

ST 3000 Smart Transmitter Series 900 Absolute Pressure Models

34-ST-03-66
10/2002

Specification and Model Selection Guide

STA922	0 to 780 mmHgA	0 to 1,040 mbarA
STA940	0 to 500 psia	0 to 35 barA

Introduction

In 1983, Honeywell introduced the first Smart Pressure Transmitter—the ST 3000®. In 1989, Honeywell launched the first all digital, bi-directional protocol for smart field devices. Today, its ST 3000 Series 900 Absolute Pressure Transmitters continue to bring proven “smart” technology to a wide spectrum of pressure measurement applications. Honeywell absolute pressure transmitters are used in applications in which high accuracy in the vacuum range of pressure is needed. Typical applications include low-pressure measurement in vacuum distillation columns, where energy savings are directly proportional to the vacuum in the column. Honeywell transmitters can be used in a wide spectrum of hazardous environments in perfect safety to provide proven, repeatable pressure measurements.

All ST 3000 transmitters can provide a 4-20 mA output, Honeywell Digitally Enhanced (DE) output, HART™ output, or FOUNDATION™ Fieldbus output. When digitally integrated with Honeywell's Process Knowledge System™, EXPERION PKS™, ST 3000 instruments provide a more accurate process variable as well as advanced diagnostics.

Honeywell's cost-effective ST 3000 S900 transmitters lead the industry in reliability and stability:

- Stability = +/-0.01% per year
- Reliability = 470 years MTBF



Figure 1—Series 900 Absolute Pressure Transmitters feature proven piezoresistive sensor technology.

The devices provide comprehensive self-diagnostics to help users maintain high uptime, meet regulatory requirements, and attain high quality standards. S900 transmitters allow smart performance at analog prices. Accurate, reliable and stable, Series 900 transmitters offer greater turndown ratio than conventional transmitters.

"Honeywell transmitters operating in the digital mode using Honeywell's Digitally Enhanced (DE) protocol make diagnostics available right at the control system's human interface. Equally important, transmitter status information is continuously displayed to alert the operator immediately of a fault condition. Because the process variable (PV) status transmission precedes the PV value, we are guaranteed that a bad PV is not used in a control algorithm. In addition, bi-directional communication provides for remote transmitter configuration directly from the human interface, enabling management of the complete loop."

Maureen Atchison, DuPont
Site Electrical & Instrumentation Leader

Description

The ST 3000 transmitter can replace any 4 to 20 mA output transmitter in use today and operates over a standard two-wire system.

The measuring means is a piezoresistive sensor, which actually contains three sensors in one. It contains a differential pressure sensor, a temperature sensor, and a static pressure sensor.

Microprocessor-based electronics provide higher span-turndown ratio, improved temperature and pressure compensation, and improved accuracy.

The transmitter's meter body and electronics housing resist shock, vibration, corrosion, and moisture. The electronics housing contains a compartment for the single-board electronics, which is isolated from an integral junction box. The single-board electronics is replaceable and interchangeable with any other ST 3000 Series 100 or Series 900 model transmitter.

Like other Honeywell transmitters, the ST 3000 features two-way communication between the operator and the transmitter through our Smart Field Configurator (SFC). You can connect the SFC anywhere that you can access the transmitter signal lines.

The SCT 3000 Smartline[®] Configuration Toolkit provides an easy way to configure instruments using a personal computer. The toolkit enables configuration of devices before shipping or installation. The SCT 3000 can operate in the offline mode to configure an unlimited number of devices. The database can then be loaded downline during commissioning.

Features

- Choice of linear or square root output conformity is a simple configuration selection.
- Direct digital integration with Experion PKS and other control systems provides local measurement accuracy to the system level without adding typical A/D and D/A converter inaccuracies.
- Unique piezoresistive sensor automatically compensates input for temperature and static pressure. Added "smart" features include configuring lower and upper range values, simulating accurate analog output, and selecting preprogrammed engineering units for display.
- Smart transmitter capabilities with local or remote interfacing means significant manpower efficiency improvements in commissioning, start-up, and ongoing maintenance functions.

Specifications

Operating Conditions – All Models

Parameter	Reference Condition (at zero static)		Rated Condition		Operative Limits		Transportation and Storage	
	°C	°F	°C	°F	°C	°F	°C	°F
Ambient Temperature	25±1	77±2	-25 to 70	-13 to 158	-40 to 85	-40 to 185	-55 to 125	-67 to 257
Meter Body Temperature								
STA922	25±1	77±2	See Figure 2		See Figure 2		-55 to 125	-67 to 257
STA940	25±1	77±2	-25 to 70	-13 to 158	-40 to 80	-40 to 176	-55 to 125	-67 to 257
Humidity %RH	10 to 55		0 to 100		0 to 100		0 to 100	
Overpressure								
STA922 mmHgA mbarA	0 0		Full vacuum to 1550 Full vacuum to 2066		Full vacuum to 1550 Full vacuum to 2066			
STA940, psia barA	0 0		750 52		750 52			
Vacuum Region - Minimum Pressure STA922 STA940	See Figure 2. Operate within specifications above 25 mmHgA (33 mbarA). Short term exposure (2 hours at 70°C/158°F) to full vacuum will not result in damage.							
Supply Voltage, Current, and Load Resistance	Voltage Range: 10.8 to 42.4 Vdc at terminals Current Range: 3.0 to 21.8 mA Load Resistance: 0 to 1440 ohms (as shown in Figure 3)							

