Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Looking for wireless transmitters? See page 123!

Need for a submersible transmitter for liquid level? See pages 16 and 17.
Looking for Honeywell's smart multivariable transmitter for flow? See page 63.

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

78 *PRESSURE TRANSMITTERS*

Low-Cost All-Stainless Pressure Transmitters

Features

- Ranges from 0-15 to 0-10000 PSIG, 0-15 to 0-300 PSIA
- ≤±0.5% span accuracy
- 4-20 mA or 0-10 V output
- 316L stainless body, silicone oil internal fill (pressures to 0-100 PSIG, 0-300 PSIA)
- 10-30 VDC power supply
- Pressure connections: 1/4" NPT (standard), 1/2" NPT, SAE #4
- Operating range: 32° to 176° F
- UL, CSA, and GOST approved, ROHS and CE conformity

Need a different connector? Large quantity requirement? Call for pricing and availability.

Model Selection Guide

Range	4-20 mA 2-Wire		0-10V 3-Wire	
	Model	Price	Model	Price
A-10 Pressure Transmitter: 1/4" NPTM Process Connection				
0-15 PSIA	50426354	$194.28	50426737	$194.28
0-100 PSIA	50426389	194.28	50426761	194.28
0-15 PSI	50426397	156.73	50426770	156.73
0-25 PSI	50426401	156.73	50426788	156.73
0-50 PSI	50426427	156.73	50426800	156.73
0-100 PSI	50372475	156.73	50426818	156.73
0-200 PSI	50398083	156.73	50426834	156.73
0-300 PSI	50426460	156.73	50426842	156.73
0-500 PSI	50426478	156.73	50426851	156.73
0-1000 PSI	50426486	156.73	50426869	156.73
0-1500 PSI	50426494	156.73	50426877	156.73
0-2000 PSI	50426508	156.73	50426885	156.73
0-3000 PSI	50426516	156.73	50426893	156.73
0-5000 PSI	50372483	156.73	50426907	156.73
0-10000 PSI	50426532	156.73	50426915	156.73

Pressure Transmitters for OEM Applications

Features

- ±0.5% accuracy
- Two-wire 4-20 mA output standard
- CE Mark option available

These OEM-application pressure transmitters feature a highly stable, temperature compensated, conditioned output signal. With a stainless steel case and compact design, they provide a high-performance sensor package with excellent vibration resistance and long service life.

Specifications

Accuracy: ±0.5% full span; *Linearity:* ≤0.5%; *Hysteresis:* ≤0.1% span; *Repeatability:* ≤0.05% span; *One-Year Stability:* ≤0.2% span

Operating Temperature: 14° to 176° F (ambient); -22° to 212° F (media)

Power Supply: 12-30 VDC

Output: 2-wire 4-20 mA DC. 3-wire 0-20 mA, 0-5V or 0-10V output optional.

Process Connection Size: 1/4" NPTM standard.

Materials: *Body:* 304 Stainless steel; *Wetted Parts:* 316 or 17-4PH and 316 stainless steel; *Transmitting Liquid:* Silicone oil; *Electrical Connection:* Mini DIN plug (NEMA 5/IP65)

Electrical Protection: Protected against reverse polarity, short circuit output, and suppressor diode for high-voltage protection. 3-wire voltage and current outputs are EMI protected per IEC 801.

Model Selection Guide

Pressure Range	Maximum Pressure	Burst Pressure	Catalog Number	Price Each
C-10 Transmitter: 316 SS Wetted Parts, Piezo-Resistive Sensing Element and 1/4" NPT Male Pressure Connection, Two-Wire 4-20 mA Output				
0-100"WC	30 PSI	30 PSI	4204883	$275.71
0-5 PSIG	30 PSI	30 PSI	8363434	275.71
0-15 PSIG	70 PSI	70 PSI	8363442	275.71
0-25 PSIG	145 PSI	145 PSI	8363450	275.71
0-50 PSIG	245 PSI	245 PSI	8363468	275.71
0-60 PSIG	245 PSI	245 PSI	8363476	275.71
0-100 PSIG	500 PSI	500 PSI	8363515	275.71
0-150 PSIG	500 PSI	500 PSI	8363485	275.71
0-200 PSIG	500 PSI	500 PSI	8363493	275.71
C-10 Transmitter: 316 and 17-4pH SS Wetted Parts, Thin Film Sensing Element and 1/4" NPT Male Pressure Connection, Two-Wire 4-20 mA Output				
0-300 PSIG	725 PSI	3625 PSI	8363506	275.71
0-500 PSI	1160 PSI	5800 PSI	9697688	275.71
0-600 PSI	1160 PSI	5800 PSI	8357247	275.71
0-1000 PSI	1740 PSI	7975 PSI	8357255	275.71
0-1500 PSI	2900 PSI	11,600 PSI	8357264	275.71
0-2000 PSI	2900 PSI	11,600 PSI	8357272	275.71
0-3000 PSI	7250 PSI	17,400 PSI	8354753	275.71
0-5000 PSI	11,600 PSI	24,650 PSI	ⓛ 8347390	275.71
0-7500 PSI	17,400 PSI	34,800 PSI	8357280	275.71
0-10,000 PSI	17,400 PSI	34,800 PSI	8357298	275.71
0-15,000 PSI	21,750 PSI	43,500 PSI	8359576	275.71

Loop-Powered Digital Indicator

- 0.4" high LCD, programmable display range -1999 to 9999
- Accuracy: ±0.2% span
- 4-20 mA output can be assigned any value within measuring range
- ABS plastic case, polycarbonate window
- Scaling points are individually adjustable using push-buttons inside the case

Indicator available for WIKA transmitters on 78 and 79

WIKA

Industrial Pressure Transmitters

High Performance Pressure Transmitters for General Service Applications

Features

- All stainless steel construction
- 1 mSec response time
- Up to 5 times overpressure
- Measuring ranges from 0–10 PSI to 0–20,000 PSI, plus compound ranges
- Non-linearity up to 0.125% BFSL
- Long-term drift ≤ ±0.1% span
- DIN, remote cable, and M12 connections
- For use in ambient temperatures to 257° F, media temperatures to 392° F
- Service life rated to 100 million load cycles

Model Selection Guide

Range	0.5% Non-Linearity 1/4" NPTM MiniDIN Catalog Number	Price	0.25% Non-Linearity 1/2" NPTM DIN Catalog Number	Price
S-20 General Service Transmitter				
30" HgVac-0 PSI	52377199	$322.88	52375595	$451.00
0-10 PSI	52377563	251.13	52376460	379.25
0-30 PSI	52376541	251.13	52376486	379.25
0-60 PSI	52376567	251.13	52375293	379.25
0-100 PSI	52374319	251.13	52374301	379.25
0-200 PSI	52376591	251.13	52375323	379.25
0-300 PSI	52376613	251.13	52375340	379.25
0-500 PSI	52376648	251.13	52375366	379.25
0-1000 PSI	52376672	251.13	52375391	379.25
0-3000 PSI	52376770	251.13	52375421	379.25
0-5000 PSI	52376800	251.13	52375455	379.25
0-10000 PSI	52376834	251.13	52375471	379.25
Attachable Loop-Powered Indicator			7082534	295.74

Intrinsically Safe Hazardous Area Transmitters

FM APPROVED

Features

- FM/CSA approved intrinsically safe for Class I, II, and III, Div 1, Groups A-G, dust class II, III, Div 1, Groups E-G, Class I, Zone 0, ATx ia II C
- ATEX approvals for gases, vapors, and mists in Zone 0, 1, and 2; For dust Zone 20, 21, and 22; and mining categories M1 and M2
- Suitable for SIL2 per IEC 61508/IEC 61511
- Rugged NEMA 6 stainless steel case, all stainless wetted parts with all-welded measuring cell for improved media compatibility
- Accuracy to ≤ 0.25% span BFSL, non-linearity/one-year stability to ≤ 0.2% span, non-repeatability to ≤ 0.1% span
- For ambient and media temperatures of -4° to 176° F
- Call for flush diaphragm mount or models with integral junction boxes

Model Selection Guide

Range	Catalog Number	Price
IS-20-S Intrinsically Safe Transmitter		
0-5 PSI	12127851	$516.03
0-10 PSI	12127877	516.03
0-15 PSI	12127885	516.03
0-25 PSI	12127893	516.03
0-30 PSI	12127906	516.03
0-60 PSI	12127914	516.03
0-100 PSI	12127922	516.03
0-160 PSI	12127940	516.03
0-200 PSI	12127966	516.03
0-1000 PSI	12128040	516.03
0-5000 PSI	12128104	516.03

Pressure Transmitters for 3A Sanitary Applications

WIKA Type S-10.3A sanitary transmitters meet 3A standards for pressure and level measurement. A 316 stainless steel flush diaphragm minimizes product buildup. The food-grade liquid-filled, sealed sensing system is designed for Clean-In-Place and Sterilize-In-Place maintenance.

