SmartLine

Honeywell

Technical Information

STD700 SmartLine Differential Pressure
Specification 34-ST-03-121, November 2018

Introduction

Part of the SmartLine® family of products, the STD700 models are suitable for monitoring, control and data acquisition. These products feature piezoresistive sensor technology combining pressure sensing with on chip temperature compensation capabilities providing high accuracy, stability and performance 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 0.065% of span
- Stability up to 0.025% of URL per year for 5 years
- Automatic static pressure & temperature compensation
- Rangeability up to 100:1
- Response times as fast as 100ms
- Easy to use and intuitive display capabilities
- Intuitive External Zero, Span and configuration capability
- 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.

Communications/Output Options:

- HART ® (version 7.0)

Figure 1 – STD725/735/775 Differential Pressure Transmitters feature field-proven piezoresistive sensor technology

Span & Range Limits:

Model	URL "H_2O (mbar)	LRL "H_2O (mbar)	Max Span "H_2O (mbar)	Min Span "H_2O (mbar)
STD725	400 (1000)	-400 (1000)	400 (1000)	4 (10)
Model	**psi (bar)**	**psi (bar)**	**psi (bar)**	**psi (bar)**
STD735	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)
STD775	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)

Description

The SmartLine family pressure transmitters are 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.

Indication/Display Option

Standard LCD Display Features

- Modular (may be added or removed in the field)
- Supports HART protocol variant
- 0, 90,180, & 270 degree position adjustments
- Configurable (HART only) and standard (Pa, KPa, MPa, KGcm2, Torr, ATM, inH_2O, mH_2O, bar, mbar, inHG, FTH_2O, mmH_2O, mm HG, & psi) measurement units.
- Supports Flow engineering units
- 2 Lines 6 digits PV (9.95H x 4.20W mm) 8 Characters
- Square root output indication (√) and Write protect Indication
- Built in Basic Device Configuration through Internal or External Buttons – Range/Engineering Unit/Loop Test /Loop Calibration/Zero /Span Setting

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**

System Integration

- SmartLine communications protocols all meet the most current published standards for HART.
- All ST 700 units are Experion tested to provide the highest level of compatibility assurance

Configuration Tools

External Two Button Configuration Option

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

Internal Two Button Configuration Option

The Standard display has two buttons that can be used for Basic configuration such as re ranging, PV Engineering unit setting, Zero/Span settings, Loop testing and calibration functions.

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 (MCT404).
The MCT404 is capable of field configuring 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

Field Device Manager (FDM) Software and FDM Express are also available for managing HART configurations.

Modular Design

To help contain maintenance & inventory costs, all ST 700 transmitters are modular in design supporting the user's ability to replace meter bodies, standard displays or electronic modules without affecting overall performance. Each meter body is uniquely characterized to provide in-tolerance performance over a wide range of application variations in temperature and pressure.

Modular Features

- Meter body replacement
- Add or remove standard displays
- Add or remove lightning protection (terminal connection)

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

Performance Specifications

Reference Accuracy (conformance to +/-3 Sigma)
Table 1

Model	URL	LRL	Min Span	Maximum Turndown Ratio	Stability (% URL/Year for five years)	Reference Accuracy[1,2] (% Span)
STD725	400 in H_2O/1000 mbar	-400 in H_2O/-1000 mbar	4 in H_2O/10 mbar	100:1	0.025	**0.065%**
STD735	100 psi/7.0 bar	-100 psi/-7.0 bar	1 psi/0.07 bar	100:1	0.030	
STD775	3000 psi/210 bar	-100 psi/-7.0 bar	30 psi/2.1bar	100:1	0.025	

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

Accuracy, Temperature and Static Pressure Effects: (Conformance to +/-3)

TABLE II

		Accuracy[1,2] (% of Span)				Combined Zero & Span Temperature Effect (%Span/50°F)		Combined Zero & Span Static Line Pressure Effect (% Span/1000psi)	
Model	URL	For Spans Below	A	B	C "H_2O / mbar	D	E	F	G
STD725	400 in H_2O1000mbar	16:1	0.0125	0.0525	25 / 62.5	0.050	0.025	0.100	0.020
Model	URL	For Spans below	A	B	C psi / bar	D	E	F	G
STD735	100 psi/7.0 bar	4:1	0.0125	0.0525	25 / 1.75	0.070	0.015	0.100	0.020
STD775	3000 psi/210 bar	10:1			300 / 21				
		Turn Down Effect $\pm\left[A + B\left(\frac{C}{Span}\right)\right]$ % Span				**Temp Effect** $\pm\left[D + E\left(\frac{URL}{Span}\right)\right]$ % Span per 28°C (50°F)		**Static Effect** $\pm\left[F + G\left(\frac{URL}{Span}\right)\right]$ % Span per 1000 psi	