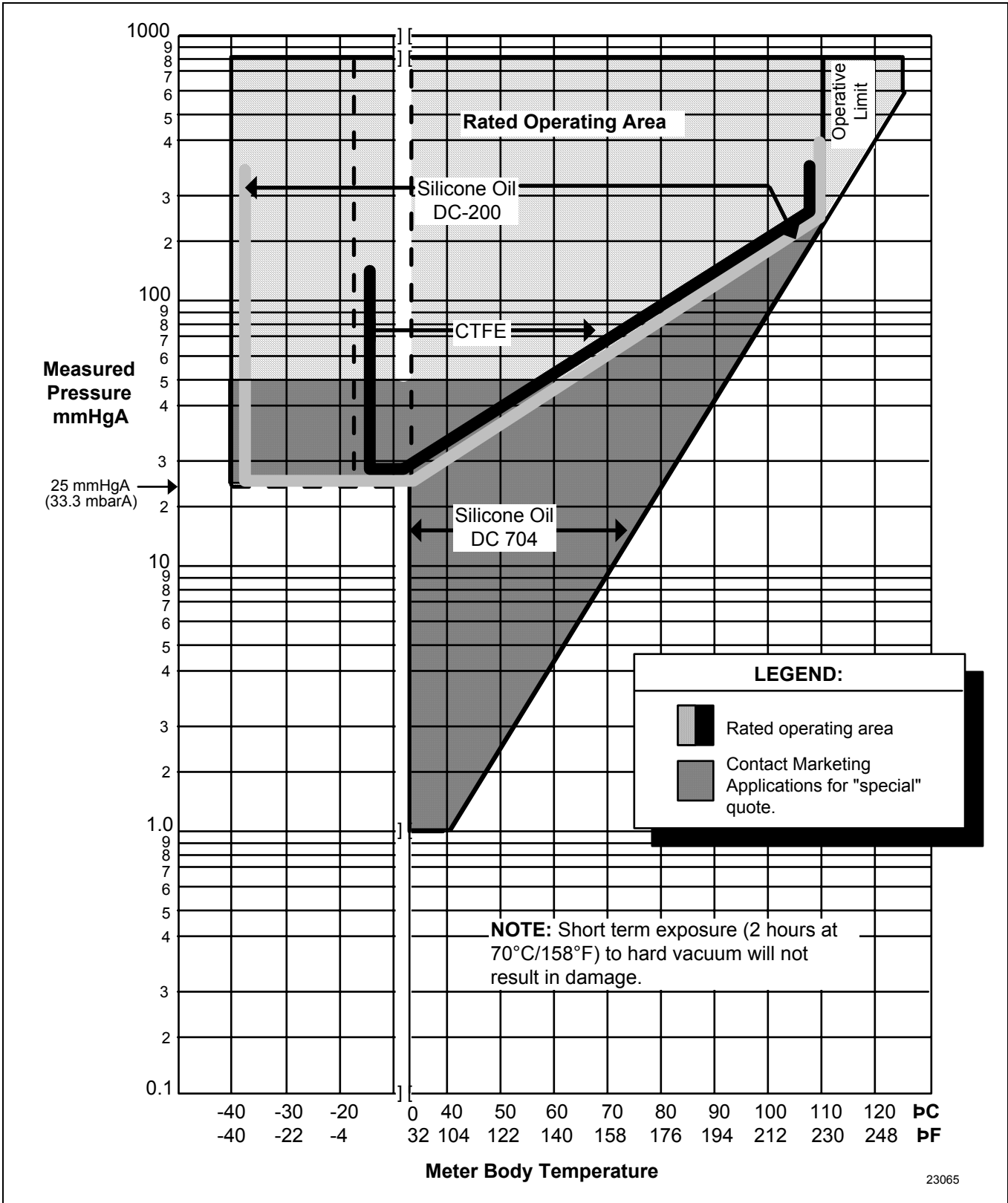


Figure 2—Measured pressure versus meter body temperature chart for model STA922

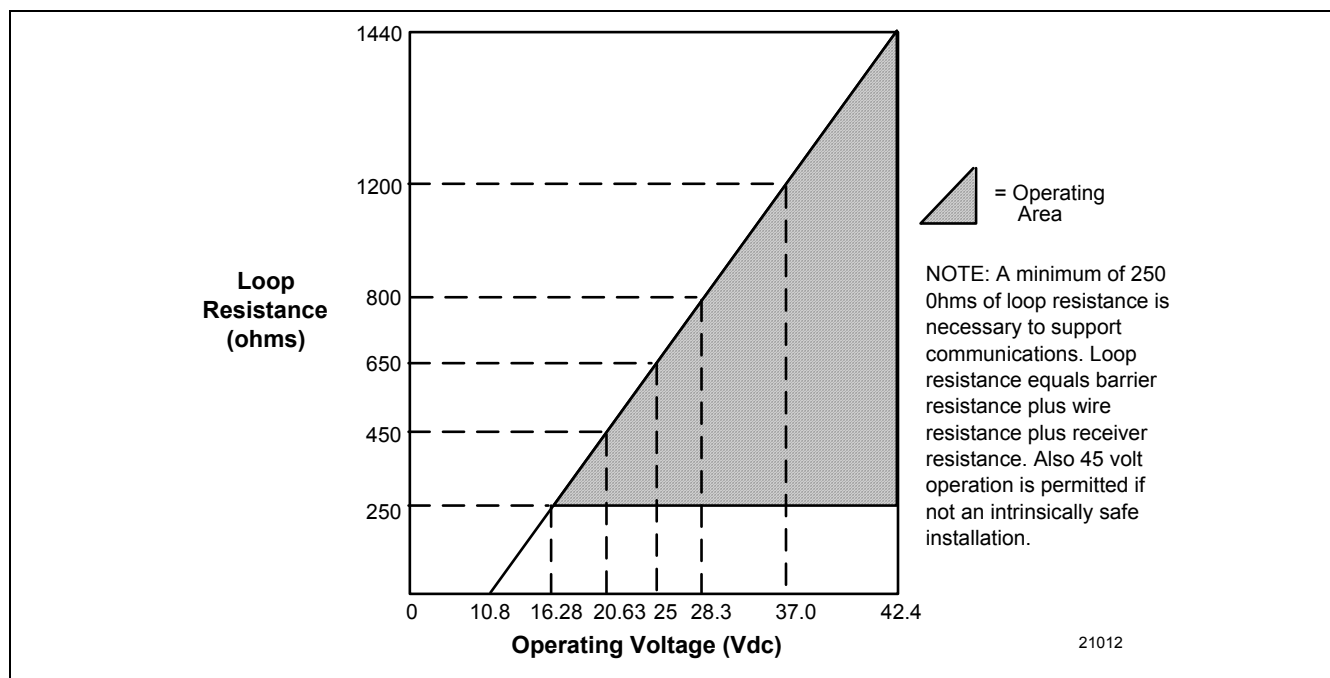


Figure 3—Supply voltage and loop resistance chart

Performance Under Rated Conditions* - Models STA922 (0 to 780 mmHgA/1040 mbarA)

Parameter		Description
Upper Range Limit	mmHgA mbarA	780 (0°C/32°F is standard reference temperature for mmHg range.) 1040
Minimum Span	mmHgA mbarA	50 67
Turndown Ratio		15 to 1
Zero Suppression		No limit except minimum span within 0 (zero) to +100% URL.
Accuracy (Reference – Includes combined effects of linearity, hysteresis, and repeatability) • Accuracy includes residual error after averaging successive readings. • For FOUNDATION Fieldbus use Digital Mode specifications. For HART use Analog Mode specifications.		In Analog Mode: ±0.10% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (90 mmHgA), accuracy equals: $\pm 0.05 + 0.05 \left(\frac{90 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.05 + 0.05 \left(\frac{120 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in } \% \text{ span}$ In Digital Mode: ±0.075% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (90 mmHgA), accuracy equals: $\pm 0.025 + 0.05 \left(\frac{90 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.025 + 0.05 \left(\frac{120 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in } \% \text{ span}$
Zero Temperature Effect per 28°C (50°F)		In Analog Mode: ±0.1625% of span. For URV below reference point (180 mmHgA), effect equals: $\pm 0.0125 + 0.15 \left(\frac{180 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.0125 + 0.15 \left(\frac{240 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in } \% \text{ span}$ In Digital Mode: ±0.15% of span. For URV below reference point (180 mmHgA), effect equals: $\pm 0.15 \left(\frac{180 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.15 \left(\frac{240 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in } \% \text{ span}$

* Performance specifications are based on reference conditions of 25°C (77°F), 10 to 55% RH, and 316L Stainless Steel barrier diaphragm.