S-10.3A transmitters are temperature compensated to ensure long-term stability under extreme temperature changes. The gel-potted circuit board is protected against vibration, shock, and moisture.

Condensed Specifications

Accuracy: ±0.5% span; *Hysteresis:* ±0.1% span; *Repeatability:* ±0.05% span; *One-Year Stability:* ±0.2% span; *Zero/Span Adjustment:* Approx. ±0.5% full scale

Temperature: *Compensated:* 32° to 175° F; *Media:* 14° to 248° F; *Ambient:* 14° to 175° F; *Temperature Error:* Percent of span per 18° F

Construction: *Body:* 304SS; *Diaphragm:* 316SS; *Connection:* DIN 43560 solderless screw terminal, 316SS IP65/NEMA 5; *Transmitting Liquid:* Vegetable oil

Model Selection Guide

Description		1.5" Tri-Clamp Catalog	Price	2" Tri-Clamp Catalog	Price
S-10.3A Sanitary Pressure Transmitters					
Pressure Range	0-15 PSI	9748202	$755.22	9748210	$755.22
	0-30 PSI	9748075	755.22	4225007	755.22
	0-60 PSI	9744703	755.22	9748199	755.22
	0-100 PSI	9748237	755.22	9747931	755.22
	0-160 PSI	9748245	755.22	9748253	755.22
	0-200 PSI	9749408	755.22	4213246	755.22
	0-250 PSI	9776227	755.22	4268831	755.22
	0-500 PSI	50961667	755.22	9745828	755.22
	0-1000 PSI	8993470	755.22	4281737	755.22

80 *PRESSURE TRANSMITTERS*

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Stainless Steel Pressure Transmitters

WIKA®

Pressure Transmitter with NEMA 4X Junction Box

Ranges to 15000 PSI available. Call for pricing.

Features

- 4-20 mA output with internal test circuit connection
- Junction box cover unscrews for access to internal terminal block
- All stainless steel design meets NEMA 4X standard for washdown and corrosion resistance, IP67 Ingress protection

WIKA's F-2X pressure transmitters are designed for use in difficult, corrosive environments. The smooth surface reduces areas where contaminants may collect and makes it ideal for use in food and pharmaceutical industries.

The F-20 features an all-welded stainless steel measuring cell for improved media compatibility. There are no internal soft sealing materials that can react with the media or deteriorate over time.

F-21's flat sensing surface is designed for measuring viscous fluids or media containing solids that may clog the NPT process connection.

Model Selection Guide

Pressure Range	Maximum Pressure	Burst Pressure	Catalog Number	Price Each
F-20: Standard NPT Connection				
0-50"WC	30 PSI	30 PSI	12127469	$586.68
0-5 PSI	72 PSI	87 PSI	12127493	586.68
0-10 PSI	72 PSI	87 PSI	12127507	586.68
0–15 PSI	72 PSI	87 PSI	12127523	586.68
0-25 PSI	72 PSI	87 PSI	12127531	586.68
0-30 PSI	72 PSI	87 PSI	12127540	586.68
0-60 PSI	240 PSI	290 PSI	12127566	586.68
0-100 PSI	240 PSI	290 PSI	12128873	586.68
0-160 PSI	500 PSI	600 PSI	12127574	586.68
0-200 PSI	500 PSI	600 PSI	12127582	586.68
0-300 PSI	500 PSI	600 PSI	12127591	586.68
0-500 PSI	1160 PSI	5800 PSI	12127639	586.68
F-21: Flush Diaphragm Connection				
0-50"WC	30 PSI	30 PSI	12126331	657.44
0-5 PSI	72 PSI	87 PSI	12127728	657.44
0-10 PSI	72 PSI	87 PSI	12127736	657.44
0-100 PSI	240 PSI	290 PSI	12127744	657.44

FM-Approved Explosion-Proof Transmitters for Hazardous Areas

Features

- FM-approved explosion-proof for Class I Division 1 hazardous locations
- Available with 4–20 mA, two-wire or 1–5 V, three-wire low power output signals
- Engineered to withstand harsh environments
- NACE MR0175 compliant wetted parts
- Retrofits many existing oil and gas applications

Specifications

Materials: *Wetted parts:* NACE compliant; *Model E-10:* Stainless steel (≥300 psi stainles steel and Elgiloy); *Case:* Stainless steel

Internal transmission fluid: Synthetic oil (only for pressure ranges up to 300 psi or flush diaphragm units)

Power supply U$_B$: 10 to 30 VDC

Response time (10 to 90%): ≤ 1 (≤ 10 ms for media temperatures <-22° F (-30° C) for pressure ranges up to 300 psi or with flush diaphragm)

Accuracy: ≤ 0.25 (BFSL) % of span; ≤ 0.5 (limit point calibration) % span

Stability: ≤ 0.2 (at reference conditions) % span, one year

Temperature limits: *Ambient:* -22 to 212° F (-30 to 100° C)

Approval: *FM / CSA explosion-proof:* Class I, Div 1, Groups A–D; *Dust ignition-proof:* Class II / III, Div 1, Groups E–G; FM Standards according to class number 3600, 3615, and 3810

Ingress protection: NEMA 4X / IP 67

WIKA E-10 explosion-proof pressure transmitters are specifically designed to meet the durability and performance requirements of oil and gas pressure monitoring applications.

These pressure transmitters feature an industry standard 4-20 mA two-wire or 1-5V three-wire low power signal output and NEMA 4X (IP67) ingress protection. They are extremely resistant to pressure spikes, vibration and moister intrusion.

NACE MR-01-75 compliant wetted parts provides extra resistance against sulfide stress cracking when exposed to media containing sulphur. Both are available with a factory sealed epoxy flying lead assembly for easier installation.

Model Selection Guide

E-10 Series 4-20 mA Transmitter	Pressure Range	With 6 Ft Cable		With 6 Ft Leads	
		Catalog Number	Price	Catalog Number	Price
1/4" NPT Male Process Connection	30"-0"HgVac	52131793	$456.27	—	
	0-15 PSI	—		50989333	$482.01
	0-60 PSI	4363082	417.72	50989341	482.01
	0-100 PSI	4363090	417.72	4363189	482.01
	0-200 PSI	4364844	417.72	50139061	482.01
	0-300 PSI	4363103	417.72	4363197	482.01
	0-500 PSI	4363111	417.72	4363200	482.01
	0-1000 PSI	4363129	417.72	4363218	482.01
	0-3000 PSI	4202506	417.72	4363244	482.01
	0-5000 PSI	4363155	417.72	4363252	482.01
1/2" NPT Male Process Connection	30"-0"HgVac	4371130	456.27	—	
	0-15 PSI	4365034	417.72	4365157	482.01
	0-60 PSI	4365042	417.72	4365166	482.01
	0-100 PSI	4365050	417.72	4365174	482.01
	0-200 PSI	4369633	417.72	50033948	482.01
	0-300 PSI	4365068	417.72	4365182	482.01
	0-500 PSI	4365076	417.72	4365190	482.01
	0-1000 PSI	4365085	417.72	4365204	482.01
	0-3000 PSI	4365106	417.72	4365220	482.01
	0-5000 PSI	4365115	417.72	4365238	482.01

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

SITRANS P300 All-Stainless Pressure Transmitters

SIEMENS

HART

Features

- Reliable under extreme chemical and mechanical loads
- High measuring accuracy with minimum conformity error and small long-term drift (≤0.25% over 5 years)
- Programmable with local control keys and LCD display or by HART® communication tools
- Diagnosis and simulation functions

Specifications

Accuracy: *Linear characteristic curve, span ratio ≤ 10:* Gage pressure: ≤0.0029 span ratio + 0.071%; Absolute pressure: ≤0.1%; *Span ratio between 10 and 30:* Gage pressure: ≤0.0045 span ratio + 0.071%; Absolute pressure: ≤0.2%; *Span ratio between 30 and 100:* Gage pressure: ≤0.005 span ratio + 0.05%

Temperature (for measuring cell with silicone oil): *Ambient Temperature:* -40° to 185° F; *Digital display:* -22° to 185° F; *Process Media:* -40° to 212° F

Wetted Materials: 316L stainless steel or Hastelloy C; *Measuring cell filling:* Silicone oil or inert filling liquid

Degree of Protection to EN 60529: IP65, IP68, NEMA X, enclosure cleaning, resistant to lyes, steam to 302° F (150° C)

Electromagnetic Compatibility: Emitted interference and noise immunity to EN 61326 and NAMUR NE 21

Power Supply: 10.5–42 VDC terminal voltage on transmitter; 10.5–30 VDC for intrinsically safe operation

Certificate and Approvals: Intrinsic Safety to PTB 05 ATEX 2048, Ex II 1/2 G EEx ia/ib IIB/IIC T4, T5, T6.

