SmartLine

Honeywell

Technical Information

STG800 SmartLine Gauge Pressure Specification 34-ST-03-83, December 2024



Introduction

Part of the SmartLine® family of products, the STG800 and STG80L are high performance gauge pressure transmitter featuring 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 0.0375 % of span standard & 0.025% of span optional.
- Stability up to 0.015% of URL per year for 15 years.
- Automatic temperature compensation.
- Rangeability up to 100:1.
- Response times as fast as 80ms.
- 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 12.27.1.
- Full compliance to SIL 2/3 requirements.
- Modular design characteristics.
- Available with an additional 15-year warranty.
- Plugged Impulse Line Detection Option.
- Supports NAMUR NE-107 Extended Diagnostics (FF).
- Dual/Triple Calibration Option (HART & Fieldbus Only).



Figure 1 – STG800 Gauge Pressure Transmitters feature field-proven piezoresistive sensor technology

Communications/Output Options:

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

All transmitters are available with the above listed communications protocols.

Span & Range Limits:

Model	URL psi (bar)	LRL psi (bar)	Min Span psi (bar)
STG830/STG83L	50 (3.5)	-14.7 (-1.0)	0.5 (0.035)
STG840/STG84L	500 (35)	-14.7 (-1.0)	5 (0.35)
STG870/STG87L	3000 (210)	-14.7 (-1.0)	30 (2.1)
STG88L	6000 (420)	-14.7 (-1.0)	60 (4.2)
STG89L	10000 (690)	-14.7 (-1.0)	100 (6.9)

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 standard alphanumeric LCD display or a unique advanced graphics LCD display with many unparalleled features.

Standard LCD Display Features

- Modular (may be added or removed in the field).
- Supports HART protocol variant.
- 0, 90,180, & 270 degree position adjustments.
- Four configurable screens.
- Standard and custom measurement units available.
- Display calculated flow (square root) value in addition to analog output signal.
- 2 Lines 6 digits PV (9.95H x 4.20W mm) 8 Characters.
- Write protect Indication.
- Built-in Basic Device Configuration through Internal or External Buttons – Range/Engineering Unit/Loop Test /Loop Calibration/Zero /Span Setting.
- Multiple language capabilities (EN, RU).

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.
- Up to eight display screens with 3 formats are possible.
- Large PV with Bar Graph or PV with Trend Graph.
- Configurable screen rotation timing (1 to 30 sec).
- Display calculated flow (square root) value in addition to analog output signal.
- Unique “Health Watch” indication provides instant visibility of diagnostics.
- Multiple language capability (EN, DE, FR, IT, ES, RU, TR, CN, & JP).

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.

Handheld Configuration

SmartLine transmitters feature two-way communication and configuration capability between the operator and the transmitter. All Honeywell transmitters are designed and tested for compliance with the offered communication protocols and are designed to operate with any standards compliant handheld configuration device, such as the Honeywell Versatilis Configurator.

Personal Computer Configuration

On a personal computer or laptop, Honeywell Field Device Manager (FDM) Software and FDM Express can be used 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.***

Plugged Impulse Line Detection:

STG800 models are offered with a PILD option which provides indication of a plugged impulse line or process connection. When used in conjunction with an advanced display, a non-critical diagnostic indication appears on the integral display. For units without an integral display, an indication can be seen via the host or handheld device when HART Protocol is utilized.

Dual/Triple Calibration:

STG800 models are optionally offered with multiple calibrations. In lieu of a standard factory calibration, units can be supplied with 1, 2, or 3 customer specified calibrations. These calibrations are stored in the meter body and provide users with factory calibrated performance at up to three different calibrated ranges. This increases application flexibility without requiring any costly recalibration or additional inventory.

Performance Specifications

Reference Accuracy: (conformance to +/-3 Sigma)

Table 1

Model	URL	LRL	Min Span	Maximum Turndown Ratio	Stability (% URL/ Yr for 15 years)	Reference Accuracy[1,2] (% Span) Std / Opt.
STG830	50 psi (3.5 bar)	-14.7 psi (-1.0 bar)	0.5 psi (.035 bar)	100:1	0.010	0.0375 / 0.025
STG83L	50 psi (3.5 bar)	-14.7 psi (-1.0 bar)	0.5 psi (.035 bar)			
STG840	500 psi (35 bar)	-14.7 psi (-1.0 bar)	5 psi (.35 bar)			
STG84L	500 psi (35 bar)	-14.7 psi (-1.0 bar)	5 psi (.35 bar)			
STG870	3000 psi (210 bar)	-14.7 psi (-1.0 bar)	30 psi (2.1 bar)			
STG87L	3000 psi (210 bar)	-14.7 psi (-1.0 bar)	30 psi (2.1 bar)			
STG88L	6000 psi (420 bar)	-14.7 psi (-1.0 bar)	60 psi (4.2 bar)			
STG89L	10000 psi (690 bar)	-14.7 psi (-1.0 bar)	100 psi (6.9 bar)			0.055 / 0.04

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

Accuracy at Specified Span and Temperature: (Conformance to +/-3 Sigma)

Table 2

			Accuracy[1,2] (% of Span)				Combined Zero & Span Temperature Effect (% Span/28°C (50°F))	
	Model	URL	Reference Turndown	A	B	C (see URL units)	D	E
Standard Accuracy	STG830	50 psi (3.5 bar)	33.3:1	0.005	0.0325	1.5 (0.105)	0.030	0.003
	STG83L	50 psi (3.5 bar)	16.7:1			3 (0.21)		0.006
	STG840	500 psi (35 bar)	35:1			14.5 (1.0)	0.025	0.004
	STG84L	500 psi (35 bar)	35:1			14.5 (1.0)		0.007
	STG870	3000 psi (210 bar)	10:1			300 (21)		0.005
	STG87L	3000 psi (210 bar)	10:1			300 (21)		0.010
	STG88L	6000 psi (420 bar)	12:1			500 (35)		
	STG89L	10000 psi (690 bar)	10:1	0.015	0.0400	1000 (69)		
High Accuracy Option	STG830	50 psi (3.5 bar)	33.3:1	0.005	0.0200	1.5 (0.105)	0.030	0.003
	STG83L	50 psi (3.5 bar)	16.7:1			3 (0.21)		0.006
	STG840	500 psi (35 bar)	35:1			14.5 (1.0)	0.025	0.004
	STG84L	500 psi (35 bar)	35:1			14.5 (1.0)		0.007
	STG870	3000 psi (210 bar)	10:1			300 (21)		0.005
	STG87L	3000 psi (210 bar)	10:1			300 (21)		0.010
	STG88L	6000 psi (420 bar)	12:1			500 (35)		
	STG89L	10000 psi (690 bar)	10:1	0.015	0.0250	1000 (69)		

Turn Down Effect	Temp Effect
$\pm[A+B] \quad if\ Span \geq C$ $\pm\left[A+B\left(\frac{C}{Span}\right)\right] \quad if\ Span < C$	$\pm\left[D+E\left(\frac{URL}{Span}\right)\right]$