Performance Under Rated Conditions - Models STA922 (0 to 780 mmHgA/1040 mbarA),
Continued

Parameter	Description
Combined Zero and Span Temperature Effect per 28°C (50°F)	<p>In Analog Mode: ±0.25% of span. For URV below reference point (180 mmHgA), effect equals: $\pm 0.10 + 0.15 \left(\frac{180 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.10 + 0.15 \left(\frac{240 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in \% span}$</p> <p>In Digital Mode: ±0.225% of span. For URV below reference point (180 mmHgA), effect equals: $\pm 0.075 + 0.15 \left(\frac{180 \text{ mmHgA}}{\text{span mmHgA}} \right) \text{ or } \pm 0.075 + 0.15 \left(\frac{240 \text{ mbarA}}{\text{span mbarA}} \right) \text{ in \% span}$</p>

Performance Under Rated Conditions* - Models STA940 (0 to 500 psia/35 barA)

Parameter	Description
Upper Range Limit psia barA	500 35
Minimum Span psia barA	20 1.4
Turndown Ratio	25 to 1
Zero Suppression	No limit except minimum span within 0 (zero) to +100% URL.
<p>Accuracy (Reference – Includes combined effects of linearity, hysteresis, and repeatability)</p> <ul style="list-style-type: none"> Accuracy includes residual error after averaging successive readings. For FOUNDATION Fieldbus use Digital Mode specifications. For HART use Analog Mode specifications. 	<p>In Analog Mode: ±0.10% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (20 psia), accuracy equals: $\pm 0.05 + 0.05 \left(\frac{20 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.05 + 0.05 \left(\frac{1.4 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p> <p>In Digital Mode: ±0.075% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (20 psia), accuracy equals: $\pm 0.025 + 0.05 \left(\frac{20 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.025 + 0.05 \left(\frac{1.4 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p>
Zero Temperature Effect per 28°C (50°F)	<p>In Analog Mode: ±0.1625% of span. For URV below reference point (50 psia), effect equals: $\pm 0.0125 + 0.15 \left(\frac{50 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.0125 + 0.15 \left(\frac{3.5 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p> <p>In Digital Mode: ±0.15% of span. For URV below reference point (50 psia), effect equals: $\pm 0.15 \left(\frac{50 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.15 \left(\frac{3.5 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p>
Combined Zero and Span Temperature Effect per 28°C (50°F)	<p>In Analog Mode: ±0.25% of span. For URV below reference point (50 psia), effect equals: $\pm 0.10 + 0.15 \left(\frac{50 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.10 + 0.15 \left(\frac{3.5 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p> <p>In Digital Mode: ±0.225% of span. For URV below reference point (50 psia), effect equals: $\pm 0.075 + 0.15 \left(\frac{50 \text{ psia}}{\text{span psia}} \right) \text{ or } \pm 0.075 + 0.15 \left(\frac{3.5 \text{ barA}}{\text{span barA}} \right) \text{ in \% span}$</p>

* Performance specifications are based on reference conditions of 25°C (77°F), 10 to 55% RH, and 316L Stainless Steel barrier diaphragm.

Performance Under Rated Conditions - General for all Models

Parameter	Description
Output (two-wire)	Analog 4 to 20 mA or DE digital communications mode. Options available for FOUNDATION Fieldbus and HART protocol.
Supply Voltage Effect	0.005% span per volt.
Damping Time Constant	Adjustable from 0 to 32 seconds digital damping.
CE Conformity (Europe)	89/336/EEC, Electromagnetic Compatibility (EMC) Directive.
Lightning Protection Option (Code "LP")	Leakage Current: 10 microamps max. @ 42.4 VDC, 93°C Impulse Rating: 10/20 µ sec. 5,000 Amps (50 strikes) 10,000 Amps (20 strikes) (rise/decay) 10/1000 µ sec. 250 Amps (1000 strikes) 500 Amps (400 strikes)

Physical and Approval Bodies

Parameter	Description
Barrier Diaphragms Material	316L SS, Hastelloy C-276
Process Head Material	316 SS, Carbon Steel (zinc-plated), Hastelloy C-276
Head Gaskets	Viton is standard. Teflon is optional but not recommended for leak-proof service under full vacuum.
Meter Body Bolting	Carbon Steel (zinc-plated, standard) or A286 SS (NACE) bolts and 302/304 SS (NACE) nuts for heads.
Mounting Bracket	Carbon Steel (zinc-plated) or Stainless Steel angle bracket or Carbon Steel flat bracket available.
Fill Fluid	Silicone DC 200 oil or CTFE (Chlorotrifluoroethylene) Note that DC 704 is available – Please contact Product Marketing.
Electronic Housing	Epoxy-Polyester hybrid paint. Low Copper-Aluminum. Meets NEMA 4X (watertight) and NEMA 7 (explosion proof). Stainless steel optional.
Process Connections	1/2-inch NPT, DIN
Wiring	Accepts up to 16 AWG (1.5 mm diameter).
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 4.
Dimensions	See Figure 5.
Net Weight	10 pounds (4.5 Kg)
Approval Bodies - Hazardous Areas	Approved as explosion proof and intrinsically safe for use in Class I, Division 1, Groups A, B, C, D locations, and nonincendive for Class I, Division 2, Groups A, B, C, D locations. Approved EEx ia IIC T4, T5, T6 and EEx d IIC T5, T6 per ATEX standards. See attached Model Selection Guide for options.
Pressure Equipment Directive (97/23/EC)	The ST 3000 pressure transmitters listed in this Specification have no pressurized internal volume or have a pressurized internal volume rated less than 1,000 bar (14,500 psig) and/or have a maximum volume of less than 0.1 liter. Therefore, these transmitters are either; not subject to the essential requirements of the directive 97/23/EC (PED, Annex 1) and shall not have the CE mark, or the manufacturer has the free choice of a module when the CE mark is required for pressures > 200 bar (2,900 psig).