Total Performance (% of Span):

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

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

STD725 @ 80" H_2O: 0.274% of span

STD735 @ 20 psi: 0.255 % of span

STD775 @ 600 psi: 0.255 % of span

Typical Calibration Frequency:

Calibration verification is recommended every two (2) years

Notes:

1. Terminal Based Accuracy – Includes combined effects of linearity, hysteresis and repeatability. Analog output adds 0.006% of span
2. For zero based spans and reference conditions of: 25°C (77°F), 0 psig static pressure, 10 to 55% RH and 316SS barrier diaphragm.

Operating Conditions – All Models

Parameter	Reference Condition		Rated Condition		Operative Limits		Transportation and Storage	
	°C	°F	°C	°F	°C	°F	°C	°F
Ambient Temperature[1]	25±1	77±2	-40 to 85	-40 to 185	-40 to 85	-40 to 185	-55 to 120	-67 to 248
Meter Body Temperature	25±1	77±2	-40 to 110	-40 to 230	-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 mmHg absolute inH_2O absolute	Atmospheric Atmospheric		25 13		2 (short term) [2] 1 (short term) [2]			
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)[3,4] (ST 700 products are rated to Maximum Allowable Working Pressure. MAWP depends on Approval Agency and transmitter materials of construction.)	4,500 psi, 310 bar							

[1] LCD Display operating temperature -20°C to +70°C Storage temperature -30°C to 80°C.

[2] Short term equals 2 hours at 70°C (158°F)

[3] 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. 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.

[4] Consult factory for MAWP of ST 700 transmitters with CRN approval.