Total Performance (% of Span):

Total Performance Calculation: $= +/- \sqrt{(\text{Accuracy})^2 + (\text{Temperature Effect})^2}$

Total Performance Examples (for comparison): Standard accuracy 5:1 Turndown, +/-50ºF (28ºC) shift

STG830 @ 10 psi	0.059% of span	**STG840 @ 100 psi**	0.059% of span	**STG870 @ 600 psi**	0.063% of span
STG83L @ 10 psi	0.071% of span	**STG84L @ 100 psi**	0.071% of span	**STG87L @ 600 psi**	0.084% of span
STG88L @ 1200 psi	0.084% of span	**STG89L @ 2000 psi**	0.093% 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: 25ºC (77ºF) for LRV>= 0 psia, 10 to 55% RH, and 316 Stainless Steel 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[2]	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 **mmHg absolute** **inH_2O absolute**	 Atmospheric Atmospheric		 25 13		 2 (short term)[3] 1 (short term)[3]			
Supply Voltage **Load Resistance**	HART: 10.8 to 42.4 VDC at terminals (IS versions limited to 30 VDC), 0 to 1,440 ohms DE: 15 to 49.3VDC at terminals (IS versions limited to 30VDC), 0 to 1,200 ohms (as shown in Figure 2) FOUNDATION Fieldbus: 9.0 to 32.0 VDC at terminals, steady state current: 17.6mA, software download current: 27.4mA							
Maximum Allowable Working Pressure (MAWP)[4] (Maximum allowable working pressure is the maximum pressure allowed for the normal transmitter operation. MAWP depends on Approval agencies and transmitter material of construction. MAWP are same as URL for gauge and absolute pressure transmitters)	STG830: 50 psi (3.5 bar) STG840: 500 psi (35 bar) STG870: 3000 psi (210 bar) STG83L: 50 psi (3.5 bar) STG84L: 500 psi (35 bar) STG87L: 3000 psi (210 bar) STG88L: 6000 psi (420 bar) STG89L: 10000 psi (690 bar)							
Over pressure These are the pressure limits the transmitters can withstand without damage	STG830: 75 psi (5.25 bar) STG83L: 75 psi (5.25 bar) STG840: 1500 psi (103 bar) STG84L: 1500 psi (103 bar) STG870: 4500 psi (310 bar) STG87L: 4500 psi (310 bar) STG88L: 9000 psi (620 bar) STG89L: 15000 psi (1035 bar)							

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

[2] Silicone 704 minimum temperature rating is 0ºC (32ºF). CTFE minimum temperature rating is -40°C (-40°F). NEOBEE M-20 minimum temperature rating is -15ºC (5ºF). NEOBEE® is a registered trademark of Stepan Company.

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

[4] Consult factory for MAWP of ST 800 transmitters with CRN approval.

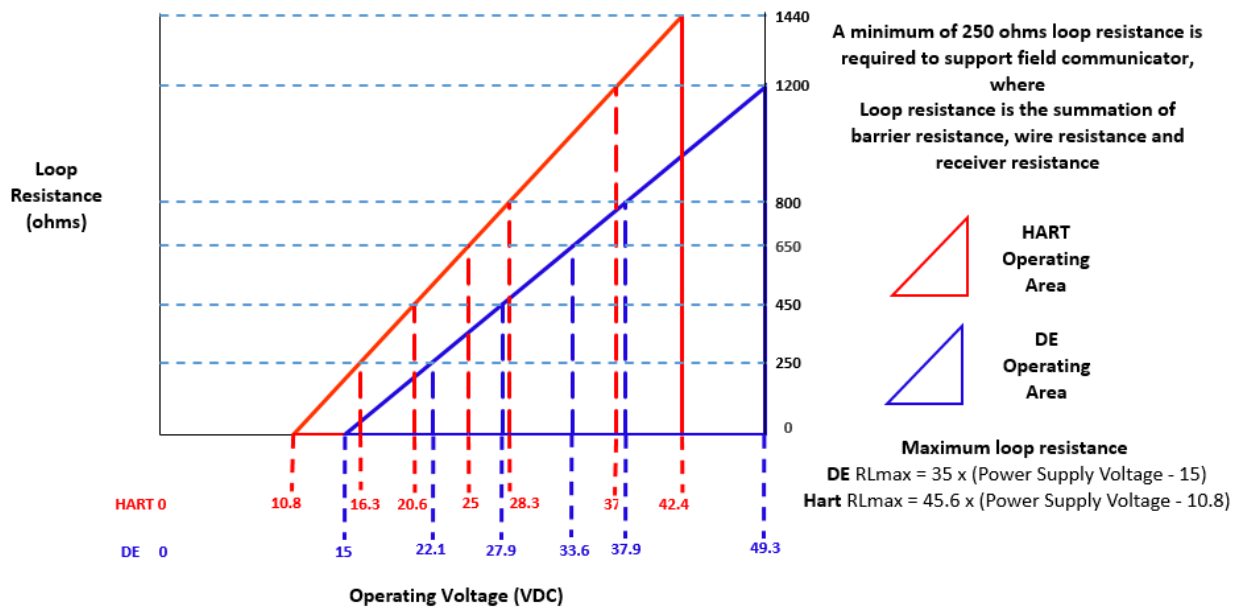


Figure 2 - Supply voltage and loop resistance chart & calculations

Performance Under Rated Conditions – All Models

Parameter	Description
Analog Output **Digital Communications**:	Two-wire, 4 to 20 mA (HART & DE Transmitters only) Honeywell DE, HART protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant All transmitters, irrespective of protocol have polarity insensitive connection
HART & DE Output Failure Modes (NAMUR for DE Units requires selecting display and configuration buttons or factory configuration)	**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)	HART or DE: 2.5 seconds Foundation Fieldbus: host dependent
Response Time (delay + time constant)	**DE/HART Protocol**: 80ms **FOUNDATION Fieldbus**: 150ms (Host Dependent)
Damping Time Constant	**HART:** Adjustable from 0 to 32 seconds in 0.1 increments. **Default Value:** 0.5 seconds **DE:** Discrete values 0, 0.16, 0.32, 0.48, 1, 2, 4, 8, 16, 32 seconds. **Default Value:** 0.48 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	Complies with EMC directive 2004/108/EC per IEC 61326-3-1 (HART/ DE Units) IEC 61326-1 (FF Units)
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	**STG800**: 316L SS, Hastelloy® C-276[2], Monel® 400[3], Tantalum, Gold-plated 316L SS, Gold-plated Hastelloy® C-276, Gold-plated Monel® 400 **STG80L**: 316L SS, Hastelloy C-276
Process Head Material	**STG800**: Carbon Steel (Zinc Plated), 316 SS[4], Hastelloy® C-276[6], Monel® 400[7] **STG80L:** 316L SS, Hastelloy C-276[6]
Vent/Drain Valves & Plugs [1]	**STG800:**316 SS[4], Hastelloy C-276[2], Monel 400[7] **STG80L:** N/A
Head Gaskets	**STG800:** Glass-filled PTFE standard. Viton® and graphite are optional. **STG80L:** N/A
Meter Body Bolting	**STG800:** Carbon Steel (Zinc plated) standard. Options include 316 SS, NACE A286 SS bolts and nuts or NACE A286 SS bolts and 304 SS nuts **STG80L:** N/A
Mounting Bracket	Carbon Steel (Zinc-plated) or 304 SS or 316SS angle bracket or Carbon Steel or 304SS or 316SS flat bracket available with 2” pipe bracket. See Figure 3.
Fill Fluid	Silicone 200, CTFE, NEOBEE M-20 or Silicone 704
Electronic Housing	Pure Polyester Powder Coated Low Copper (<0.4%) – Aluminum. Meets Type 4X / IP66 / IP67. All stainless-steel housing is optional. Cover O ring material: Silicone.
Process Connections	**STG800:** ½ -inch NPT female, DIN 19213 (standard) **STG80L:** ½ -inch NPT female, ½ -inch NPT male, 9/16-18 high-pressure Cone and Thread female[8], DIN19213 (except STG89L), G ½ -B Male threaded
Wiring	Accepts up to 16 AWG (1.5 mm diameter).
Dimensions	See Figure 4 and 5
Net Weight	**STG800:** 8.3 pounds (3.8 Kg). **STG80L:** 3.6 pounds (1.6 Kg) with Aluminum Housing