Ordering Instructions

Make one choice from each section below. Follow the availability column down to be sure the unit you need is available. A finished catalog number looks like this: 7MF8023-1DB24-1AB6-ZA02

Model Selection Guide

Description		Catalog Number	Avail-ability		Price
P300 for Gage/Absolute Pressure, Threaded Conn.		7MF8023-	↓		$893.55
P300 for Gage/Absolute Pressure, Flanged Conn.		7MF8123-		↓	893.55
Fill	Silicone Oil Fill, Standard Cleaning	1	•	•	0.00
Range	0–14.5 PSIG	B	•	•	18.17
	0–58 PSIG	C	•	•	0.00
	0–232 PSIG	D	•	•	0.00
	0–914 PSIG	E	•	•	18.17
	0–72.5 PSIA	T	•		105.57
Wetted Parts	Stainless Steel Seal Diaphragm and Cell	A	•	•	0.00
	Diaphragm Seal (Add 141 Process Conn.)	Y	•		0.00
Process Conn.	1/2-14 NPT (Select with Y above)	14	•		0.00
	Flange Version (Add a Z _ Option)	74		•	305.90
Approval Rating	None	1A	•	•	0.00
	ATEX Intrinsic Safety (EEx ia)	1B	•	•	21.16
	FM/CSA Intrinsic Safety	1M	•	•	21.16
Cable	1/2"–14 NPT, Stainless Steel	J	•	•	6.10
Display	No Display, With Keys, Closed Lid	1	•	•	0.00
	Display and Keys, Closed Lid	2	•	•	127.65
	Display and Keys, Lid, Plastic Pane	4	•	•	185.15
	4-20 mA Display, Keys, Lid, Glass Pane	6	•	•	190.90
	Specified Display, Keys, Lid, Glass Pane	7	•	•	190.90
Options	Stainless Steel A2-70 Mounting Bracket	Z-A02	•	•	50.49
	Pressure Rating Plate (English)	Z-B21	•	•	0.00
	ASME Class 150 2" Flange	Z-M42		•	230.00

Need a different range? Hastelloy diaphragm? Larger ASME flange or TriClamp? Call for pricing.

Stainless Steel Pressure Transmitter for Hazardous Areas

UE

Features

- 0.25% accuracy
- 5:1 turndown
- Compact 316 stainless steel hermetically sealed enclosure, welded stainless steel wetted materials
- UL approved explosion-proof for hazardous locations: Class I, Div 1 Groups A–D; Class II, Div 1, Groups E–G; Class III; ATEX certified for Equipment Category 2, Gas Zone 1, Dust Zone 21

United Electric's TX200 is a rugged pressure transmitter that's ideal for petrochemical applications. All welded stainless steel construction provides airtight and watertight protection in the harshest environments. A bonded foil strain gage sensor provides reliability and durability.

TX200A is field adjustable for zero and span using external 316 stainless steel control buttons. It doesn't require a calibrated pressure source, and can be calibrated in place. TX200B is a cost-effective solution for applications where the process is consistent and adjustability isn't required.

Ordering Instructions

Make one choice from each table section below. A finished catalog number looks like this: TX200-A-09-S-1

Model Selection Guide

Description		Catalog Number	Price
Hazardous Area Transmitter, 1/4" NPTF Conn.		TX200	$0.00
Enclosure Designation	Field-Adjustable Transmitter	A	600.00
	Fixed Range Transmitter	B	300.00
Pressure Range	0–100 PSI	06-S-1	0.00
	0–250 PSI	07-S-1	0.00
	0–500 PSI	08-S-1	0.00
	0–1000 PSI	09-S-1	0.00
	0–2000 PSI	18-S-1	0.00
	0–2500 PSI	10-S-1	0.00
	0–3000 PSI	19-S-1	0.00
	0–5000 PSI	11-S-1	0.00
Outputs	4-20 mA	T	0.00
	1-5 VDC (Was Option M204)	D	0.00
	0-10 VDC	P	0.00

Call for Autoclave pressure connection and other options.

What Makes Siemens' Transmitters Different?

1. Local Setup Without Handheld or Screwdriver
Tired of the need for a HART communicator every time you want to do something on a transmitter?

a. Has a tech ever gone out into the field and been unable to do anything because he forgot his handheld, or had the wrong one?

b. How many HART communicators do you have? What happens when you want to configure or reconfigure a transmitter and a HART communicator isn't readily available?

c. Wouldn't it be nice if you could configure a transmitter or change the configuration without carrying a HART communicator?

The cost of a new HART handheld is $5,000 to 7,000! Siemens has Simatic PDM software $495 that does everything a handheld does, including allow you to store transmitter configurations on your PC.

Here are the "big deal" things you can do without a handheld:

a. *Set up Zero and Span* without applying pressure.

b. *Loop Function Check.* Use the transmitter as a current source, so the tech doesn't need another device to check out a loop. We don't know of any other transmitters that can do this!

c. *Zero Adjustment.* Transmitters mounted in non-vertical positions have zero shift. This can be corrected using the pushbuttons. *All other manufacturers require a HART communicator to make this correction.*

d. *Failure Current:* Set the transmitter to send a failure current 3.6 or 22.8 mA in the event that hardware or firmware fails. It works like thermocouple burnout. The failure current drives the valve to a user-selected safe (open or closed) position.

   1. Have you ever had a transmitter fail and cause an unsafe condition in your plant?

   2. What does the transmitter you are currently using do if it has a hardware or firmware failure?

2. Advanced Diagnostics with a HART Communicator
You can activate and evaluate a number of diagnostics functions:

a. *Operating Hours Meter:* Logs the number of hours the unit has been powered, to track the 5-year "on power" warranty.

b. *Dual Elapsed Timers:* The first timer stage can be set to make the indicator flash, and advise that it's time to calibrate the transmitter. A second timer stage can send a fault current, (3.6 or 22.8 mA), to remind you to do the calibration or service.

   1. Do you have transmitters that you deem so important that they must be serviced or calibrated on a routine basis? How do you keep track of that requirement?

c. *Data Storage:* The transmitter has six registers that store high/low input pressures, and high/low sensor and electronics temperatures. Values can be recalled with the HART communicator.

   1. During troubleshooting, these values can help determine if the unit has been exposed to pressure spikes or temperatures outside of spec.

   2. These values can diagnose if the transmitter failure is an application problem or a hardware problem.

   3. How do you sort out application problems from hardware problems now?

d. *Output Current Saturation Alarms:* Timers can drive the output to alarm status if the output saturates or stays at 3.8 or 20.5 mA for a preset time.

   1. What alarm functions are available on the product you are currently using?

   2. If there are no alarms available on your transmitter, how are alarms accomplished?

   3. Do you use pressure switches or additional transmitters?

SIEMENS

Never lose your configuration instructions! They're inside the electronics cap, always available when you need them!

3. Electronics and Pressure Capsule Are Independent
Siemens electronics are encapsulated and are a modular unit. Process media can't get into the electronics. The electronics can be replaced easily, because the transmitter data is stored in the measuring capsule and automatically uploaded to the new electronics.

4. Isolated Electronics and Electrical Connections.
The electronics and their connections are isolated from one another. Moisture in the conduit will not get into the electronics.

5. Five Year (5) "Powered Up" Warranty.
Time without power is not counted in the warranty. No other manufacturer offers a run-time warranty!

Siemens transmitters available for gauge pressure, differential pressure, and level.

Protect your transmitters! Welded metal seals, welded diaphragms for low pressure, saddle flange welded diaphragms — all these and more! Call 800-953-7626.

Order your transmitter with a chemical seal or diaphragm — any material or configuration you need, we'll build it! See pages 434 and 435 for chemical seals, fill fluids, and calibration services.