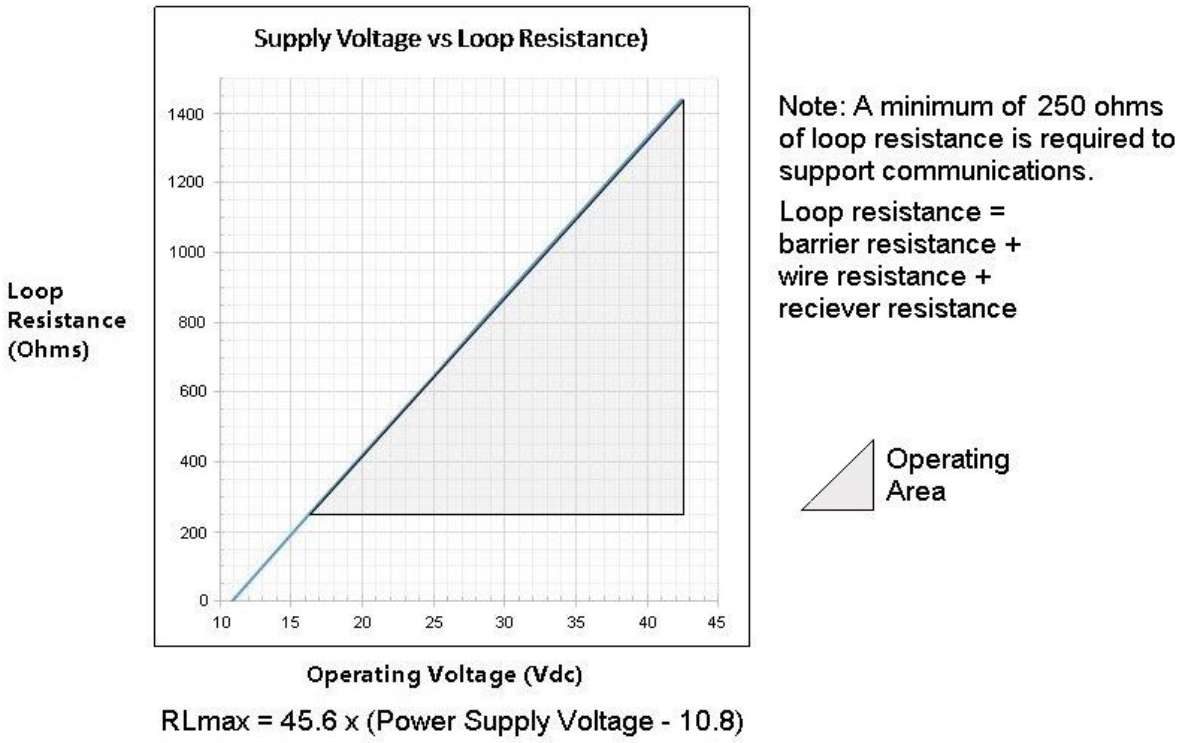


Figure 2 - Supply voltage and loop resistance chart & calculations

Performance Under Rated Conditions – All Models

Parameter	Description
Analog Output **Digital Communications:**	**Two-wire, 4 to 20 mA** **HART 7 protocol**
HART Output Failure Modes	**Honeywell Standard:** / **NAMUR NE 43 Compliance:** **Normal Limits:** **3.8 – 20.8 mA** / **3.8 – 20.5 mA** **Failure Mode:** **≤ 3.6 mA and ≥ 21.0 mA** / ≤ 3.6 mA and ≥ **21.0 mA**
Supply Voltage Effect	**0.005% span per volt.**
Transmitter Turn on Time **(includes power up & test algorithms)**	**2.5 sec.**
Response Time **(delay + time constant)**	**100mS**
Damping Time Constant	**Adjustable from 0 to 32 seconds in 0.1 increments. Default: 0.50 seconds**
Vibration Effect	**Less than +/- 0.1% of URL w/o damping** **Per IEC60770-1 field or pipeline, high vibration level (10-2000Hz: 0.21 displacement/3g max acceleration)**
Electromagnetic Compatibility	IEC 61326-3-1
Lightning Protection Option	**Leakage Current: 10uA max @ 42.4VDC 93C** **Impulse rating: 8/20uS 5000A (>10 strikes) 10000A (1 strike min.)** **10/1000uS 200A (> 300 strikes)**

Materials Specifications (see model selection guide for availability/restrictions with various models)

Parameter	Description
Barrier Diaphragms Material	**316L SS, Hastelloy® C-276[2]**
Process Head Material	**316 SS[4], Carbon Steel (Zinc-plated) [5], Hastelloy® C-276[6]**
Vent/Drain Valves & Plugs [1]	**316 SS[4], Hastelloy® C-276[2]**
Head Gaskets	**Glass-filled PTFE standard. Viton® and graphite are optional.**
Meter Body Bolting	**Carbon Steel (Zinc plated) standard. Options include 316 SS, NACE A286 SS bolts and Super Duplex.**
Optional Adapter Flange and Bolts	**Adapter Flange materials include 316 SS, Hastelloy® C-276 and Super-Duplex. Bolt material for flanges is dependent on process head bolts material chosen. Standard adaptor seal material is glass-filled PTFE. Viton and graphite are optional.**
Mounting Bracket	2" Pipe, **Carbon Steel (Zinc-plated), 304 Stainless Steel or 316 Stainless Steel**
Fill Fluid	**Silicone 200 , CTFE**
Electronic Housing	**Pure Polyester Powder Coated Low Copper (<0.4%)-Aluminum. Meets NEMA 4X, IP66, & IP67. All stainless steel housing is optional.**
Mounting	**Can be mounted in virtually any position using the standard mounting bracket. Bracket is designed to mount on 2-inch (50 mm) vertical or horizontal pipe. See Figure 3.**
Process Connections	**1/4- NPT or 1/2- NPT with adapter (meets DIN requirements)**
Wiring	**Accepts up to 16 AWG (1.5 mm diameter).**
Dimensions	See Figure 3.
Net Weight	**8.3 pounds (3.8 Kg) with Aluminum Housing.**

[1] **Vent/Drains are sealed with Teflon®**

[2] **Hastelloy® C-276 or UNS N10276**

[4] Supplied as 316 SS or as Grade CF8M, the casting equivalent of 316 SS.

[5] Carbon Steel heads are zinc-plated and not recommended for water service due to hydrogen migration. For that service, use 316 stainless steel wetted Process Heads.

[6] Hastelloy C-276 or UNS N10276. Supplied as indicated or as Grade CW12MW, the casting equivalent of Hastelloy C-276

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)

Standard Diagnostics

ST 700 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	Standard Display
Electronic Module DAC Failure	Fault Comm El
Meter Body NVM Corrupt	Fault Mtrbody
Config. Data Corrupt	Fault Comm El
Electronic Module Diag Failure	Fault Comm El
Meter Body Critical Failure	Fault Mtrbody
Sensor Comms Timeout	Fault Mbd Com

Non-Critical Diagnostics

HART DD/DTM Tools
Display Failure
Electronic Module Comm Failure
Meter Body Excess Correct
Sensor Over Temperature
Fixed Current Mode
PV Out of Range
No Factory Calibration
LRV Set Error – Zero Config. Button
URV Set Error – Zero Config. Button
AO Out of Range
Loop Current Noise
Meter Body Unreliable Comm
No DAC Calibration
Sensor Supply Voltage Low

Refer to ST 700 manuals for additional level diagnostic information

Approval Certifications:

AGENCY	TYPE OF PROTECTION	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; Class I, Zone 0/1, AEx d IIC Ga/Gb Class II, Zone 21, AEx tb IIIC Db T 95°C	Note 1	T5: -50 °C to 85°C T6: -50 °C to 65°C
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G: Class I, Zone 0, AEx ia IIC Ga		T4: -50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D Class I, Zone 2, AEx nA IIC Gc	Note 1	T4: -50 °C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	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; Ex d IIC Ga Ex tb IIIC Db T 95°C	Note 1	T5: -50 °C to 85°C T6: -50 °C to 65°C
	Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; Ex ia IIC Ga		T4: -50 °C to 70°C
	Nonincendive: Class I, Division 2, Groups A, B, C, D; T4 Ex nA IIC Gc	Note 1	T4: -50 °C to 85°C
	Enclosure: Type 4X/ IP66/ IP67	All	-
ATEX	**Flameproof:** II 1/2 G Ex d IIC Ga/Gb II 2 D Ex tb IIIC Db T 95°C	Note 1	T5: -50 °C to 85°C T6: -50 °C to 65°C
	Intrinsically Safe: II 1 G Ex ia IIC Ga		T4: 50 °C to 70°C
	Nonincendive: II 3 G Ex nA IIC Gc	Note 1	T4: -50 °C to 85°C
	Enclosure: IP66/ IP67	All	-

Approval Certifications: (Continued)

IECEx (World)	**Flameproof :** Ex d IIC Ga/Gb Ex tb IIIC Db T 95°C	Note 1	T5: -50 °C to 85°C T6: -50 °C to 65°C
	Intrinsically Safe: Ex ia IIC Ga		T4: -50 °C to 70°C
	Nonincendive: Ex nA IIC Gc	Note 1	T4: -50 °C to 85°C
	Enclosure: IP66/ IP67	All	-
SAEx South Africa	**Flameproof :** Ex d IIC Ga/Gb T4 Ex tb IIIC Db T 95°C	Note 1	-50 °C to 85°C
	Intrinsically Safe: Ex ia IIC Ga T4	Note 2a	-50 °C to 70°C
	Nonincendive: Ex nA IIC Gc T4	Note 1	-50 °C to 85°C
	Enclosure: IP66/ IP67	All	-
INMETRO Brazil	**Flameproof:** Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T 95°C Db	Note 1	50 °C to 85°C
	Intrinsically Safe: Ex ia IIC T4 Ga	Note 2a	50 °C to 70°C
	Nonincendive: Ex nA IIC T4 Gc	Note 1	-50 °C to 85°C
	Enclosure : IP 66/67	All	-
NEPSI (China)	**Flameproof:** Ex d IIC Ga/Gb Ex tb IIIC Db T 85°C	Note 1	T5: -50 °C to 85°C T6: -50 °C to 65°C
	Intrinsically Safe: Ex ia IIC Ga		T4: -50 °C to 70°C
	Nonincendive: Ex nA IIC Gc	Note 1	T4: -50 °C to 85°C
	Enclosure : IP 66/67	All	-
EAC Russia, Belarus and Kazakhstan	**Flameproof:** 1 Ex d IIC Ga/Gb T4 Ex tb IIIC Db T 85°C	Note 1	-50 °C to 85°C
	Intrinsically Safe: 0 Ex ia IIC Ga T4	Note 2a	-50 °C to 70°C
	Enclosure : IP 66/67	All	-

Notes:

1. Operating Parameters:
   Voltage= 11 to 42 V DC Current= 4-20 mA Normal

2. Intrinsically Safe Entity Parameters
   a. Analog/ DE/ HART Entity Values:
   Vmax= Ui = 30V Imax= Ii= 105mA Ci = 4.2nF Li =984 uH Pi =0.9W

   Transmitter with Terminal Block Revision E or Later
   Vmax= Ui = 30V Imax= Ii= 225mA Ci = 4.2nF Li = 0 Pi =0.9W
   Note : Transmitter with Terminal Block Revision E or later
   The revision is on the label that is on the module. There will be two lines of text on the label:
   - First is the Module Part #: 50049839-001 or 50049839-002
   - Second line has the supplier information, along with the REVISION:

   XXXXXXX-EXXXX, THE "X" is production related, THE POSITION of the "E" IS THE REVISION.

Other Certification Options

SIL

SIL 2/3 Certification	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.

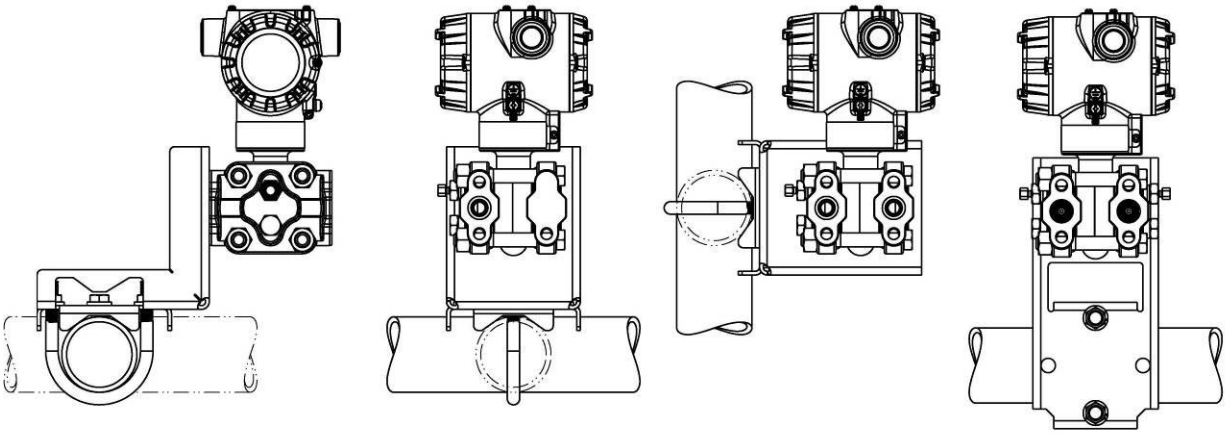
Materials

- NACE MR0175, MR0103, ISO15156

Mounting & Dimensional Drawings

Reference Dimensions: millimeters / inches

Mounting Configurations



Dimensions

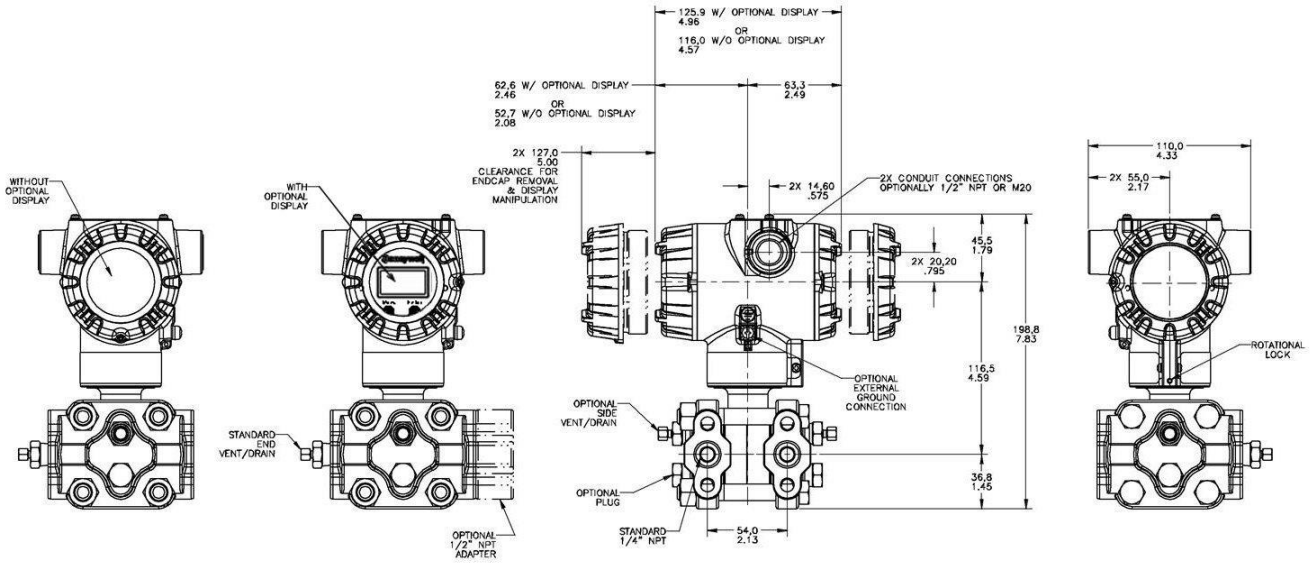


Figure 3 – Typical mounting dimensions of STD725, STD735 & STD775 for reference only

Model Selection Guide

Model Selection Guides are subject to change and are inserted into the specifications as guidance only.

Model STD700
Differential Pressure Transmitter

Model Selection Guide:
34-ST-16-121 Issue 4

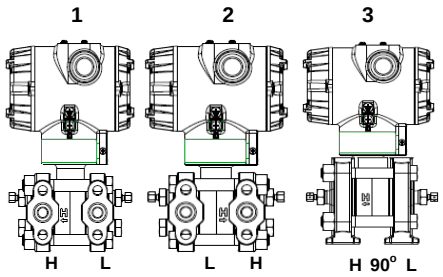
Instructions: Make selections from all Tables: Key through XIII using column below the proper arrow. Asterisk indicates availability. Letter (a) refer to restrictions highlighted in the restrictions table. Tables delimited with dashes.

Key	I	II	III	IV	V	VI	VII	VIII	IX
STD7_ _	- _ _ _ _ _ _	- _	- _	- _ _ _	- _ _ _	- _	- _ _ _ _	- _ _, _ _, _ _	- 0 0 0 0

KEY NUMBER	URL	LRL	Max Span	Min Span	Units	Selection	Availability		
a. Measurement Range	400/(1000)	-400/(-1000)	400/(1000)	4.0 (10)	" H_2O (mbar)	STD725	↓		
	100 (7.0)	-100 (-7.0)	100 (7.0)	1 (0.07)	psi (bar)	STD735		↓	
	3000 (210)	-100 (-7.0)	3000 (210)	30 (2.1)	psi (bar)	STD775			↓

TABLE I	METER BODY SELECTIONS							
a. Process Wetted Heads & Diaphragm Materials	Process Head Material		Diaphragm Material					
	Plated Carbon Steel		316L Stainless Steel			A_ _ _ _ _ _	*	*	*
			Hastelloy® C-276			B_ _ _ _ _ _	*	*	*
	316 Stainless Steel		316L Stainless Steel			E_ _ _ _ _ _	*	*	*
			Hastelloy C-276			F_ _ _ _ _ _	*	*	*
	Hastelloy C-276		Hastelloy C-276			J_ _ _ _ _ _	*	*	*
b. Fill Fluid	Silicone Oil 200					_1_ _ _ _ _	*	*	*
	Fluorinated Oil CTFE					_2_ _ _ _ _	*	*	*
c. Process Connection	None	None (1/4" NPTF female thread Std)				_ _A_ _ _	*	*	*
	1/2" NPT female	Materials to Match Head & Head Bolt Materials Selections[1]				_ _H_ _ _	*	*	*
d. Bolt/Nut Materials	Carbon Steel					_ _ _C_ _ _	*	*	*
	316 SS					_ _ _S_ _ _	*	*	*
	Grade 660 (NACE A286) with NACE 304 SS Nuts					_ _ _N_ _ _	*	*	*
	Grade 660 (NACE A286) Bolts & Nuts					_ _ _K_ _ _	p	p	p
	Super Duplex					_ _ _D_ _ _	p	p	p
e. Vent/Drain Type/Location	Head Type	Vent Type	Location	Vent Material					
	Single Ended	None	None	None		_ _ _ _1_ _	*	*	*
	Single Ended	Standard Vent	Side	Matches Head Material[1]		_ _ _ _2_ _	*	*	*
	Single Ended	Center Vent	Side	Stainless Steel Only		_ _ _ _3_ _	t	t	t
	Dual Ended	Standard Vent	End	Matches Head Material[1]		_ _ _ _4_ _	*	*	*
	Dual Ended	Center Vent	End	Stainless Steel Only		_ _ _ _5_ _	t	t	t
	Dual Ended	Std Vent/Plug	Side/End	Matches Head Material[1]		_ _ _ _6	*	*	*
f. Gasket Material	Teflon® or PTFE (Glass Filled)					_ _ _ _ _A_	*	*	*
	Viton® or Fluorocarbon Elastomer					_ _ _ _ _B_	*	*	*
	Graphite					_ _ _ _ _C_	*	*	*
g. Static Pressure	Standard Static Pressure - 4500 psig (315 bar)					_ _ _ _ _ _S	*	*	*