[1] Vent/Drains are sealed with Teflon®

[2] Hastelloy® C-276 or UNS N10276.

[3] Monel® 400 or UNS N04400.

[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.

[7] Monel® 400 or UNS N04400. Supplied as indicated or as Grade M30C, the casting equivalent of Monel® 400.

[8] 9/16 Aminco.

Communications Protocol & Diagnostics

HART Protocol

Version: HART 7

Foundation Fieldbus (FF)

Available Function Blocks

Block Type	Quantity	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.

Standard Diagnostics

ST 800 top level diagnostics are reported as either critical or non-critical and are readable via the DD/DTM/FDI tools or integral display. All critical diagnostics will appear on the Advanced and Standard integral displays, and some non-critical diagnostics will also appear on the Advanced integral display. Some of the diagnostics are listed below.

Critical Diagnostics

- Electronics Module Fault.
- Meter body Memory Corruption.
- Config Data Corruption.
- Electronics Module Diagnostics Failure.
- Meter body Critical Failure.
- Sensor Communication Timeout.

Non-Critical Diagnostics

- Electronics Module Fault.
- Display Failure.
- Electronics Module Comm Failure.
- Meter body Excess Correct.
- Sensor Over Temperature.
- Fixed Current Mode.
- PV Out of Range.
- No DAC Compensation.
- Tamper Attempt Alarm.

Refer to the product user manual for comprehensive list of diagnostics and details.

Other Certification Options

Materials

- NACE MRO175, MRO103, ISO15156

Hazardous Area Certifications

MSG CODE	AGENCY	TYPE OF PROTECTION	COMM. OPTION	ELECTRICAL PARAMETERS	AMBIENT TEMP (Ta)
A	FM Approvals™ USA	**Explosionproof:** Class I, Division 1, Groups A, B, C, D; Dust Ignition Proof: Class II, III, Division 1, Groups E, F, G; T6..T5 Class I, Zone 0/1, AEx db IIC T6..T5 Ga/Gb Class II, Zone 21, AEx tb IIIC T95° Db	All	Note 1	T5: -50 ºC to 85ºC T6: -50 ºC to 65ºC
		Intrinsically Safe: Class I, II, III, Division 1, Groups A, B, C, D, E, F, G: T4 Class I, Zone 0, AEx ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2a	-50 ºC to 70ºC
			Foundation Fieldbus	Note 2b	-50 ºC to 70ºC
		Nonincendive: Class I, Division 2, Groups A, B, C, D locations, T4 Class I, Zone 2, AEx nA IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50 ºC to 85ºC
		Enclosure: Type 4X/ IP66/ IP67	All	All	-
		STANDARDS: FM Class 3600:2011; FM Class 3610: 2010; FM Class 3611: 2004; FM Class 3615: 2006; FM Class 3616: 2011; FM Class 3810: 2005; ANSI/ISA 60079-0: 2013; ANSI/UL 60079-1: 2015; ANSI/UL 60079-11: 2014; ANSI/ISA 60079-15: 2012; ANSI/UL 60079-26: 2017; ANSI/UL 60079-31: 2015; ANSI/NEMA 250: 2003; ANSI/ IEC 60529: 2004			
B	Canadian Standards Association (CSA) USA and Canada	**Explosion Proof:** Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III, Division 1, T6..T5 Class I Zone 1 AEx db IIC T6..T5 Ga/Gb Ex db IIC T6..T5 Ga/Gb Zone 22 AEx tb IIIC T95° Db Ex tb IIIC T95° Db	All	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; Class II, Division 1, Groups E, F, G; Class III, Division 1, T4 Class I Zone 0, AEx ia IIC T4 Ga Class I Zone 2, AEx ic IIC T4 Gc Ex ia IIC T4 Ga Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Nonincendive: Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III, Division 2, T4 Class I Zone 2 AEx nA IIC T4 Gc Ex nA IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C to 85°C
		Enclosure: Type 4X/ IP66/ IP67	All	All	-

MSG CODE	AGENCY	TYPE OF PROTECTION	COMM. OPTION	ELECTRICAL PARAMETERS	AMBIENT TEMP (Ta)
		STANDARDS: CSA C22.2 No. 0-10; CSA C22.2 No. 94-M91; CSA C22.2 No. 25-1966; CSA C22.2 No. 30-M1986; CSA C22.2 No. 142-M1987; CSA C22.2 No. 157-92; CSA C22.2 No. 213-M1987; CSA-C22.2 No. 60529:05; CSA-C22.2 No. 60079-0:11; CSA-C22.2 No. 60079-1:11; CSA-C22.2 No. 60079-11:11; CSA-C22.2 No. 60079-15:12; CSA-C22.2 No. 60079-31:12; ISA 12.12.01-2010; ISA 60079-0: 2009; ISA 60079-11: 2011; ISA 60079-15: 2009; ISA 60079-26: 2008; ISA-60079-27:2007 (12.02.04)-2006 (R2011); UL 913 Ed. 6; UL 916:1998; ANSI/ISA-12.27.01-2011			
C	**ATEX**	**Flameproof: SIRA 12ATEX2233X** II 1/2 G Ex db IIC T6..T5 Ga/Gb II 2 D Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: SIRA 12ATEX2233X II 1 G Ex ia IIC T4 Ga II 2 D Ex ia IIIC T125°C Db FISCO Field Device (Only for FF Option) II 1 G Ex ia IIC T4 Ga	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Increase Safety: SIRA 12ATEX4234X II 3 G Ex ec IIC T4 Gc	4-20 mA / DE/ HART/	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: SIRA 12ATEX4234X II 3 G Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) II 3 G Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure: IP66/ IP67	All	All	-
		STANDARDS: EN 60079-0: 2018; EN 60079-1: 2014; EN 60079-7: 2015+A1:2018; EN 60079-11: 2012; EN 60079-26: 2015; EN 60079-31: 2014			
	UKEX	**Flameproof: CSAE 22UKEX1021X** II 1/2 G Ex db IIC T6..T5 Ga/Gb II 2 D Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: CSAE 22UKEX1021X II 1 G Ex ia IIC T4 Ga II 2 D Ex ia IIIC T125°C Db FISCO Field Device (Only for FF Option) II 1 G Ex ia IIC T4 Ga	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Increase Safety: CSAE 22UKEX1008X II 3 G Ex ec IIC T4 Gc	4-20 mA / DE/ HART/	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: CSAE 22UKEX1008X II 3 G Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) II 3 G Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C