NOTE: Pressure transmitters that are part of safety equipment for the protection of piping (systems) or vessel(s) from exceeding allowable pressure limits, (equipment with safety functions in accordance with Pressure Equipment Directive 97/23/EC article 1, 2.1.3), require separate examination.

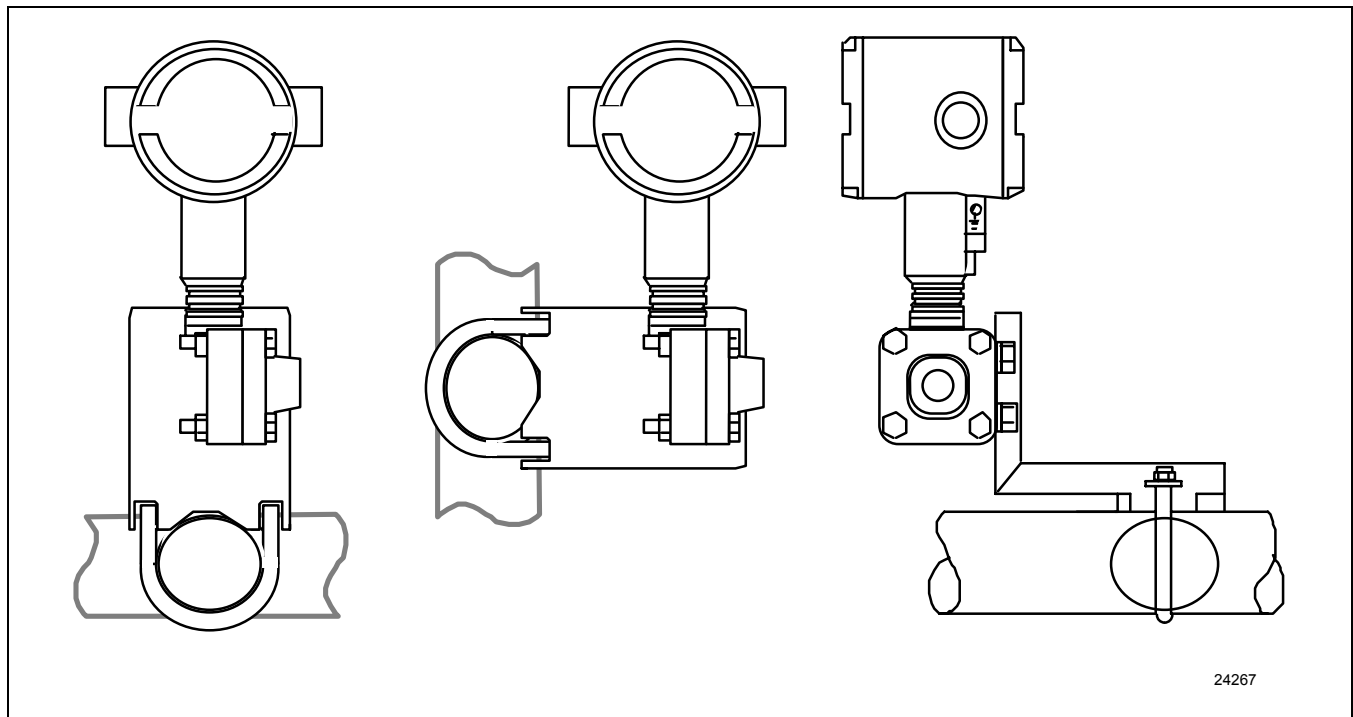


Figure 4—Examples of typical mounting positions

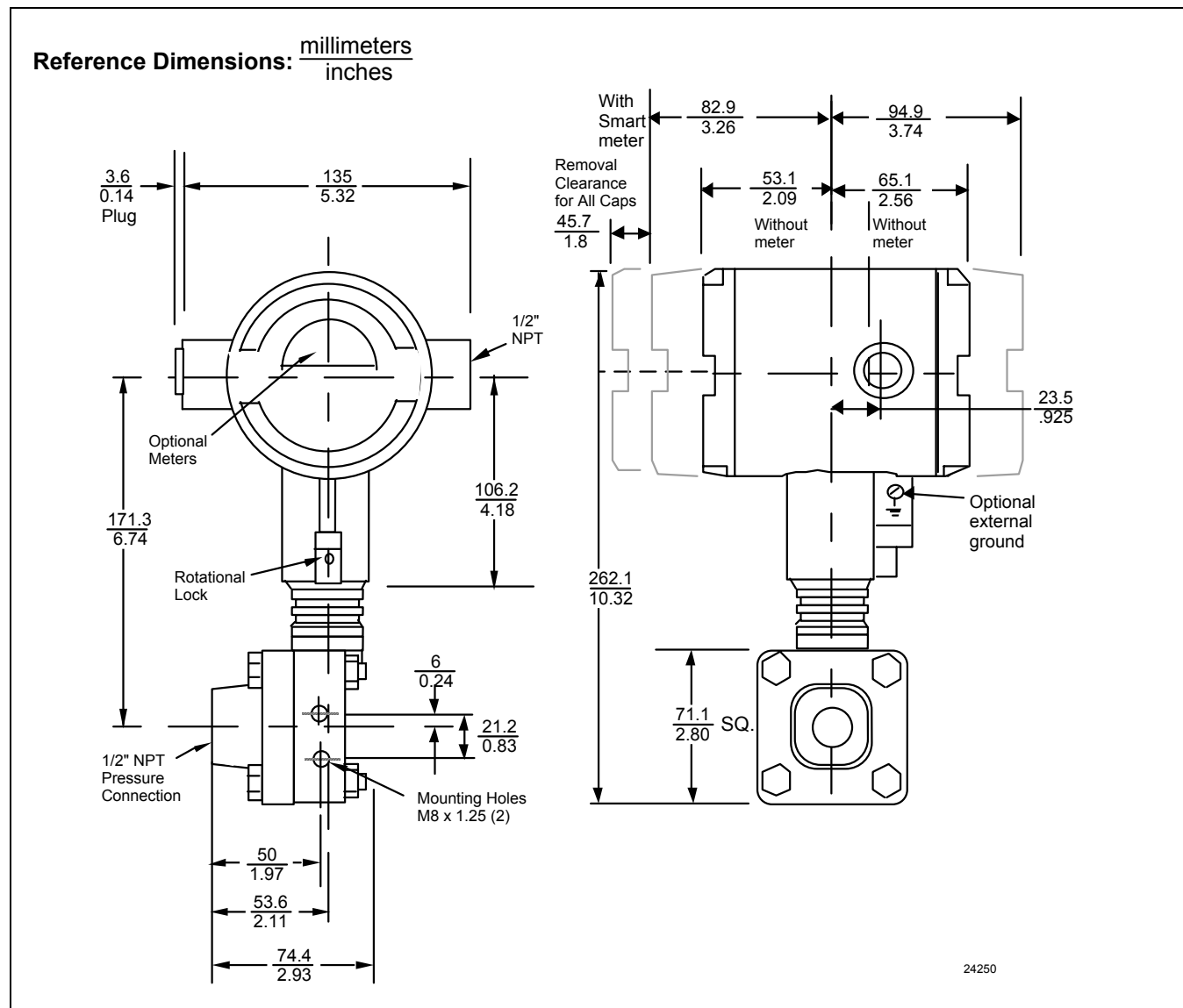


Figure 5—Typical mounting dimensions for reference

Options	Ordering Information
<p>Mounting Bracket The angle mounting bracket is available in either zinc-plated carbon steel or stainless steel and is suitable for horizontal or vertical mounting on a two inch (50 millimeter) pipe, as well as wall mounting. An optional flat mounting bracket is also available in carbon steel for two inch (50 millimeter) pipe mounting.</p> <p>Indicating Meter (ME and SM Options) Two integral meter options are available. An analog meter (option ME) is available with a 0 to 100% linear scale. The Smart Meter (option SM) provides an LCD display for both analog and digital output and can be configured to display pressure in pre-selected engineering units.</p> <p>Lightning Protection (Option LP) A terminal block is available with circuitry that protects the transmitter from transient surges induced by nearby lightning strikes.</p> <p>HART Protocol Compatibility (Option HC) An optional electronics module is available for the ST 3000 that provides HART Protocol compatibility. Transmitters with the HART Option are compatible with the AMS System. (Contact your AMS Supplier if an upgrade is required.)</p> <p>Indicator Configuration (Option CI) Provides custom configuration of Smart Meters.</p> <p>Tagging (Option TG) Up to 30 characters can be added on the stainless steel nameplate mounted on the transmitter's electronics housing at no extra cost. Note that a separate nameplate on the meter body contains the serial number and body-related data. A stainless steel wired on tag with additional data of up to 4 lines of 28 characters is also available. The number of characters for tagging includes spaces.