Call Inside Sales in our Bensenville office for full details.(800)953-7626

GAUGE PRESSURE **83**

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

SITRANS P, DS III Gauge Pressure Transmitters

Features

- Micro-machined silicon sensor technology means no span shift and zero stability better than 0.25% for up to 5 years
- Nine field-selectable parameter values can be accessed via magnetically coupled reed switches for field configuration without a handheld programmer
- Diagnostics include operating hours meter, two independent elapsed time counters for monitoring calibration and maintenance internals, and six registers store values for ambient temperature (electronics), capsule temperature (process), and capsule pressure data
- Program with three local input keys or with external HART® communications link
- Remote seals available for special applications, like measurement of highly viscous substances

HART® FIELD COMMUNICATIONS PROTOCOL

Ordering Instructions

Select one option from each table section below. A complete catalog number looks like this: 7MF4033 - _ _ _ _ _ _ _ _ _ _ - Z B11

Specifications

Output Signal: 4 to 20 mA; *Lower Limit:* 3.55 mA, factory-set to 3.84 mA; *Upper Limit:* 23.0 mA, factory-set to 20.5 mA or optional 22.0 mA

Ripple (without HART): I pp 0.5% of max. output current

Electric Damping: Adjustable time constant (T_{63}): 0 to 100 s in steps of 0.1 s, factory-set to 0.1 s

Current Transmitter/Signal on Alarm: Adjustable from 3.55 to 23 mA

Load: *Without HART:* R_B (UH - 10.5 V) / 0.023 A in Ω, UH: power supply in V; *With HART:* R_B = 230 to 500Ω (modem)/230 to 1100Ω (communicator)

Temperature: *Measuring cell with silicone oil filling:* -40 to 185° F; 30-bar measuring cell: -4 to 185° F; *Digital display:* -22 to 185° F; *Measuring cell with inert filling liquid:* -4 to 185° F

Displays and Controls: *Input keys:* 3 for local programming directly on transmitter; *Digital display:* Built-in, cover with window (option)

Power Supply : *Terminal voltage on transmitter:* DC 10.5 to 45 V and DC 10.5 to 30 V in intrinsically-safe mode; *Ripple:* Upp 0.2 V (47 to 125 Hz); *Noise:* U rms 1.2 mV (0.5 to 10 kHz)

Communication

HART: *Communicator:* 230 to 1100Ω; *Modem:* 230 to 500Ω

Cable: *2-wire screened:* - 3.0 km; *Multi-core screened:* 1.5 km

PC/Laptop Requirements: IBM-compatible, main memory >32 MB, hard disk >70 MB, RS232 interface, VGA graphics; *Operating system:* Windows® 95/98/NT 4.0 and SIMATIC PDM

Approvals

CENELEC: DIN EN 50 014: 1997, EN 50 020: 1994 and EN 50 284: 1999

FM: Intrinsic safety and explosion-proof: 3008490 (3610, 3615); *Explosion-proof:* Class I, Div. 1, Groups A-D; *Dust-ignition proof:* Class II, Div. 1, Groups E-G, indoor and outdoor (NEMA 4X) hazardous (classified) locations; *Intrinsically safe:* With entity, for use in Class I, Div. 1, Group A-G, indoor and outdoor, NEMA 4X hazardous (classified) locations

CSA: No. 1153651 (LR104225); Class 2258 02, Class 2258 03

Model Selection Guide

Description		Catalog Number	Price
SITRANS P DS III Programmable Smart Pressure Transmitter with HART		7MF4033-	$1174.38
Fill Fluid	Silicon Oil	1	0.00
	Fluorolube (Grease Free)	3	113.22

Pressure (PSI)	**Span**	**Overload Limit**		
	0.15 to 15	-14.5 to 87	B	23.76
	0.6 to 60	-14.5 to 145	C	0.00
	2.3 to 232	-14.5 to 465	D	0.00
	9.1 to 924	-14.5 to 1450	E	23.76
	2.3 to 2320	-14.5 to 3625	F	65.72
	58.0 to 5800	-14.5 to 8700	G	123.21

Wetted Parts	**Diaphragm**	**Process Connection**		
	Stainless Steel	Stainless Steel	A	0.00
	Hastelloy	Stainless Steel	B	66.83
	Hastelloy	Hastelloy	C	357.42
	Model with Remote Seal		Y	0.00

1/2" - 14 NPTF Process Connection for Manifold		1	0.00
Electronics Housing	Diecast Aluminum	0	0.00
	Stainless Steel	3	749.25
Approvals	None	1A	0.00
	FM/CSA Intrinsic Safety, Explosion Proof	1N	71.38
Conduit	M20 x 1.5 (Not Available with FM, CSA)	B	0.00
	1/2" - 14 NPT (*Select with approval 1N)	C	0.00
Built-in Indicator	None	0	0.00
	Digital LCD (Set to mA)	6	113.22
	Digital LCD (Set per Option Y21)	7	113.22

Accessories *(For all accessories, add -Z and accessory code to model number.)*

Transmitter with Carbon Steel Mounting Bracket	A01	36.19
Transmitter with Stainless Steel Mounting Bracket	A02	56.61
Rating Plate, Pressure Units in H2O Respective to PSI	B21	0.00
Manufacturer's Test/Calibration Certificate (ISO 8402)	C11	22.65
Acceptance Test/Material Certificate (EN 10204)	C12	28.31
Test Report (EN 10204-2.2)	C14	0.00
Calibrated Measuring Range (Please Specify)	Y01	14.77
Tag Number (16 Characters Maximum)	Y15	14.77
Measuring Point Description (27 Characters Max)	Y16	14.77
Set LCD (Specify Units: PSI, InH2O, FtH2O)	Y21 (units)	14.77

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

84 *DIFFERENTIAL PRESSURE*

SITRANS P, DS III Differential Pressure Transmitters

SIEMENS

Features

- Capsule stability is ensured because micro-machined silicon sensor technology means no span shift and zero stability better than 0.25% for up to 5 years
- 9 field-selectable parameter values can be accessed via magnetically coupled reed switches for field configuration without a handheld programmer
- Diagnostics include operating hours meter, 2 independent elapsed time counters for monitoring calibration and maintenance intervals, and 6 registers store values for ambient temperature (electronics), capsule temperature (process), and capsule pressure data
- Program with three local input keys or with external HART® communications link
- Variety of remote seals for special applications, such as measurement of highly viscous substances

HART®
FIELD COMMUNICATIONS PROTOCOL

Reliability for the process, reduced downtime for your plant, higher quality for the produced goods — Can a transmitter make a big difference? Yes, once it makes the step from a simple "value indicator" to a "value analyzer" like the SITRANS P. It's the first transmitter with integrated diagnostic functions, so it can monitor itself and other process conditions at regular intervals.

Advanced transmitter diagnostics with SITRANS P means...

- Dual elapsed time registers — These can be set up to signal when preventative maintenance or calibration is required
- Three freely adjustable limits — So you can implement pre-alarms or monitor temperature
- Record of limit violations — Based on maximum pointers from min/max values for input pressure, sensor temperature, and electronic temperature. The record provides information on the status of the transmitter, on the process, and on the ambient temperature
- Simulation functions — Enabling the transmitter electronics and the entire loop to be checked directly after the sensor (e.g., for system startup). This provides important information on whether the transmitter electronics are in proper order, at what pressure the limits respond, and whether the controller loop is working properly and all displays are functioning.
- Easy exchange of defective parts — If the device signals an error in the electronics or measuring cell, no recalibration is required.

Just a matter of adjustment

Leave the screwdriver in your toolbox. Three pushbuttons and a high-contrast LCD are all you need to set parameters on-site — and they'll yield the high level of accuracy you desire.

You can set minimum and maximum measurement range, adjust the damping of the output and the failsafe direction (high or low) — all without having to open the cover on the transmitter, maintaining the hazardous area rating.

You can also change from linear to square root, or adjust the measurement range up to a ratio of 100:1 at the push of a button. Electronic damping of up to 100 seconds can be selected, as are up to 17 different pressure engineering units.

And, if you're looking for the most convenient way to check a current loop, the SITRANS P can be put into a current source mode to make loop checkout easy.

No hard work with HART®

If you prefer, you can also use the HART protocol to set all the transmitter parameters, using a HART communicator, laptop PC, or any HART-compatible process control system. Using HART, all parameters and diagnostic information can be viewed at any point in the signal loop. Siemens' SIMATIC PDM software makes this even easier for the user.

Convenient replacements

Since sensor-specific data is stored in the SITRANS P's measuring cell, the potted electronics module can be replaced without any problems. And, in the event of any trouble, the 100:1 turndown allows a single transmitter to serve as a backup to many different ranges, reducing your inventory quantity and the cost of spares.

Sound and certified durability

Extreme pressures and temperatures and generally aggressive ambient conditions — the SITRANS P can take it all. It's certified and approved by organizations all over the world, CENELEC, FM, CSA, and more.

Safety standards with a single device

The SITRANS P DS III features a special safety standard for pressure, differential pressure, absolute pressure, and level. Advanced diagnostic functions and software were developed in compliance with IEC standards. Safety-related functions include automatic error diagnostics, defined error handling, and calculation of error rates.

You only need one SITRANS P DS III to set up the same safety level that you'd normally get with two conventional transmitters.

That means you save the cost of an additional transmitter, including installation and maintenance costs, extra wiring, and extra isolating power supplies. Not to mention the cabinet space you safe.

Field tests in a number of applications has proven how well the DS III is suited for real-life practice. If you want a high level of safety and reliability, put the SITRANS P DS III at the top of your list.

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Specifications

Output Signal: 4 to 20 mA; *Lower Limit:* 3.55 mA, factory-set to 3.84 mA; *Upper Limit:* 23.0 mA, factory-set to 20.5 mA or optional 22.0 mA

Electric Damping: Adjustable time constant (T_{63}): 0 to 100 s in steps of 0.1 s, factory-set to 0.1 s

Current Transmitter/Signal on Alarm: Adjustable from 3.55 to 23 mA

Temperature: *Measuring cell with silicone oil filling:* -40 to 185° F; 30-bar measuring cell: -4 to 185° F; *Digital display:* -22 to 185° F; *Measuring cell with inert filling liquid:* -4 to 185° F

Displays and Controls: *Input keys:* 3 for local programming directly on transmitter; *Digital display:* Built-in, cover with window (option)

Power Supply : *Terminal voltage on transmitter:* DC 10.5 to 45 V and DC 10.5 to 30 V in intrinsically-safe mode; *Ripple:* Upp 0.2 V (47 to 125 Hz); *Noise:* U rms 1.2 mV (0.5 to 10 kHz)

Ripple (without HART): I pp 0.5% of max. output current

HART: *Communicator:* 230 to 1100Ω; *Modem:* 230 to 500Ω

Load: *Without HART:* R_B (UH - 10.5 V) / 0.023 A in Ω, UH: power supply in V; *With HART:* R_B = 230 to 500Ω (modem)/230 to 1100Ω (communicator)

Communication Cable: *2-wire:* -3.0 km; *Multi-core:* 1.5 km

PC/Laptop Requirements: IBM-compatible, RAM>32 MB, file space >70 MB, RS232 interface, VGA graphics; Windows® OS and SIMATIC PDM

FM Approval: *Intrinsic safety and explosion-proof:* 3008490 (3610, 3615); *Explosion-proof:* Class I, Div. 1, Groups A-D; *Dust-ignition proof:* Class II, Div. 1, Groups E-G, indoor and outdoor (NEMA 4X) hazardous (classified) locations; *Intrinsically safe:* With entity, for use in Class I, Div. 1, Group A-G, indoor and outdoor, NEMA 4X hazardous (classified) locations

CSA Approval: No. 1153651 (LR104225); Class 2258 02, Class 2258 03

CENELEC: DIN EN 50 014: 1997, EN 50 020: 1994 and EN 50 284: 1999

Differential Pressure — Ordering Instructions

Select one option from each table section below. A complete catalog number looks like this: 7MF4433 - _ _ _ _ _ _ _ _ _ _ - Z B21

Model Selection Guide

Description		Catalog Number	Price
SITRANS P DS III Differential Pressure Transmitter		7MF4433-	$1589.19
Fill Fluid	Silicon Oil	1	0.00
	Inert Fill	3	113.22

	Span	**Static Pressure**		
Pressure	0.4" to 8" H$_2$O	465 PSI	B	185.37
	0.4" to 24" H$_2$O	2320 PSI	C	94.02
	1.0" to 100" H$_2$O	2320 PSI	D	0.00
	2.4" to 241" H$_2$O	2320 PSI	E	0.00
	6.4" to 643" H$_2$O	2320 PSI	F	23.76
	20.0" to 2000" H$_2$O	2320 PSI	G	106.45
	4.3" to 435" PSI	2320 PSI	H	106.45

	Diaphragm	**Meas. Cell**		
Wetted Parts	Stainless Steel	Stainless Steel	A	0.00
	Hastelloy	Stainless Steel	B	66.83
	Hastelloy	Hastelloy	C	357.42
	Tantalum	Tantalum	E	450.66
	Monel	Monel	H	208.68
	Gold	Gold	L	1169.94

Description		Catalog Number	Price
1/4" - 18 NPT Process, 7/16" - 20 UNF Manifold		2	0.00
1/4" - 18 NPT, Side Drain/Vent, 7/16" - 20 UNF		6	78.15
Electronics Housing	Diecast Aluminum, SS Flange Bolts	2	0.00
	Stainless Steel, SS Flange Bolts	3	749.25
Approvals	None	1A	0.00
	FM/CSA Intrinsic Safety, Explosion Proof	1N	71.38
Conduit	M20 x 1.5 (Not Available with FM, CSA)	B	0.00
	1/2" - 14 NPT (*Select with Approval 1N)	C	0.00
Built-in Indicator	None	0	0.00
	Hidden Digital Display	1	71.38
	Digital LCD (Set to mA)	6	113.22
	Digital LCD (Set as Specified)	7	113.22

Accessories *(For all accessories, add -Z and accessory code to model number.)*

Description	Code	Price
Transmitter with Carbon Steel Mounting Bracket	A01	36.19
Transmitter with Stainless Steel Mounting Bracket	A02	58.83
Rating Plate (Pressure Units in H2O Respective to PSI)	B21	0.00
Manufacturer's Test/Calibration Certificate (ISO 8402)	C11	22.65
Calibrated Measuring Range (Please Specify)	Y01	14.77
Tag Number (16 Characters Maximum)	Y15	14.77
Measuring Point Description (27 Characters Max)	Y16	14.77
Set LCD (Specify Units: PSI, InH2O, FtH2O)	Y21 (units)	14.77

Level Transmitters — Ordering Instructions

Select one option from each table section below. A complete catalog number includes transmitter and flange, and looks like this: 7MF4633 - _ _ _ _ _ _ _ _ _ _ - ZB11 with 7MF4812-_ _ _ _ _

Model Selection Guide

Description		Catalog Number	Price
(1) SITRANS P DS III Level Transmitter		7MF4633-	$1677.22
Pressure	10" to 100" H$_2$O	1DY	0.00
	10" to 240" H$_2$O	1EY	0.00
	20" to 640" H$_2$O	1FY	23.76
	64" to 2000" H$_2$O	1GY	106.45
1/4" - 18 NPT Process, 7/16" - 20 UNF Manifold		2	0.00
Electronics Housing	Diecast Aluminum, SS Flange Bolts	2	0.00
	Stainless Steel, SS Flange Bolts	3	749.25
Approvals	None	1A	0.00
	FM/CSA Intrinsic Safety, Explosion Prf	1N	71.38
Conduit	M20 x 1.5 (Not Available with FM, CSA)	B	0.00
	1/2"-14 NPT (Select with Approval 1N)	C	0.00
Built-in Indicator	Hidden Digital Display	1	71.38
	Digital LCD (Set to mA)	6	113.22
	Digital LCD (Set per Option Y21)	7	113.22

Accessories *(For all accessories, add -Z and accessory code to model number.)*

Description	Code	Price
O-Ring PTFE (Teflon, Approved for Food)	A20	28.31
Sealing Screw, 1/2" - 18 NPT, with Vent Valve	A40	39.63
English Rating Plate	B11	0.00
Rating Plate (Pressure Units in H2O to PSI)	B21	0.00
ISO 8402 Test/Calibration Certificate ISO 8402	C11	22.65
Calibrated Measuring Range (Please Specify)	Y01	14.77
Tag Number (16 Characters Maximum)	Y15	14.77
Measuring Point Description (27 Characters Max)	Y16	14.77
Set LCD (Specify Units: PSI, InH2O, FtH2O)	Y21 (units)	14.77

Description		Catalog Number	Price
(2) Mounting Flange for SITRANS P Level Transmitter		7MF4812-	$904.00
Size	3", Class 150	3Q _ _ _	84.00
	4", Class 150	3T _ _ _	Call
Material	316L Stainless Steel	_ _ A _ _	0.00
	Hastelloy C276	_ _ J _ _	232.00
Tube	No Tube, Silicone System Fill (DC200-10)	_ _ _ 01	73.00
	2" Tube, Silicone System Fill (DC200-10)	_ _ _ 11	559.00
	6" Tube, Silicone System Fill (DC200-10)	_ _ _ 31	959.00

HART® Handheld Communicator

Fast startup, long battery life on standard batteries. Holds hundreds of device files and configurations! Download new DOF and firmware updates from www.Meriam.com. See page 95.

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

STD700 SmartLine Differential Pressure Transmitter

Features

- Accuracies to 0.05% of span
- Stability up to 0.02% URL per year for 5 years
- Automatic static pressure & temperature compensation
- Maximum turndown ratio to 100:1
- Response times as fast as 100ms
- Alphanumeric display can be added or removed in the field
- External zero, span, and configuration capability
- On-board diagnostic capabilities
- World class overpressure protection
- Polarity-insensitive electrical connections
- Integral dual seal design for highest safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- Compliant to SIL 2/3 requirements
- Honeywell DE, HART v7.0 and Foundation Fieldbus communications options

Replaces ST3000 models STD904, STD924, STD930, and STD974

Honeywell's new SmartLine® STD700 differential pressure transmitters feature piezoresistive sensor technology combining pressure sensing with on-chip temperature compensation, for 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 automation and control software platform, providing the highest level of compatibility assurance and integration capabilities.

The ST700 modular features a basic alphanumeric LCD display that can be added or removed in the field. For easier access and visibility, the display can be mounted and adjusted to 0, 90, 180, and 270 degree positions. The two-line, 16-character LCD can display any one of 16 standard engineering units plus square root output indication.

Suitable for all electrical and environmental requirements, SmartLine offers the ability to zero and span the transmitter from three externally accessible buttons. With the display option, these buttons also let you configure the transmitter and display.

Using a handheld Honeywell MCT202 configurator and Smartline transmitter two-way communications, you can field configure DE and HART devices. Or, if you prefer, you can use Honeywell's SCT3000 configuration toolkit and a PC to configure Honeywell Digitally Enhanced (DE) instruments. Field Device Manager (FDM) software and FDM Express are available for managing HART and Fieldbus device configurations. ST700 transmitters integrate with Honeywell's Experion PKS control software platform for tamper-reporting, FDM plant area views, and health summaries.

To help control maintenance and inventory costs, Honeywell ST700 transmitters are modular, giving you the ability to replace meter bodies, add indicators, or change electronics modules without affecting overall performance or approval certification. Each meter body is uniquely characterized to provide in-tolerance performance over a range of varying temperatures and pressures. Due to the Honeywell advanced interface, electronic modules may be swapped with any electronics module without losing in-tolerance performance characteristics.

How does the STD700 stack up?

Model	SmartLine ST700	ST3000 Series 900
Accuracy	±0.05%	±0.0625 digital mode ±0.075% analog
Speed of response	100 ms	330 ms
Stability	±0.02% URL/year for 5 yrs	±0.01% URL per year

Specifications

Reference Accuracy: 0.05% span

Stability (%URL/year for five years): *STD720:* 0.020%; *STD730:* 0.040%; *STD770:* 0.030%

Temperature: *Ambient:* -40° to 185° F; *Meter Body:* -40° to 257° F; *LCD:* -4° to 158° F

Humidity: 0 to 100% RH

Vacuum Region Pressure: 1"WC min. absolute @ 2 hours at 158° F

Maximum Allowable Working Pressure (MAWP): 4500 PSI for temperatures -40° to 257° F. Static Pressure Limit derated to 3000 PSI for -15° to -40° F. Using graphite o-rings derates transmitter to 3625 PSI. Using 1/2" process adaptors and graphite o-rings derates transmitter to 3000 PSI.

Analog Output: Two-wire, 4 to 20 mA (HART & DE Transmitters only)

Output Failure: *Normal Limits:* 3.8 to 20.8 mA Honeywell standard, or 3.8 to 20.5 mA NAMUR NE 43 Compliant; *Failure Mode:* ≤3.6 mA and ≥21.0 mA

Supply Voltage: 10.8 to 42.4 VDC at terminals (IS versions limited to 30 VDC); *Voltage Effect:* 0.005% span per volt

Transmitter Turn-On Time: *HART or DE:* 2.5 seconds; *Foundation Fieldbus:* Host-dependent. Includes power up and test algorithms

Response Time (Delay + Time Constant): *HART or DE:* 100 mS; *Foundation Fieldbus:* 150 mS host-dependent

Damping Time Constant: *HART:* Adjustable from 0 to 32 seconds in 0.1 increments. *Default:* 0.50 seconds; *DE:* Discrete values 0, 0.16, 0.32, 0.48, 1, 2, 4, 8, 16, 32 seconds. *Default:* 0.48 seconds

Vibration Effect: Less than ±0.1% URL without damping. Per IEC60770-1 field or pipeline, high vibration level

Electromagnetic Compatibility: IEC 61326-3-1

Lightning Protection (Option): *Leakage Current:* 10uA max @ 42.4 VDC 93C

Materials: *Barrier Diaphragms:* 316L SS, Hastelloy® C-276, Monel® 400, Tantalum; *Process Head:* 316 SS, Carbon Steel (Zinc-plated), Hastelloy C-276; *Vent/Drain Valves and Plugs:* 316 SS, Hastelloy C-276; *Head Gaskets:* Glass-filled PTFE standard. Viton®, graphite optional; *Meter Body Bolting:* Zinc-Plated Carbon Steel standard. 316 SS, NACE A286 SS bolts, Monel K500, Super Duplex and B7M optional; *Mounting Bracket:* 2" Pipe, Carbon Steel (Zinc-plated) or 304 Stainless Steel; *Fill Fluid:* Silicone DC® 200 oil or CTFE; *Electronic Housing:* Pure polyester powder-coated low copper aluminum. Meets NEMA 4X, IP66, IP67. All stainless steel housing is optional.

Mounting: Can be mounted in virtually any position using a standard mounting bracket. Bracket is designed to mount on 2" vertical or horizontal pipe.

Process Connections: 1/4" NPT or 1/2" NPT with DIN adapter

Wiring: Accepts up to 16 AWG (1.5 mm diameter)

Enclosure: Type 4X, IP66, IP67

Digital Communications/Diagnostics: Honeywell DE, HART 7 protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant

HART FIELD COMMUNICATIONS PROTOCOL

Agency Approvals: *FM/CSA:* Explosion-Proof: Class I, Div 1, Groups A-D; Dust-Ignition Proof: Class II, III, Div 1, Groups E-G T4; Intrinsically Safe: Class I, II, III, Div 1, Groups A-G T4; Non-Incendive: Class I, Div 2, Groups A-D; *ATEX:* Flameproof: II 1/2 G Ex d IIC T4; Intrinsically Safe: II 1 G Ex ia IIC T4; Non-Incendive: II 3 G Ex nA IIC T4; Enclosure: IP66/IP67

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

Honeywell

Honeywell

Check me out!
Accuracy improved to ±0.05%
Speed of response three times faster than before: 100 mSec
Stability to ±0.02% URL/year for five years!
Display for PV, alarms, and operation or diagnostic messages!

Dimensions
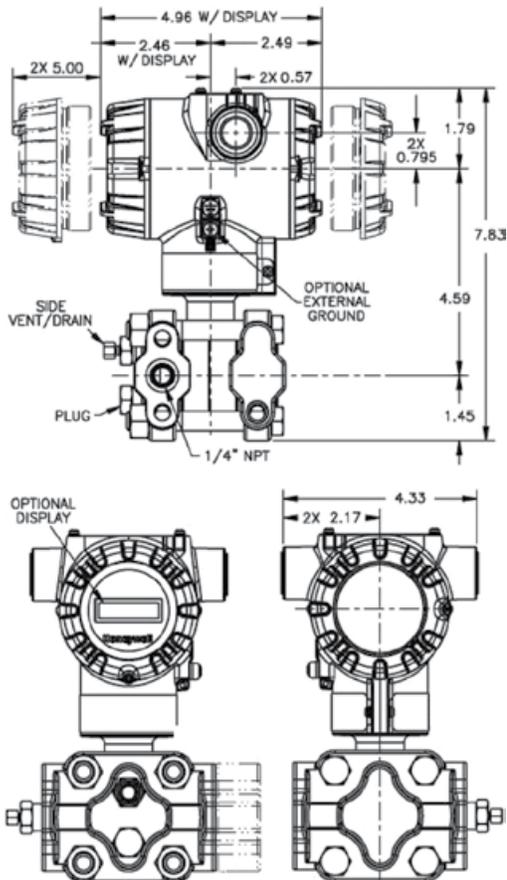
Restrictions

j   Available only with HART® digital output; Requires write protection enabled.

Ordering Instructions

Make one selection from each table section below. Follow the availability column down and check any restriction letters or notes to be sure the unit is available. A finished catalog number looks like this:
STD7_ _ - _ _ _ _ _ _ S - _ - _ - _ _ _ - _ _ _ - A - _ _ _ _ - _ _ - 0000

Model Selection Guide

Description		Catalog Number	Availability			Price
Model Range Limits (Span)	- 400 to 400 "H2O (4.0 to 400 "H2O)	STD720-	↓			$1384.00
	-100 to 100 PSI (1 to 100 PSI)	STD730-		↓		1558.00
	-100 to 3000 PSI (30 to 3000 PSI)	STD770-			↓	1590.00
Meter Body	Plated CS Head, 316L SS Diaphragm	A_ _ _ _ _ _-	•	•	•	0.00
	316 SS Head, 316L SS Diaphragm	E_ _ _ _ _ _-	•	•	•	78.00
Fill Fluid	Silicone Oil (DC 200)	_ 1 _ _ _ _ _-	•	•	•	0.00
	Fluorinated Oil CTFE	_ 2 _ _ _ _ _-	•	•	•	57.00
Process Connection	None	_ _ A _ _ _ _-	•	•	•	0.00
	1/2" NPT Female	_ _ H _ _ _ _-	•	•	•	47.00
Bolt/Nut Materials	Carbon Steel	_ _ _ C _ _ _-	•	•	•	0.00
	316 SS	_ _ _ S _ _ _-	•	•	•	47.00
	Grade 660 (NACE A286), NACE 304 SS Nuts	_ _ _ N _ _ _-	•	•	•	182.00
Head Type/ Vent/Drain Position	Single Ended	_ _ _ _ 1 _ _-	•	•	•	0.00
	Single Ended, Side Drain and Vent	_ _ _ _ 2 _ _-	•	•	•	40.00
	Single Ended, Side Drain, Center SS Vent	_ _ _ _ 3 _ _-	•	•	•	123.00
	Dual Ended, End Drain and Vent	_ _ _ _ 4 _ _-	•	•	•	40.00
	Dual Ended, End Drain, Center SS Vent	_ _ _ _ 5 _ _-	•	•	•	123.00
	Dual Ended	_ _ _ _ 6 _ _-	•	•	•	40.00
Gasket	Teflon® or PTFE (Glass Filled)	_ _ _ _ _ AS-	•	•	•	0.00
	Viton® or Fluorocarbon Elastomer	_ _ _ _ _ BS-	•	•	•	23.00
	Graphite	_ _ _ _ _ CS-	•	•	•	71.00
Head/ Connect Orientation	High Side Left, Low Side Right	1-	•	•	•	0.00
	Low Side Left, High Side Right	2-	•	•	•	25.00
	High Side Left, Low Side Right, 90° Head Rotation	3-	•	•	•	25.00
Approvals	No Approvals Required	0-	•	•	•	0.00
	FM Approved	A-	•	•	•	25.00
	CSA Approved	B-	•	•	•	25.00
	ATEX Approved	C-	•	•	•	25.00
Electronic Housing	1/2" NPT Aluminum	A _ _-	•	•	•	0.00
	1/2" NPT Aluminum with Lightning Protection	C _ _-	•	•	•	71.00
Outputs	4-20mA DC and HART®	_ H _-	•	•	•	67.00
	4-20mA DC and Honeywell DE	_ D _-	•	•	•	181.00
Indicator and Interface	No Indicator or Buttons	_ _ 0-	•	•	•	0.00
	No Indicator, External Zero/Span Buttons	_ _ A-	•	•	•	56.00
	Indicator	_ _ B-	•	•	•	191.00
	Indicator, External Zero/Span/Config Buttons	_ _ C-	•	•	•	268.00
Failsafe/ Write Protect	Fail Mode High	11S-A-	•	•	•	0.00
	Fail Mode Low	12S-A-	•	•	•	23.00
	Fail Mode High, Write Protect Enabled	13S-A-	•	•	•	23.00
	Fail Mode Low, Write Protect Enabled	14S-A-	•	•	•	23.00
Mounting Bracket	None	0 _ _ _	•	•	•	0.00
	Angle Bracket, Carbon Steel	1 _ _ _	•	•	•	35.00
	Angle Bracket, 304SS	2 _ _ _	•	•	•	81.00
	Flat Bracket, Carbon Steel	5 _ _ _	•	•	•	35.00
	Flat Bracket, 304SS	6 _ _ _	•	•	•	81.00
Tagging	None	_ 0 _ _	•	•	•	0.00
	One Wired SS Tag (4 lines x 26 char/line)	_ 1 _ _	•	•	•	25.00
	Two Wired SS Tag (4 lines x 26 char/line)	_ 2 _ _	•	•	•	35.00
Conduit Plugs/ Adapters	None	_ _ A0-	•	•	•	0.00
	1/2" NPTM to 3/4" NPTF 316 SS Conduit Adapter	_ _ A2-	•	•	•	212.00
	1/2" NPT 316 SS Certified Conduit Plug	_ _ A6-	•	•	•	67.00
	Minifast® 4 Pin (1/2" NPT) (not for X-Proof use)	_ _ A8-	•	•	•	108.00
Certificates	Calibration Test & Cert of Conformance (F3399)	F1	•	•	•	35.00
	Certificate of Origin (F0195)	F5	•	•	•	25.00
	FMEDA (SIL 2/3) Certification (FC33337)	FE	j	j	j	25.00
Documen- tation	Printed English User Manual	34-ST-25-44	•	•	•	35.00
	HART/DE Communications Manual	34-ST-25-47	•	•	•	35.00
	Safety Manual	34-ST-25-37	•	•	•	35.00
	Function Block Manual	34-ST-25-49	•	•	•	35.00

88 *PRESSURE TRANSMITTERS*

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

STD800 SmartLine Differential Pressure Transmitter

Features

- Accuracies to 0.0375% of span
- Stability up to 0.01% URL per year for ten years
- Automatic static pressure & temperature compensation
- Maximum turndown ratio to 400:1
- Response times as fast as 90ms
- Alphanumeric display can be added or removed in the field
- External zero, span, and configuration capability
- On-board diagnostic capabilities
- World class overpressure protection
- Polarity-insensitive electrical connections
- Integral dual seal design for highest safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- Compliant to SIL 2/3 requirements
- Honeywell DE, HART v7.0 and Foundation Fieldbus communications options

Replaces Retired STD110, STD120, STD130, and STD170

New!

Faster response, better accuracy and better stability than old ST3000 transmitters!

Honeywell's new SmartLine® STD800 differential pressure transmitters feature piezoresistive sensor technology combining pressure sensing with on-chip temperature compensation, for 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 automation and control software platform, providing the highest level of compatibility assurance and integration capabilities.

The ST800 modular features a basic alphanumeric LCD display that can be added or removed in the field. For easier access and visibility, the display can be mounted and adjusted to 0, 90, 180, and 270 degree positions. The two-line, 16-character LCD can display any one of 16 standard engineering units plus square root output indication.

Suitable for all electrical and environmental requirements, SmartLine offers the ability to zero and span the transmitter from three externally accessible buttons. With the display option, these buttons also let you configure the transmitter and display.

Using a handheld Honeywell MCT202 configurator and Smartline transmitter two-way communications, you can field configure DE and HART devices. Or, if you prefer, you can use Honeywell's SCT3000 configuration toolkit and a PC to configure Honeywell Digitally Enhanced (DE) instruments. Field Device Manager (FDM) software and FDM Express are available for managing HART and Fieldbus device configurations. ST800 transmitters integrate with Honeywell's Experion PKS control software platform for tamper-reporting, FDM plant area views, and health summaries.

To help control maintenance and inventory costs, Honeywell ST800 transmitters are modular, giving you the ability to replace meter bodies, add indicators, or change electronics modules without affecting overall performance or approval certification. Each meter body is uniquely characterized to provide in-tolerance performance over a range of varying temperatures and pressures.

Due to the Honeywell advanced interface, electronic modules may be swapped with any electronics module without losing in-tolerance performance characteristics.

Specifications

Reference Accuracy: *STD810:* 0.0750% span; *STD820:* 0.0375% span; *STD830/870:* 0.05% span;

Stability (%URL/year for ten years): *STD820:* 0.010%; *STD830:* 0.040%; *STD870:* 0.030%

Temperature: *Ambient:* -40° to 185° F; *Meter Body:* -40° to 257° F; *LCD:* -4° to 158° F

Humidity: 0 to 100% RH

Vacuum Region Pressure: 1"WC min. absolute @ 2 hours at 158° F

Maximum Allowable Working Pressure (MAWP): 4500 PSI for temperatures -40° to 257° F. Static Pressure Limit is derated to 3000 PSI for -15° to -40° F. for all models. Use of graphite o-rings derates transmitter to 3625 PSI. Use of 1/2" process adaptors with graphite o-rings derates transmitter to 3000 PSI.

Analog Output: Two-wire, 4 to 20 mA (HART & DE Transmitters only)

Digital Communications: Honeywell DE, HART 7 protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant

Output Failure: *Normal Limits:* 3.8 to 20.8 mA Honeywell standard, or 3.8 to 20.5 mA NAMUR NE 43 Compliant; *Failure Mode:* ≤3.6 mA and ≥21.0 mA

Supply Voltage: 10.8 to 42.4 VDC at terminals (IS versions limited to 30 VDC); *Voltage Effect:* 0.005% span per volt

Transmitter Turn-On Time: *HART or DE:* 2.5 seconds; *Foundation Fieldbus:* Host-dependent. Includes power up and test algorithms

Response Time (Delay + Time Constant): *HART or DE:* 90 mS; *Foundation Fieldbus:* 150 mS host-dependent

Damping Time Constant: *HART:* Adjustable from 0 to 32 seconds in 0.1 increments. *Default:* 0.50 seconds; *DE:* Discrete values 0, 0.16, 0.32, 0.48, 1, 2, 4, 8, 16, 32 seconds. *Default:* 0.48 seconds

Vibration Effect: Less than ±0.1% URL without damping. Per IEC60770-1 field or pipeline, high vibration level

Electromagnetic Compatibility: IEC 61326-3-1

Lightning Protection (Option): *Leakage Current:* 10uA max @ 42.4 VDC 93C

Materials: *Barrier Diaphragms:* 316L SS, Hastelloy® C-276, Monel® 400, Tantalum; *Process Head:* 316 SS, Carbon Steel (Zinc-plated), Hastelloy C-276; *Vent/Drain Valves and Plugs:* 316 SS, Hastelloy C-276; *Head Gaskets:* Glass-filled PTFE standard. Viton®, graphite optional; *Meter Body Bolting:* Zinc-Plated Carbon Steel standard. 316 SS, NACE A286 SS bolts, Monel K500, Super Duplex and B7M optional; *Mounting Bracket:* 2" Pipe, Carbon Steel (Zinc-plated) or 304 Stainless Steel; *Fill Fluid:* Silicone DC® 200 oil or CTFE; *Electronic Housing:* Pure polyester powder-coated low copper aluminum. Meets NEMA 4X, IP66, IP67. All stainless steel housing is optional.

Mounting: Can be mounted in virtually any position using a standard mounting bracket. Bracket is designed to mount on 2" vertical or horizontal pipe.

Process Connections: 1/4" NPT or 1/2" NPT with DIN adapter

Wiring: Accepts up to 16 AWG (1.5 mm diameter)

Enclosure: Type 4X, IP66, IP67

Communication/Diagnostics: HART 7, Foundation Fieldbus, Honeywell DE

HART FIELD COMMUNICATIONS PROTOCOL

Agency Approvals: *FM/CSA:* Explosion-Proof: Class I, Div 1, Groups A-D; Dust-Ignition Proof: Class II, III, Div 1, Groups E-G T4; Intrinsically Safe: Class I, II, III, Div 1, Groups A-G T4; Non-Incendive: Class I, Div 2, Groups A-D; *ATEX:* Flameproof: II 1/2 G Ex d IIC T4; Intrinsically Safe: II 1 G Ex ia IIC T4; Non-Incendive: II 3 G Ex nA IIC T4; Enclosure: IP66/IP67

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

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Honeywell

Displays provide PV, bargraphs, trend lines, and text messages for diagnostics and maintenance.

Dimensions

Ordering Instructions

Make a selection from each table section below. Check any restriction letters or notes to be sure the unit is available. A finished catalog number looks like this:

STD8_ _ - _ _ _ _ _ _ - _ _ - _ _ _ - _ _ _ - _ - _ _ _ _ - _ _ - 0000

Model Selection Guide

Description		Catalog Number	Avail-ability				Price
Model Range Limits (Span)	- 10 to 10 "H2O (0.1 to 10 "H2O)	STD810-	↓				$2019.00
	- 400 to 400 "H2O (1.0 to 400 "H2O)	STD820-		↓			1954.00
	-100 to 100 PSI (1 to 100 PSI)	STD830-			↓		2061.00
	-100 to 3000 PSI (30 to 3000 PSI)	STD870-				↓	2121.00
Meter Body	Plated CS Head, 316L SS Diaphragm	A_ _ _ _ _ _-	•	•	•	•	0.00
	316 SS Head, 316L SS Diaphragm	E_ _ _ _ _ _-		•	•	•	78.00
Fill Fluid	Silicone Oil (DC 200)	_ 1 _ _ _ _ _-	•	•	•	•	0.00
	Fluorinated Oil CTFE	_ 2 _ _ _ _ _-		•	•	•	57.00
Process Connection	None	_ _ A _ _ _ _-	•	•	•	•	0.00
	1/2" NPT Female	_ _ H _ _ _ _-	•	•	•	•	47.00
Bolt/Nut Materials	Carbon Steel	_ _ _ C _ _ _-	•	•	•	•	0.00
	316 SS	_ _ _ S _ _ _-	•	•	•	•	47.00
	Grade 660 (NACE A286), NACE 304 SS Nuts	_ _ _ N _ _ _-	•	•	•	•	182.00
Head Type/ Vent/Drain Position	Single Ended	_ _ _ _ 1 _ _-	•	•	•	•	0.00
	Single Ended, Side Drain and Vent	_ _ _ _ 2 _ _-	•	•	•	•	40.00
	Single Ended, Side Drain, Center SS Vent	_ _ _ _ 3 _ _-	•	•	•	•	120.00
	Dual Ended, End Drain and Vent	_ _ _ _ 4 _ _-	•	•	•	•	40.00
	Dual Ended, End Drain, Center SS Vent	_ _ _ _ 5 _ _-	•	•	•	•	123.00
	Dual Ended	_ _ _ _ 6 _ _-	•	•	•	•	40.00
Gasket	Teflon® or PTFE (Glass Filled)	_ _ _ _ _ AS-	•	•	•	•	0.00
	Viton® or Fluorocarbon Elastomer	_ _ _ _ _ BS-	•	•	•	•	23.00
	Graphite	_ _ _ _ _ CS-	•	•	•	•	71.00
Head/ Connect Orientation	High Side Left, Low Side Right	1-	•	•	•	•	0.00
	Low Side Left, High Side Right	2-	•	•	•	•	25.00
	High Side Left, Low Side Right, 90° Head Rotation	3-	•	•	•	•	25.00
Approvals	No Approvals Required	0-	•	•	•	•	0.00
	FM Approved	A-	•	•	•	•	25.00
	CSA Approved	B-	•	•	•	•	25.00
	ATEX Approved	C-	•	•	•	•	25.00
Electronic Housing	1/2" NPT Aluminum	A _ _-	•	•	•	•	0.00
	1/2" NPT Aluminum with Lightning Protection	C _ _-	•	•	•	•	71.00
Outputs	4-20mA DC and HART®	_ H _-	•	•	•	•	67.00
	4-20mA DC and Honeywell DE	_ D _-	•	•	•	•	181.00
Indicator and Interface	No Indicator or Buttons	_ _ 0-	•	•	•	•	0.00
	No Indicator, External Zero/Span Buttons	_ _ A-	•	•	•	•	56.00
	Indicator	_ _ B-	•	•	•	•	191.00
	Indicator, External Zero/Span/Config Buttons	_ _ C-	•	•	•	•	268.00
Failsafe/ Write Protect	Fail Mode High	11S-A	•	•	•	•	0.00
	Fail Mode Low	12S-A	•	•	•	•	23.00
	Fail Mode High, Write Protect Enabled	13S-A	•	•	•	•	23.00
	Fail Mode Low, Write Protect Enabled	14S-A	•	•	•	•	23.00
Mounting Bracket	None	0 _ _ _	•	•	•	•	0.00
	Angle Bracket, Carbon Steel	1 _ _ _	•	•	•	•	35.00
	Angle Bracket, 304SS	2 _ _ _	•	•	•	•	81.00
	Flat Bracket, Carbon Steel	5 _ _ _	•	•	•	•	35.00
	Flat Bracket, 304SS	6 _ _ _	•	•	•	•	81.00
Tagging	None	_ 0 _ _	•	•	•	•	0.00
	One Wired SS Tag (4 lines x 26 char/line)	_ 1 _ _	•	•	•	•	25.00
	Two Wired SS Tag (4 lines x 26 char/line)	_ 2 _ _	•	•	•	•	35.00
Conduit Plugs/ Adapters	None	_ _ A0	•	•	•	•	0.00
	1/2" NPTM to 3/4" NPTF 316 SS Conduit Adapter	_ _ A2	•	•	•	•	212.00
	1/2" NPT 316 SS Certified Conduit Plug	_ _ A6	•	•	•	•	67.00
	Minifast® 4 Pin (1/2" NPT) (not for X-Proof use)	_ _ A8	•	•	•	•	108.00
Certificates	Calibration Test & Cert of Conformance (F3399)	F1	•	•	•	•	35.00
	Certificate of Origin (F0195)	F5	•	•	•	•	25.00
	FMEDA (SIL 2/3) Certification (FC33337)	FE	j	j	j	j	25.00
Documen-tation	Printed English User Manual	34-ST-25-35	•	•	•	•	35.00
	HART/DE Communications Manual	34-ST-25-38	•	•	•	•	35.00
	Safety Manual	34-ST-25-37	•	•	•	•	35.00
	Function Block Manual	34-ST-25-42	•	•	•	•	35.00

90 *PRESSURE TRANSMITTERS*

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

STA800 SmartLine Absolute Pressure Transmitter

Features

- Accuracies to 0.055% of span
- Automatic temperature compensation
- Maximum turndown ratio to 100:1
- Response times as fast as 80ms
- