosion proof, Intrinsically Safe & Non-incendive	
	NEPSI Explosion proof, Intrinsically Safe & Non-incendive	

0	*	*	*	*	✓
A	*	*	*	*	✓
B	*	*	*	*	✓
C	*	*	*	*	✓
D	*	*	*	*	✓
G	*	*	*	*	✓

TABLE IV	TRANSMITTER ELECTRONICS SELECTIONS		
a. Electronic Housing Material & Connection Type	Material	Connection	Lightning Protection
	Polyester Painted Aluminum	1/2 NPT	None
	Polyester Painted Aluminum	M20	None
	Polyester Painted Aluminum	1/2 NPT	Yes
b. Output/ Protocol	Analog Output		Digital Protocol
	4-20mA dc		HART Protocol
	4-20mA dc none		DE Protocol Foundation Fieldbus
c. Customer Interface Selections	Indicator	Ext Zero, Span & Config Buttons	Languages
	None	None	None
	None	Yes (Zero/Span Only)	None
	Basic	None	English
	Basic	Yes	English
	Advanced	None	EN, GR, FR, SP, RU
Advanced	Yes	EN, GR, FR, SP, RU	

A__	*	*	*	*	✓
B__	*	*	*	*	✓
C__	*	*	*	*	✓
D__	*	*	*	*	✓

H	*	*	*	*	✓
D	*	*	*	*	✓
F	*	*	*	*	

__0	*	*	*	*	✓
__A	f	f	f	f	✓
__B	*	*	*	*	✓
__C	*	*	*	*	✓
__D	*	*	*	*	✓
__E	*	*	*	*	✓

TABLE V	CONFIGURATION SELECTIONS		
a. Application Software	Diagnostics		
	Standard Diagnostics		
b. Output Limit, Failsafe & Write Protect Settings	Write Protect	Fail Mode	High & Low Output Limits ³
	Disabled	High> 21.0mAdc	Honeywell Std (3.8 - 20.8 mAdc)
	Disabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)
	Enabled	High> 21.0mAdc	Honeywell Std (3.8 - 20.8 mAdc)
	Enabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)
	Enabled	N/A	N/A Fieldbus or Profibus
Disabled	N/A	N/A Fieldbus or Profibus	
c. General Configuration	Factory Standard Custom Configuration (Unit Data Required from customer)		

1__	*	*	*	*	✓
-----	---	---	---	---	---

1	f	f	f	f	✓
2	f	f	f	f	✓
3	f	f	f	f	✓
4	f	f	f	f	✓
5	g	g	g	g	✓
6	g	g	g	g	✓
__S	*	*	*	*	✓
__C	*	*	*	*	

² Left side/Right side as viewed from the customer connection perspective

³ NAMUR Output Limits 3.8 - 20.5mAdc can be configured by the customer or select custom configuration Table Vc

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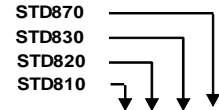


TABLE VI CALIBRATION & ACCURACY SELECTIONS			
a. Accuracy and Calibration	Accuracy	Calibrated Range	Calibration Qty
	Standard	Factory Std	Single Calibration
	Standard	Custom (Unit Data Required)	Single Calibration

A	*	*	*	*	√
B	*	*	*	*	√

TABLE VII ACCESSORY SELECTIONS		
a. Mounting Bracket	Bracket Type	Material
	None	None
	Angle Bracket	Carbon Steel
	Angle Bracket	304 SS
	Marine Approved Angle Bracket	304 SS
	Flat Bracket	Carbon Steel
b. Customer Tag	Customer Tag Type	
	No customer tag One Wired Stainless Steel Tag (Up to 4 lines 28 char/line) Two Wired Stainless Steel Tag (Up to 4 lines 28 char/line)	
c. Unassembled Conduit Plugs & Adapters	Unassembled Conduit Plugs & Adapters	
	No Conduit Plugs or Adapters Required	
	1/2 NPT Male to 3/4 NPT Female 316 SS Certified Conduit Adapter	
	1/2 NPT 316 SS Certified Conduit Plug	
	M20 316 SS Certified Conduit Plug	
	Minifast® 4 pin (1/2 NPT) (not suitable for X-Proof applications) Minifast® 4 pin (M20) (not suitable for X-Proof applications)	

0	---	*	*	*	*	√
1	---	*	*	*	*	√
2	---	*	*	*	*	√
4	---	*	*	*	*	√
5	---	*	*	*	*	√
6	---	*	*	*	*	√

_0	---	*	*	*	*	√
_1	---	*	*	*	*	√
_2	---	*	*	*	*	√

__A0	*	*	*	*	√
__A2	n	n	n	n	√
__A6	n	n	n	n	√
__A7	m	m	m	m	√
__A8	n	n	n	n	√
__A9	m	m	m	m	√

TABLE VIII OTHER Certifications & Options: (String in sequence comma delimited (XX, XX, XX,....))	
Certifications & Warranty	NACE MR0175; MR0103; ISO15156 (FC33338) Process wetted parts only
	NACE MR0175; MR0103; ISO15156 (FC33339) Process wetted and non-wetted parts
	Marine (DNV, ABS, BV, KR, LR) (FC33340)
	EN10204 Type 3.1 Material Traceability (FC33341)
	Certificate of Conformance (F3391)
	Calibration Test Report & Certificate of Conformance (F3399)
	Certificate of Origin (F0195)
	FMEDA (SIL 2/3) Certification (FC33337)
	Over-Pressure Leak Test Certificate (1.5X MAWP) (F3392)
	Cert Clean for O ₂ or CL ₂ service per ASTM G93
	Extended Warranty Additional 1 year
	Extended Warranty Additional 2 years
	Extended Warranty Additional 3 years
	Extended Warranty Additional 4 years
	Extended Warranty Additional 15 years

FG	c	c	c	c	b	√
F7	c	c	c	c	b	√
MT	d	d	d	d	b	√
FX	*	*	*	*	b	√
F3	*	*	*	*	b	√
F1	*	*	*	*	b	√
F5	*	*	*	*	b	√
FE	j	j	j	j	b	√
TP	*	*	*	*	b	√
OX	e	e	e	e	b	√
01	*	*	*	*	b	√
02	*	*	*	*	b	√
03	*	*	*	*	b	√
04	*	*	*	*	b	√
15	*	*	*	*	b	√

TABLE IX Manufacturing Specials	
Factory	Factory Identification

0000	*	*	*	*
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MODEL RESTRICTIONS

Restriction Letter	Available Only with		Not Available with	
	Table	Selection(s)	Table	Selection(s)
a			VIII	F7, FG
k			la	J,K,7,L,8
			lc	H
			ld	B,D,M,N,S
			le	1, 2, 3, 5, 6
			III	B- No CRN number available
			lf	C
c	1d	__N,K,D,B__	la	C,3,G,6,8,L
d			VIIa	1,2,5,6
e	lb	_2_		
f			IVb	_F_
g			IVb	_H, D_
h			le	4, 5, 6
j	IVb	_H_	Vb	_1,2,6_
m	IV a	B, D		
n	IV a	A, C		
p			III	B- No CRN number available
r			VIII	F7, FG
t			III	B- No CRN number available
b			la	J, K, 7, L, 8

Select only one option from this group

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

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(TAC)

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FAX: +(61) 7-3840 6481
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1300-36-04-70

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Specifications are subject to change without notice.

For More Information

Learn more about how Honeywell's SmartLine Smart Pressure Transmitters can increase performance, reduce downtime and decrease configuration costs, visit our website www.honeywellprocess.com or contact your Honeywell account manager.

Honeywell

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