MSG CODE	AGENCY	TYPE OF PROTECTION	COMM. OPTION	ELECTRICAL PARAMETERS	AMBIENT TEMP (Ta)
		Enclosure: IP66/ IP67	All	All	-
		STANDARDS: EN 60079-0: 2018; EN 60079-1: 2014; EN 60079-7: 2015+A1:2018; EN 60079-11: 2012; EN 60079-26: 2015; EN 60079-31: 2014			
D	**IECEx World**	**Flameproof: IECEx SIR 12.0100X** Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: IECEx SIR 12.0100X Ex ia IIC T4 Ga Ex ia IIIC T125°C Db FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Increase Safety: IECEx SIR 12.0100X Ex ec IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: IECEx SIR 12.0100X Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure: IP66/ IP67	All	All	-
		STANDARDS: IEC 60079-0: 2017; IEC 60079-1: 2014; IEC 60079-7: 2017; IEC 60079-11: 2011; IEC 60079-26: 2014; IEC 60079-31: 2013			

E	**SAEx South Africa**	**Flameproof :** Ex d IIC T6…T5 Ga/Gb Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ex ia IIC Ga T4 FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Increase Safety: II 3 G Ex ec IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure: IP66/ IP67	All	All	-
F	**INMETRO Brazil**	**Flameproof:** Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ex ia IIC T4 Ga	4-20 mA / DE/ HART	Note 2a	-50°C TO 70°C
		FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	Foundation Fieldbus	Note 2b	-50°C TO 70°C
		Zone 2, Increase Safety: II 3 G Ex ec IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure : IP 66/67	All	All	-
G	**NEPSI CHINA**	**Flameproof:** Ex db IIC T6..T5 Ga/Gb Ex tb IIIC T 95°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Increase Safety: II 3 G Ex ec IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: Ex ic IIC T4 Gc FISCO Field Device (Only for FF Option) Ex ic IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure : IP 66/67	All	All	-

H	**KOSHA Korea**	**Flameproof :** Ex d IIC T4, T5, T6 Ex tD A21 IP66/IP67 T95°C…T120 °C	All	Note 1	T4: -50°C TO 85°C T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ex ia IIC T4	4-20 mA / DE/ HART	Note 2	Ta= -50 ºC to 70ºC
			Foundation Fieldbus	Note 2	Ta= -50 ºC to 70ºC
		Enclosure: IP66/ IP67	All	All	-
I	**EAC Russia, Belarus and Kazakhstan**	**Flameproof:** Ga/Gb Ex d IIC T6..T5 Ex tb IIIC Db T 85°C	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ga Ex ia IIC T4 X FISCO Field Device (Only for FF Option) Ga Ex ia IIC T4 X	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Zone 2, Non Sparking: 2 Ex nA IIC T4 Gc X	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Zone 2, Intrinsically Safe: Ga Ex ic IIC T4 X FISCO Field Device (Only for FF Option) 2 Ex ic IIC T4 Gc X	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 2	-50°C TO 85°C
		Enclosure : IP 66/67	All	All	
J	**CCoE INDIA**	**Flameproof:** Ex d IIC T6..T5 Ga/Gb	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) Ex ia IIC T4 Ga; Ex ic IIC T4 Gc	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Non Sparking Ex nA IIC T4 Gc	4-20 mA / DE/ HART/ Foundation Fieldbus	Note 1	-50°C TO 85°C
		Enclosure: IP66/ IP67	All	All	-
K	**UATR UKRAINE**	**Flameproof:** II 1/2 G Ex db IIC T6..T5 Ga/Gb II 2 D Ex tb IIIC T95°C…T120°C Db	All	Note 1	T5: -50°C TO 85°C T6: -50°C TO 65°C
		Intrinsically Safe: II 1 G Ex ia IIC T4 Ga FISCO Field Device (Only for FF Option) II 1 G Ex ia IIC T4 Ga	4-20 mA / DE/ HART	Note 2	-50°C TO 70°C
			Foundation Fieldbus	Note 2	-50°C TO 70°C
		Enclosure: IP66/ IP67	All	All	-

Notes:

1. Operating Parameters:

   Voltage = 11 to 42 VDC Current = 4-20 mA Normal

   = 9 to 32 V (FF) = 30 mA (FF)

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

   b. Foundation Fieldbus Entity Values

   Vmax = Ui = 30V Imax = Ii = 180mA Ci = 0nF Li = 984 uH Pi = 1W

   Transmitter with Terminal Block revision F or Later

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

   FISCO Field Device

   Vmax = Ui = 17.5V Imax = Ii = 380 mA Ci = 0nF Li = 0 Pi = 5.32 W

   Note : Transmitter with Terminal Block revision F 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 #: 50049839-003 or 50049839-004
   - Second line has the supplier information, along with the REVISION:

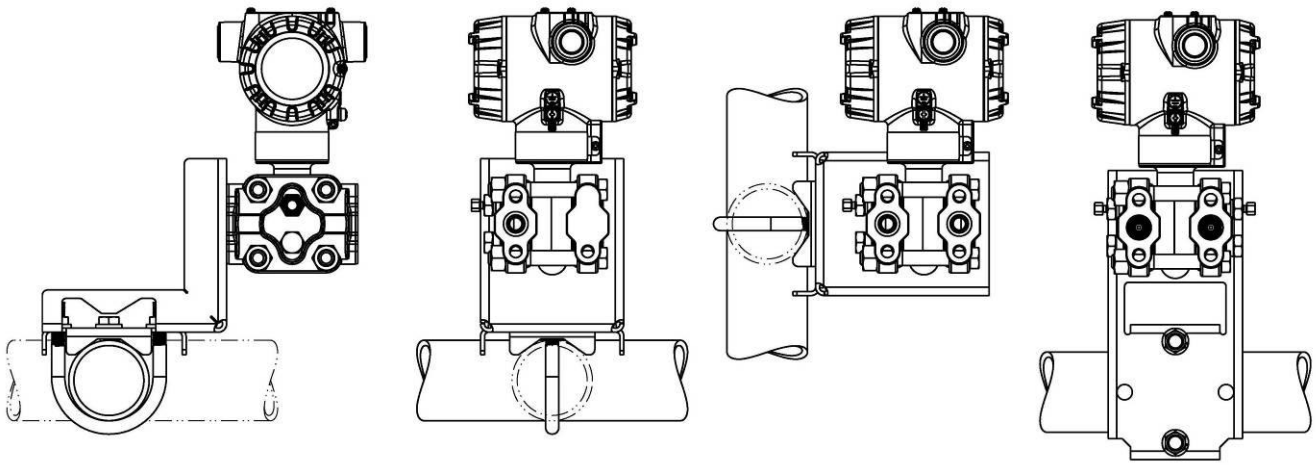
   XXXXXXX-EXXXX, THE "X" is production related, THE POSITION of the "E" IS THE REVISION