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



STD775
STD735
STD725

TABLE II	Meter Body & Connection Orientation					
Head/Connect Orientation	Standard	High Side Left, Low Side Right[2] / Std Head Orientation	1	*	*	*
	Reversed	Low Side Left, High Side Right[2] / Std Head Orientation	2	*	*	*
	90/Standard	High Side Left, Low Side Right[2] / 90[0] Head Rotation	3	h	h	h

TABLE III	Agency Approvals (see data sheet for Approval Code Details)				
Approvals	No Approvals Required	0	*	*	*
	FM Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	A	*	*	*
	CSA Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	B	*	*	*
	ATEX Explosion proof, Intrinsically Safe & Non-incendive	C	*	*	*
	IECEx Explosion proof, Intrinsically Safe & Non-incendive	D	*	*	*
	SAEx/CCoE Explosion proof, Intrinsically Safe & Non-incendive	E	*	*	*
	INMETRO Explosion proof, Intrinsically Safe & Non-incendive	F	*	*	*
	NEPSI Explosion proof, Intrinsically Safe & Non-incendive	G	*	*	*
	EAC-Customs Union(Russia,Belarus and Kazakhstan)EX Approval Flameproof,Intrinsically Safe	I	*	*	*

TABLE IV	TRANSMITTER ELECTRONICS SELECTIONS					
a. Electronic Housing Material & Connection Type	Material	Connection	Lightning Protection			
	Polyester Powder Coated Aluminum	1/2 NPT	None	A _ _	*	*	*
	Polyester Powder Coated Aluminum	M20	None	B _ _	*	*	*
	Polyester Powder Coated Aluminum	1/2 NPT	Yes	C _ _	*	*	*
	Polyester Powder Coated Aluminum	M20	Yes	D _ _	*	*	*
	316 Stainless Steel (Grade CF8M)	1/2 NPT	None	E _ _	*	*	*
	316 Stainless Steel (Grade CF8M)	M20	None	F _ _	*	*	*
	316 Stainless Steel (Grade CF8M)	1/2 NPT	Yes	G _ _	*	*	*
	316 Stainless Steel (Grade CF8M)	M20	Yes	H _ _	*	*	*
b. Output/ Protocol	Analog Output	Digital Protocol				
	4-20mA dc	HART Protocol		_ H _	*	*	*
c. Customer Interface Selections	Indicator	Ext Zero, Span & Config Buttons	Languages			
	None	None	None	_ _ 0	*	*	*
	None	Yes (Zero/Span Only)	None	_ _ A	*	*	*
	Standard (w/Internal Zero,Span & Config Buttons)	None	English	_ _ S	*	*	*
	Standard (w/Internal Zero,Span & Config Buttons)	Yes	English	_ _ T	*	*	*

TABLE V	CONFIGURATION SELECTIONS					
a. Application Software	Diagnostics					
	Standard Diagnostics			1 _ _	*	*	*
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)	_ 1 _	*	*	*
	Disabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 2 _	*	*	*
	Enabled	High> 21.0mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 3 _	*	*	*
	Enabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 4 _	*	*	*
c. General Configuration	Factory Standard			_ _ S	*	*	*
	Custom Configuration (Unit Data Required from customer)			_ _ 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

TABLE VI	CALIBRATION & ACCURACY SELECTIONS			STD775	STD735	STD725
	Accuracy	**Calibrated Range**	**Calibration Qty**			
a. Accuracy and Calibration	Standard	Factory Std	Single Calibration	A	*	*	*
	Standard	Custom (Unit Data Required)	Single Calibration	B	*	*	*

TABLE VII	ACCESSORY SELECTIONS					
	Bracket Type	**Material**				
a. Mounting Bracket	None	None	0 _ _ _	*	*	*
	Angle Bracket	Carbon Steel	1 _ _ _	*	*	*
	Angle Bracket	304 SS	2 _ _ _	*	*	*
	Angle Bracket	316 SS	3 _ _ _	*	*	*
	Marine Approved Bracket	304 SS	4 _ _ _	*	*	*
	Flat Bracket	Carbon Steel	5 _ _ _	*	*	*
	Flat Bracket	304 SS	6 _ _ _	*	*	*
	Flat Bracket	316 SS	7 _ _ _	*	*	*
b. Customer Tag	**Customer Tag Type**					
	No customer tag		_ 0 _ _	*	*	*
	One Wired Stainless Steel Tag (Up to 4 lines 26 char/line)		_ 1 _ _	*	*	*
c. Unassembled Conduit Plugs & Adapters	**Unassembled Conduit Plugs & Adapters**					
	No Conduit Plugs or Adapters Required		_ _ A0	*	*	*
	1/2 NPT Male to 3/4 NPT Female 316 SS Certified Conduit Adapter		_ _ A2	n	n	n
	1/2 NPT 316 SS Certified Conduit Plug		_ _ A6	n	n	n
	M20 316 SS Certified Conduit Plug		_ _ A7	m	m	m

TABLE VIII	OTHER Certifications & Options: (String in sequence comma delimited (XX, XX, XX,....)						
Certifications & Warranty	None - No additional options	00	*	*	*		
	NACE MR0175; MR0103; ISO15156 Process wetted parts only	FG	*	*	*	b	
	NACE MR0175; MR0103; ISO15156 Process wetted and non-wetted parts	F7	c	c	c		
	Marine (DNV,ABS,BV,KR,LR)	MT	d	d	d		
	EN10204 Type 3.1 Material Traceability	FX	*	*	*		
	Certificate of Conformance	F3	*	*	*	b	
	Calibration Test Report & Certificate of Conformance	F1	*	*	*		
	Certificate of Origin	F5	*	*	*		
	FMEDA (SIL 2/3) Certification	FE	j	j	j		
	Over-Pressure Leak Test Certificate (1.5X MAWP)	TP	*	*	*		
	Cert Clean for O_2 or CL_2 service per ASTM G93	OX	e	e	e		
	PM Certification[4]	PM	*	*	*		
	Extended Warranty Additional 1 year	01	*	*	*	b	
	Extended Warranty Additional 2 years	02	*	*	*		
	Extended Warranty Additional 3 years	03	*	*	*		
	Extended Warranty Additional 4 years	04	*	*	*		

TABLE IX	Manufacturing Specials				
Factory	Factory Identification	0000	*	*	*

MODEL RESTRICTIONS

Restriction Letter	Available Only with		Not Available with	
	Table	Selection(s)	Table	Selection(s)
c	1d	_ _ _ N,K,D _ _ _		
d	Iva	C, D, G, H _ _	VIIa	1, 2, 3, 5, 6, 7 _ _ _
e	Ib	_ 2 _ _ _ _ _		
h			Ie	_ _ _ _ 4, 5, 6 _ _
			VIIa	1, 2, 3, 4, 5, 6, 7 _ _ _
j			Vb	_ 1,2 _
m	IV a	B, D, F, H _ _		
n	IV a	A, C, E, G _ _		
p			III	B- No CRN number available
t			Ia	J _ _ _ _ _ _
b	Select only one option from this group			

[4]The PM option is available on all Smartline Pressure Transmitter process wetted parts such as process heads, flanges, bushings and vent plugs except plated carbon steel process heads and flanges. PM option information is also available on diaphragms except STG and STA in-line construction pressure transmitters.

FIELD INSTALLABLE REPLACEMENT PARTS

Description	Kit Number
Terminal Strip w/o Lightning Protection Kit for HART Module	50129832-501
Terminal Strip w/Lightening Protection for HART Module	50129832-502
HART Electronics Module	50129828-501
HART Electronics Module w/connection for external configuration buttons	50129828-502
Standard Display Module	50126003-501

Note P - For part number pricing please refer to WEB Channel

PRODUCT MANUALS

Description	Part Number
ST 700 Smart Transmitter User Manual - English	34-ST-25-44
ST 700 Smart Transmitter HART Communications Manual - English	34-ST-25-47
ST 700 Smart Transmitter Safety Manual - English	34-ST-25-37

All product documentation is available at www.honeywellprocess.com.

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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Specifications are subject to change without notice.

For more information
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