</p> <p>Transmitter Configuration (Option TC) The factory can configure the transmitter linear/square root extraction, damping time, LRV, URV and mode (analog/digital) and enter an ID tag of up to eight characters and scratchpad information as specified.</p> <p>Custom Calibration and ID in Memory (Option CC) The factory can calibrate any range within the scope of the transmitter's range and enter an ID tag of up to eight characters in the transmitter's memory.</p> <p>FOUNDATION Fieldbus (Option FF) Equips transmitter with FF protocol for use in 31.25 kbit/s FF networks. See document 34-ST-03-72 for additional information on ST 3000 Fieldbus transmitters.</p>	<p>Contact your nearest Honeywell sales office, or</p> <p>In the U.S.: Honeywell Industrial Automation & Control 16404 North Black Canyon Hwy. Phoenix, AZ 85053 1-800-288-7491</p> <p>In Canada: The Honeywell Centre 155 Gordon Baker Rd. North York, Ontario M2H 3N7 1-800-461-0013</p> <p>In Latin America: Honeywell Inc. 480 Sawgrass Corporate Parkway, Suite 200 Sunrise, FL 33325 (954) 845-2600</p> <p>In Europe and Africa: Honeywell S. A. Avenue du Bourget 1 1140 Brussels, Belgium</p> <p>In Eastern Europe: Honeywell Praha, s.r.o. Budejovicka 1 140 21 Prague 4, Czech Republic</p> <p>In the Middle East: Honeywell Middle East Ltd. Khalifa Street, Sheikh Faisal Building Abu Dhabi, U. A. E.</p> <p>In Asia: Honeywell Asia Pacific Inc. Honeywell Building, 17 Changi Business Park Central 1 Singapore 486073 Republic of Singapore</p> <p>In the Pacific: Honeywell Pty Ltd. 5 Thomas Holt Drive North Ryde NSW Australia 2113 (61 2) 9353 7000</p> <p>In Japan: Honeywell K.K. 14-6 Shibaura 1-chrome Minato-ku, Tokyo, Japan 105-0023</p> <p>Or, visit Honeywell on the World Wide Web at: http://www.honeywell.com</p>

Specifications are subject to change without notice.
(Note that specifications may differ slightly for transmitters manufactured before October 30, 1995.)

Model Selection Guide (34-ST-16-26)

Instructions

- Select the desired Key Number. The arrow to the right marks the selection available.
- Make one selection from each table, I and II, using the column below the proper arrow.
Select as many Table III options as desired (if no options or approvals are desired, specify 9X).
A (♦) denotes unrestricted availability. A letter denotes restricted availability.
Restrictions follow Table IV.

Key Number I II III (Optional) IV
 [] - [] - [] - [] + []

KEY NUMBER		Selection	Availability	
Span				
Gage	0-20 to 0-500 psi/0-1.4 to 0-35 bar	STG944	↓	
Pressure	0-300 to 0-3000 psi/0-21 to 0-210 bar	STG974	↓	
Absolute	0-50 to 0-780 mmHgA/0-67 to 1040 mbar A.	STA922		↓
Pressure	0-20 to 0-500 psia/0-1.4 to 0-35 bar abs	STA940		↓

TABLE I - METER BODY

	Wetted Process Head ***	Vent/Drain Valve **	Barrier Diaphragms			
Material of Construction	Carbon Steel *	316 St. St.	316 LSS	A _ _	♦	♦
	Carbon Steel *	316 St. St.	Hastelloy C	B _ _	♦	♦
	316 St. St.	316 St. St.	316 LSS	E _ _	♦	♦
	316 St. St.	316 St. St.	Hastelloy C	F _ _	♦	♦
	Hastelloy C	Hastelloy C	Hastelloy C	J _ _	♦	♦
Fill Fluid	Silicone DC200 ****			_ 1 _	♦	♦
	CTFE			_ 2 _	♦	♦
Process Head Configuration	1/4" NPT			_ _ A	♦	
	1/2" NPT with Adapter			_ _ G	t	
	1/2" NPT			_ _ G		♦

TABLE II

No Selection	00000	♦	♦
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* Carbon Steel heads are zinc-plated. Not recommended for water service due to hydrogen migration.
Use Stainless Steel heads.

** Vent/Drains are Teflon coated for lubricity.

*** The standard reference head for the STG9XX is carbon steel (zinc-plated).
See Table III for a stainless steel reference (HR) head option.

**** If STA922 operating below 50mm HgA, see Figure 2 in Specification 34-ST-03-65 and
contact Marketing Applications for a "Special" Silicone DC704 quote.

Note: End vent drain valve standard for STG9XX.
End vent drain valves are not available on STA9XX.

Model Selection Guide, cont.

		Availability	
		STA9	STG9
		44	22
		74	40
TABLE III - OPTIONS	Selection		
None	00	♦	♦
HART [™] Protocol Compatible Electronics	HC	♦	♦
FOUNDATION Fieldbus Communications	FF	r	r
Analog Meter (0-100 Even 0-10 Square Root)	ME	♦	♦
Smart Meter	SM	♦	♦
Custom Configuration of Smart Meter	CI	m	m
Local Zero	LZ	x	
Local Zero and Span	ZS	s	
Lightning Protection	LP	♦	♦
Custom Calibration and I.D. in Memory	CC	♦	♦
Transmitter Configuration	TC	♦	♦
Write Protection	WP	♦	♦
A286SS (NACE) Bolts and 302/304SS (NACE) Nuts for Heads	CR	♦	♦
Stainless Steel Customer Wired-On Tag (4 lines, 28 characters per line, customer supplied information)	TG	♦	♦
Stainless Steel Customer Wired-On Tag (blank)	TB	♦	♦
Adapter Flange - 1/2" NPT St. Steel	S1	c	
Adapter Flange - 1/2" NPT Hastelloy-C	T1	c	
Modified DIN Process Heads - 316SS	DN	w	v
Viton Process Head Gaskets (teflon is standard)	VT	♦	
Mounting Bracket - Carbon Steel	MB	♦	♦
Mounting Bracket - ST. ST.	SB	♦	♦
Flat Mounting Bracket - Carbon Steel	FB	♦	♦
316 ST.ST. Electronics Housing - <i>with M20 Conduit Connections</i>	SH	n	n
1/2" NPT to M20 316SS Conduit Adapter (BASEEFA EEx d IIC)	A1	n	n
1/2" NPT to 3/4" NPT 316 SS Conduit Adapter	A2	u	u
Stainless Steel Housing with M20 to 1/2" NPT 316 SS Conduit Adapter (<i>use for FM and CSA Approvals</i>)	A3	i	i
Side Vent/Drain	SV	d	
Blind DIN SS Flanges Mounted with NACE Bolts	B1	y	
Low Temperature - -50°C Ambient Limit	LT	z	
St. St. Reference Head (Carbon Steel Standard)	HR	♦	
Clean Transmitter for Oxygen or Chlorine Service with Certificate	OX	h	h
Over-Pressure Leak Test with F3392 Certificate	TP	♦	♦
Calibration Test Report and Certificate of Conformance (F3399)	F1	♦	♦
Certificate of Conformance (F3391)	F3	♦	♦
Certificate of Origin (F0195)	F5	♦	♦
FMEDA (SIL) Certificate	F6	♦	♦
NACE Certificate (F0198)	F7	o	o
Additional Warranty - 1 year	W1	♦	♦
Additional Warranty - 2 years	W2	♦	♦
Additional Warranty - 3 years	W3	♦	♦
Additional Warranty - 4 years	W4	♦	♦

Table III continued next page

Model Selection Guide, cont.

				Availability	
				STA9 STG9	
				44	22
				74	40
TABLE III - OPTIONS (continued)				Selection	
Approval Body	Approval Type	Location or Classification			
No hazardous location approvals			9X	♦	♦
Factory Mutual	Explosion Proof	Class I, Div. 1, Groups A,B,C,D	1C	♦	♦
	Dust Ignition Proof	Class II, III Div. 1, Groups E,F,G			
	Non-Incendive	Class I, Div. 2, Groups A,B,C,D			
	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G			
CSA	Explosion Proof	Class I, Div. 1, Groups B,C,D	2J	♦	♦
	Dust Ignition Proof	Class II, III, Div. 1, Groups E,F,G			
	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G			
SA (Australia)	Intrinsically Safe	Ex ia IIC T4	4G	♦	♦
	Non-Sparking	Ex n IIC T6 (T4 with SM option)			
ATEX*	Intrinsically Safe, Zone 0/1	Ex i IIC T4, T5, T6	3S	♦	♦
	Flameproof, Zone 1	Ex d IIC T5, T6, Enclosure IP 66/67	3D	♦	♦
	Non-Sparking, Zone 2	Ex n IIC T6 (Honeywell). Enclosure IP 66/67	3N	♦	♦

*See ATEX installation requirements in the ST 3000 User's Manual

97/23/EC Pressure Equipment Directive (PED)

The ST 3000 pressure transmitters listed in this Model Selection Guide are in conformity with the essential requirements of the PED. A formal statement from TÜV Industry Service Group of TÜV America, Inc., a division of TÜV Süddeutschland, a Notified Body regarding the Pressure Equipment Directive, is available upon request

TABLE IV

Factory Identification	XXXX	♦	♦
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Model Selection Guide, cont.

RESTRICTIONS

Restriction		Available Only With		Not Available With
Letter	Table	Selection	Table	Selection
a		Approval Body Pending		
b		Select only one option from this group		
c	I	_ _ G		
d			III	DN, B1
e			III	4G
h	I	_ 2 _		
i	III	1C or 2J		
m	III	SM		
n			III	1C, 2J
o	III	CR or B1		
r			III	TC, ME, 4G, 3S
s			III	FF, ME
t		Select adapter from Table III S1, T1		
u	III	1C, 2J		
v	I	E _ G, F _ G		
w	I	E _ A, F _ A	III	SV
x	III	FF, SM		
y	I III	E _ A, F _ A DN	III	SV
z			III	STG974

Note: See ST-83 for Published Specials with pricing.
 See ST-89 and User's Manual for part numbers.
 See ST-OE-9 for OMS Order Entry Information including TC, manuals, certificates, drawings and SPINS.
 See ST-OD-1 for tagging, ID, Transmitter Configuration (TC) and calibration including factory default values.
 To request a quotation for a non-published "special", fax RFQ to Marketing Applications.
 See ST-OE-9 for OMS Order Entry Information including TC, manuals,

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 HART* is a trademark of the Hart Communication Foundation.
 FOUNDATION™ is a trademark of the Fieldbus Foundation.

Honeywell

Industrial Measurement and Control

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