Approval Certifications

<table>
<tr><td rowspan="6">Marine Certificates</td><td>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.
For ST 800 Smart Pressure Transmitter and SMV800 Smart Multivarible Transmitter</td></tr>
<tr><td>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</td></tr>
<tr><td>Bureau Veritas (BV) - Product Code: 389:1H. Certificate number: 12660/B0 BV</td></tr>
<tr><td>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</td></tr>
<tr><td>Korean Register of Shipping (KR) - Certificate number: LOX17743-AE001</td></tr>
<tr><td>Lloyd's Register (LR) - Certificate number: 02/60001(E1) & (E2)</td></tr>
<tr><td>SIL 2/3 Certification</td><td>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.</td></tr>
<tr><td>MEASUREMENT INTRUMENTS DIRECTIVE (MID) 2004/ 22/ EC</td><td>Certificate Issued by NMI Certin B.V.
Mechanical Class: M3 Electromagnetic Environment: E3
Ambient Temperature Range: -25 °C to + 55 °C
<table>
<tr><th>Unit</th><th>Custom Calibration</th></tr>
<tr><td>STD820</td><td>0 to 1000 mBar</td></tr>
<tr><td>STD830</td><td>0 to 7 Bar</td></tr>
<tr><td>STA84L</td><td>0 to 35 Bar A</td></tr>
<tr><td>STG84L</td><td>0 to 35 Bar</td></tr>
<tr><td>STD870</td><td>0 to 100 Bar</td></tr>
<tr><td>STA87L</td><td>0 to 100 Bar A</td></tr>
<tr><td>STG87L</td><td>0 to 100 Bar</td></tr>
</table></td></tr>
</table>

Mounting & Dimensional Drawings

Mounting Configurations: (Dual head design)



Mounting Configurations (Inline Designs)

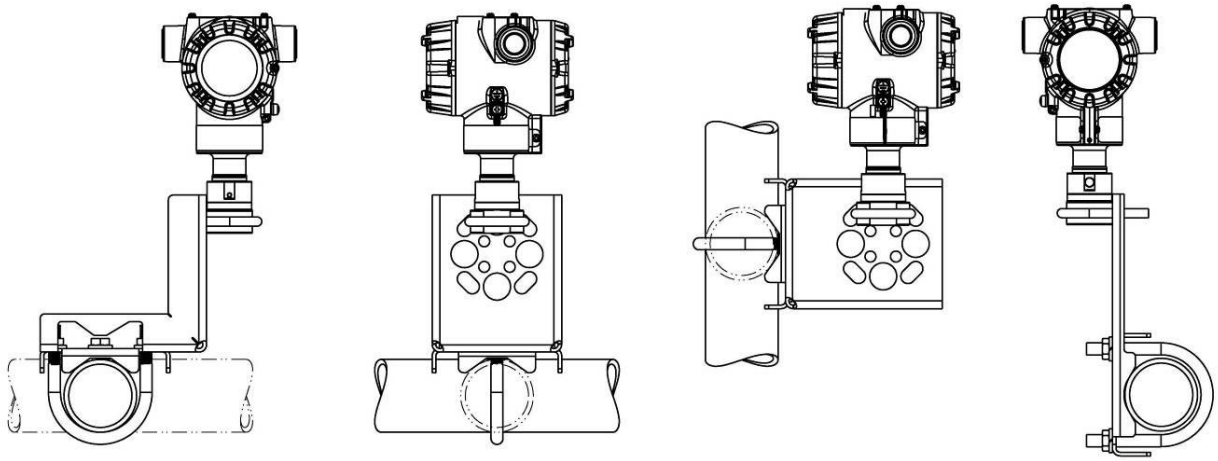


Figure 3 – Typical mounting configuration of dual head and inline designs for reference

Reference Dimensions: millimeters / inches

Dimensions: (Dual head design)

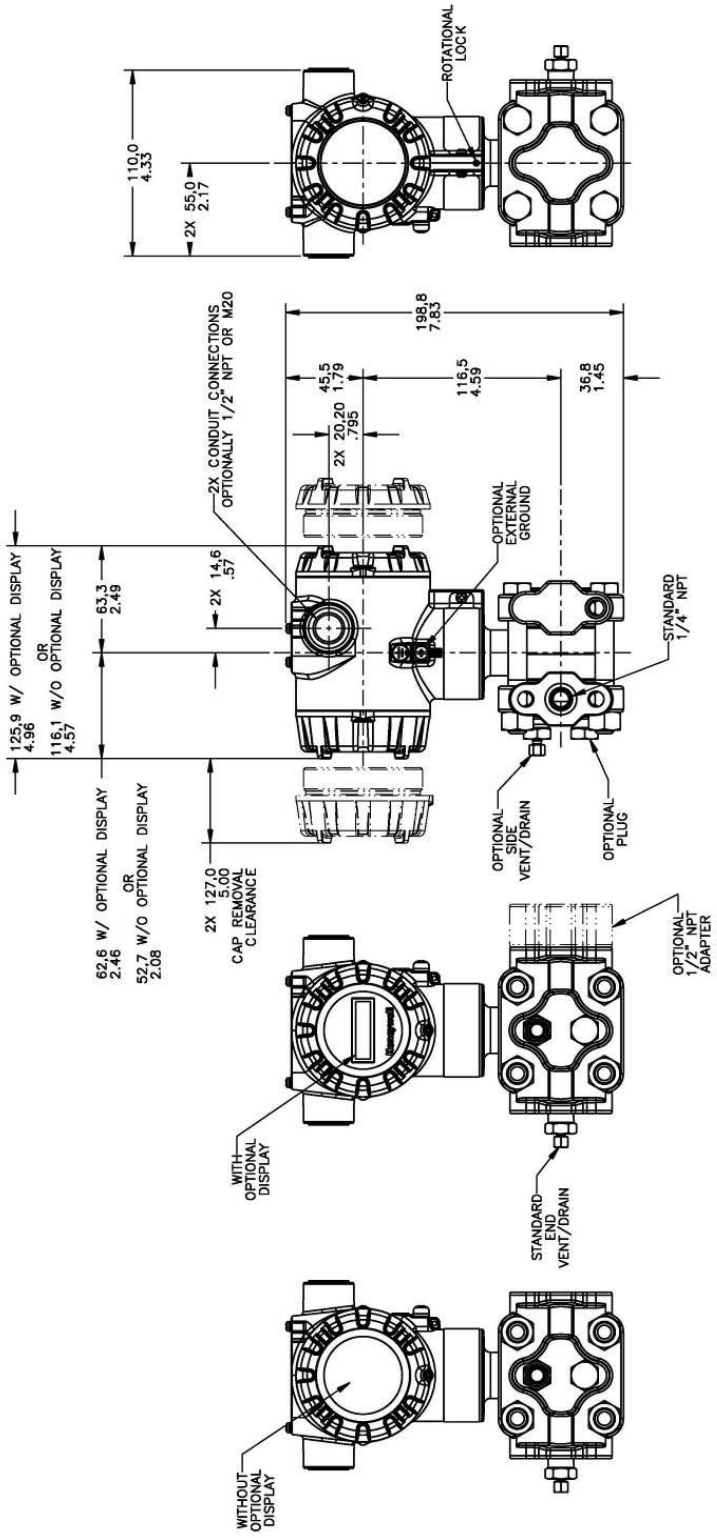


Figure 4 – Typical mounting dimensions of STG840 & STG870 for reference

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

Dimension (Inline Design)

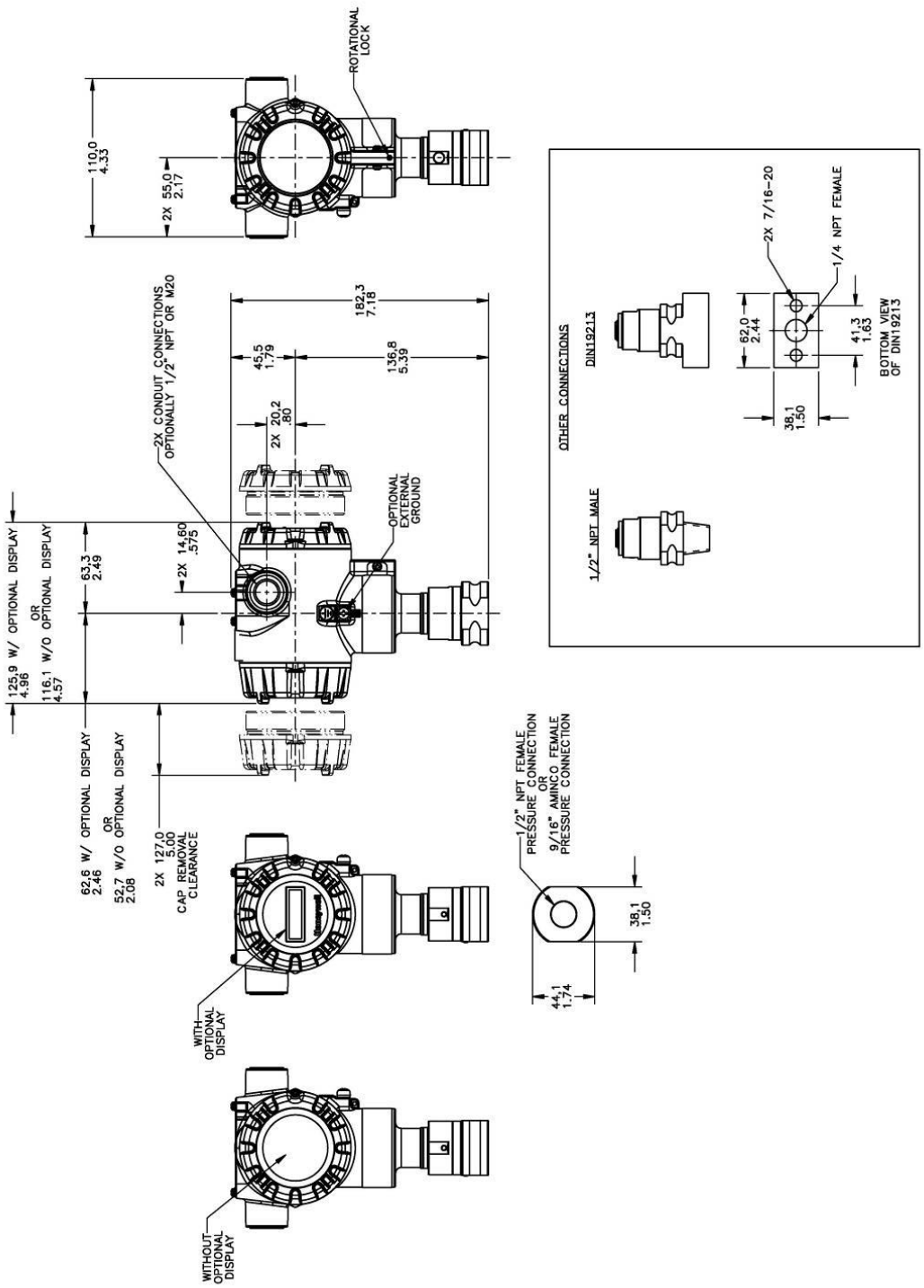


Figure 5 – Typical mounting dimensions of STG84L, STG87L, STG88L, & STG89L for reference

Model Selection Guide

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

Model STG800
Gauge Pressure Transmitters

Model Selection Guide
34-ST-16-83 Issue 31

Instructions: Make selections from all Tables using column below the proper arrow. Asterisk indicates availability. Letter (a) refers 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
STG _ _ _	- _ _ _ _ _ _	- _	- _	- _ _ _	- _ _ _	- _	- _ _ _ _	- _ _ _ _ _ _ _ _	- 0 0 0 0

KEY NUMBER	URL/Max Span	LRL	Min Span	Units
Gauge Dual Head	50 (3.5)	-14.7 (-1.0)	0.5 (.035)	psi (bar)
	500 (35)	-14.7 (-1.0)	5 (.35)	psi (bar)
	3000 (210)	-14.7 (-1.0)	30 (2.1)	psi (bar)
Gauge In-Line	50 (3.5)	-14.7 (-1.0)	0.5 (.035)	psi (bar)
	500 (35)	-14.7 (-1.0)	5 (.35)	psi (bar)
	3000 (210)	-14.7 (-1.0)	30(2.1)	psi (bar)
	6000 (420)	-14.7 (-1.0)	60 (4.2)	psi (bar)
	10000 (690)	-14.7 (-1.0)	100 (6.9)	psi (bar)

Selection	Availability						
STG830	↓						
STG840	↓						
STG870		↓					
STG83L			↓				
STG84L				↓			
STG87L					↓		
STG88L						↓	
STG89L							↓

TABLE I	METER BODY SELECTIONS		
a. Process Head & Diaphragm Materials	Process Head/Reference Head Material[1b]	Barrier Diaphragm Material	
	Plated Carbon Steel / Plated Carbon Steel	316L SS	A _ _ _ _ _
		Hastelloy® C - 276	B _ _ _ _ _
		Monel 400®	C _ _ _ _ _
		Tantalum	D _ _ _ _ _
		Gold Plated 316L SS	1 _ _ _ _ _
		Gold Plated Hastelloy C-276	2 _ _ _ _ _
		Gold Plated Monel 400	3 _ _ _ _ _
	316 Stainless Steel /316 Stainless Steel[1c]	316L SS	E _ _ _ _ _
		Hastelloy C - 276	F _ _ _ _ _
		Monel 400	G _ _ _ _ _
		Tantalum	H _ _ _ _ _
		Gold Plated 316L SS	4 _ _ _ _ _
		Gold Plated Hastelloy C-276	5 _ _ _ _ _
		Gold Plated Monel 400	6 _ _ _ _ _
	Hastelloy C - 276 / 316 Stainless Steel	Hastelloy C - 276	J _ _ _ _ _
		Tantalum	K _ _ _ _ _
		Gold Plated Hastelloy C-276	7 _ _ _ _ _
	Monel 400 / 316 Stainless Steel	Monel 400	L _ _ _ _ _
		Gold Plated Monel 400	8 _ _ _ _ _
b. Fill Fluid	Silicone Oil 200		_1_ _ _ _
	Fluorinated Oil CTFE		_2_ _ _ _
	Silicone Oil 704		_3_ _ _ _
	NEOBEE® M-20		_4_ _ _ _
c. Process Connection	Size/Type	Material	
	9/16" Aminco	Same as Process Head	_ _ A _ _ _
	1/2" NPT (female)	Same as Process Head [1a]	_ _ G _ _ _
	1/2" NPT (male)	Same as Process Head	_ _ H _ _ _
	DIN 19213 (1/4" female NPT)	Same as Process Head	_ _ D _ _ _
	G 1/2 B Threaded Fitting	Same as Process Head	_ _ B _ _ _
	M20	Same as Process Head	_ _ N _ _ _
d. Bolt/Nuts Materials	None		_ _ _ 0 _ _
	Carbon Steel		_ _ _ C _ _
	316 SS		_ _ _ S _ _
	Grade 660 (NACE A286) with NACE 304 SS Nuts		_ _ _ N _ _
	Grade 660 (NACE A286) Bolts & Nuts		_ _ _ K _ _
	Monel K500		_ _ _ M _ _
	Super Duplex		_ _ _ D _ _
	B7M		_ _ _ B _ _
e. Vent/Drain Type/Location	Head Type / Vent Type / Location / Vent Material		
	None / None / None / None		_ _ _ _ 0 _
	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 _
	Dual Ended / Standard Vent / End / Matches Head Material[1]		_ _ _ _ 4 _
	Dual Ended / Center Vent / End / Stainless Steel only		_ _ _ _ 5 _
	Dual Ended / Std Vent/Plug / Side/End / Matches Head Material[1]		_ _ _ _ 6 _
f. Gasket Materials	None		_ _ _ _ _ 0
	Teflon® or PTFE (Glass Filled)		_ _ _ _ _ A
	Viton®		_ _ _ _ _ B
	Graphite		_ _ _ _ _ C

[1] Except Carbon Steel Heads shall use 316SS Vent/Drain & Plugs and or 1/2" adapters
[1a] STG830,840,870 supplied via 1/2" flange adapter same material as process head except carbon steel shall use 316 SS
[1b] Reference head available with Dual Head Gage models only. In-Line Gage models are supplied with Process Head only.
[1c] When selected for In-Line Gage models the Process Head / Bonnet is supplied in Dual Certified SS316/316L



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**					

TABLE III	AGENCY APPROVALS								
Approvals	No Approvals Required	0	*	*	*	*	*	*	*
	<FM> Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	A	*	*	*	*	*	*	*
	CSA Explosion proof, Intrinsically Safe, Non-incendive, & Dustproof	B	*	*	*	*	*	*	**p**
	ATEX Explosion proof, Intrinsically Safe & Non-incendive	C	*	*	*	*	*	*	*
	IECEx Explosion proof, Intrinsically Safe & Non-incendive	D	*	*	*	*	*	*	*
	SAEx Explosion proof, Intrinsically Safe & Non-incendive	E	*	*	*	*	*	*	*
	INMETRO Explosion proof, Intrinsically Safe & Non-incendive	F	*	*	*	*	*	*	*
	NEPSI Explosion proof, Intrinsically Safe & Non-incendive	G	*	*	*	*	*	*	*
	KOSHA Explosion proof, Intrinsically Safe & Non-incendive	H	*	*	*	*	*	*	*
	EAC Customs Union(Russia,Belarus,Kazakhstan)Ex Approval, Flame proof, Intrinsically Safe	I	*	*	*	*	*	*	*
	CCoE Explosion proof, Intrinsically Safe & Non-incendive	J	*	*	*	*	*	*	*
	UATR Flameproof, Intrinsically Safe & Dustproof	K	*	*	*	*	*	*	*

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 _	*	*	*	*	*	*	*
	4-20mA dc	DE Protocol		_ D _	**u**	**u**	**u**	**u**	**u**	**u**	**u**
	none	Foundation Fieldbus		_ F _	*	*	*	*	*	*	*
c. Customer Interface Selections	**Indicator**	**Ext Zero, Span & Config Buttons**	**Languages**							
	None	None	None	_ _ 0	*	*	*	*	*	*	*
	None	Yes (Zero/Span Only)	None	_ _ A	**f**	**f**	**f**	**f**	**f**	**f**	**f**
	Advanced	None	EN, GR, FR, IT, SP, RU, TU	_ _ D	*	*	*	*	*	*	*
	Advanced	Yes	EN, GR, FR, IT, SP, RU, TU	_ _ E	*	*	*	*	*	*	*
	Advanced	None	EN, CH, JP	_ _ H	*	*	*	*	*	*	*
	Advanced	Yes	EN, CH, JP	_ _ J	*	*	*	*	*	*	*
	Standard (w/internal Zero, Span & Conf Buttons)	None	EN, RU	_ _ S	q	q	q	q	q	q	q
	Standard (w/internal Zero, Span & Conf Buttons)	Yes	EN, RU	_ _ T	q	q	q	q	q	q	q

TABLE V	CONFIGURATION SELECTIONS									
a. Application Software	**Diagnostics**									
	Standard Diagnostics			1 _ _	*	*	*	*	*	*	*
	Advanced Diagnostics (Above with Plugged Impulse Detection PILD)			2 _ _	*	*	*	*	*	*	*
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 _	**f**	**f**	**f**	**f**	**f**	**f**	**f**
	Disabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 2 _	**f**	**f**	**f**	**f**	**f**	**f**	**f**
	Enabled	High> 21.0mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 3 _	**f**	**f**	**f**	**f**	**f**	**f**	**f**
	Enabled	Low< 3.6mAdc	Honeywell Std (3.8 - 20.8 mAdc)	_ 4 _	**f**	**f**	**f**	**f**	**f**	**f**	**f**
	Enabled	N/A	N/A Fieldbus or Profibus	_ 5 _	**g**	**g**	**g**	**g**	**g**	**g**	**g**
	Disabled	N/A	N/A Fieldbus or Profibus	_ 6 _	**g**	**g**	**g**	**g**	**g**	**g**	**g**
c. General Configuration	**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 are configurable by customer

TABLE VI	CALIBRATION & ACCURACY SELECTIONS		
	Accuracy	**Calibrated Range**	**Calibration Qty**
Accuracy and Calibration	Standard	Factory Standard	Single Calibration
	Standard	Custom (Unit Data Required)	Single Calibration
	Standard	Custom (Unit Data Required)	Dual Calibration
	Standard	Custom (Unit Data Required)	Triple Calibration
	High Accuracy	Factory Standard	Single Calibration
	High Accuracy	Custom (Unit Data Required)	Single Calibration
	High Accuracy	Custom (Unit Data Required)	Dual Calibration
	High Accuracy	Custom (Unit Data Required)	Triple Calibration

STG89L	STG88L	STG87L	STG84L	STG83L	STG870	STG830, STG840
A	*	*	*	*	*	*	*
B	*	*	*	*	*	*	*
C	*	*	*	*	*	*	*
D	*	*	*	*	*	*	*
E	s	s	s	s	s	s	s
F	s	s	s	s	s	s	s
G	s	s	s	s	s	s	s
H	s	s	s	s	s	s	s

TABLE VII	ACCESSORY SELECTIONS	
	Bracket Type	**Material**
a. Mounting Bracket	None	None
	Angle Bracket	Carbon Steel
	Angle Bracket	304 SS
	Angle Bracket	316 SS
	Marine Approved Bracket	Carbon Steel
	Marine Approved Bracket (In-Line)	Carbon Steel
	Marine Approved Bracket	304 SS
	Marine Approved Bracket (In-Line)	304 SS
	Flat Bracket	Carbon Steel
	Flat Bracket	304 SS
	Flat Bracket	316 SS

0 _ _ _	1 _ _ _	2 _ _ _	3 _ _ _	8 _ _ _	9 _ _ _	4 _ _ _	A _ _ _	5 _ _ _	6 _ _ _	7 _ _ _
*	*	*	*	*		*		*	*	*
*	*	*	*	*		*		*	*	*
*	*	*	*					*	*	*
*	*	*	*					*	*	*
					*		*	*	*	*
					*		*	*	*	*
					*		*	*	*	*
					*		*	*	*	*
					*		*	*	*	*
					*		*	*	*	*
					*		*	*	*	*

TABLE VII	Customer Tag Type
b. Customer Tag	No customer tag
	One Wired Stainless Steel Tag (Up to 4 lines 26 char/line)
	Two Wired Stainless Steel Tag (Up to 4 lines 26 char/line)

_ 0 _ _	_ 1 _ _	_ 2 _ _
*	*	*
*	*	*
*	*	*

TABLE VII	Unassembled Conduit Plugs & Adapters
c. 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)

_ _ A0	_ _ A2	_ _ A6	_ _ A7	_ _ A8	_ _ A9
*	*	*	*	*	*
n	n	n	n	n	n
n	n	n	n	n	n
m	m	m	m	m	m
n	n	n	n	n	n
m	m	m	m	m	m

TABLE VIII	OTHER Certifications & Options: (String in sequence comma delimited (XX, XX, XX,….)
Certifications & Warranty	No additional options
	Low Temperature Rating (-50 deg C min. ambient operative temperature limit)
	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)
	EN10204 Type 3.1 Material Traceability (FC33341)
	MID Approved Transmitter - Contact Tech Support for specific MID approved ranges
	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
	PMI Certification[2]
	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

00	LT	FG	F7	MT	FX	MD	F3	F1	F5	FE	TP	OX	PM	01	02	03	04	15	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*	v	*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*	v	*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	
*	w	*	c	d	*		*	*	*	j	*	e	*	*	*	*	*	*	

TABLE IX	Manufacturing Specials
Factory	Factory Identification

0 0 0 0
*
*
*
*
*
*
*

RESTRICTIONS

Restriction Letter	Available Only with		Not Available with	
	Table	Selection(s)	Table	Selection(s)
a			VIII	FG, F7
b	Select Only one option from this group			
c	Id	_ _ _ 0,N,K,D,B _ _ _	I a	D,H,K,L,8 _ _ _ _ _ _
d	IV a	C,D,G,H _ _	VIIa	1,2,3,5,6,7 _ _ _
e	Ib	_ 2 _ _ _ _ _		
f			IV b	_ F_
g			IVb	_ H, D _
h			Ie	_ 4, 5, 6 _
			VIIa	1,2,3,4,5,6,7,8 _ _ _
j	IV b	H	Vb	_ 1,2,6_
m	IV a	B,D, F, H _ _		
n	IV a	A,C, E, G _ _		
p			III	B- No CRN number available
q	IV b	_ H _		
s	Ia	A,E _ _ _ _ _ _		
t			Ia	J, K, 7, L, 8
u			Va	2 _ _
			VIa	C,D,G,H
v	IV a	C,D,G,H _ _	IVb	_D,F_
w	Ib	_ 1 _ _ _ _ _	VIII	FE

[1]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 Gold plated and STG and STA in-line construction pressure transmitters.

FIELD INSTALLABLE ACCESSORY KITS

Description	Kit Number	Price
Integrally Mounted Basic Indicator Kit (Compatible with all Electronic Modules)	50049911-501	Note P
Integrally Mounted Advanced Indicator Kit (compatible with all Electronic Modules)	50049846-501	Note P
Terminal Strip w/o Lightening Protection for HART or DE Modules	50075472-531	Note P
Terminal Strip w/Lightning Protection Kit for HART or DE Modules	50075472-532	Note P
Terminal Strip w/o Lightening Protection FFB/*Profibus* Module	50075472-533	Note P
Terminal Strip w/Lightning Protection Kit for FFB/*Profibus* Module	50075472-534	Note P
HART Electronics Module	50049849-501	Note P
HART Electronics Module w/connection for external configuration buttons	50049849-502	Note P
DE Electronics Module	50049849-503	Note P
DE Electronics Module w/connection for external configuration buttons	50049849-504	Note P
FFB Electronics Module Kit	50049849-507	Note P
FFB Electronics Module w/connection for external configuration buttons	50049849-508	Note P

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

PRODUCT MANUALS

Description	Part Number
ST 800 SmartLine Transmitter User Manual - English	34-ST-25-35
ST 800 SmartLine Transmitter HART/DE Communications Manual - English	34-ST-25-38
ST 800 SmartLine Transmitter Safety Manual - English	34-ST-25-37
ST 800 SmartLine Transmitter Foundation Fieldbus Manual - English	34-ST-25-39
ST 800 SmartLine Transmitter Function Block Manual - English	34-ST-25-42

All product documentation is available at www.process.honeywell.com.

Sales and Service

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

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engine http://bit.ly/2N5Vldi

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Web
Knowledge Base search
engine http://bit.ly/2N5Vldi

Specifications are subject to change without notice.

For more information
To learn more about SmartLine Transmitters,
visit **www.process.honeywell.com**
Or contact your Honeywell Account Manager

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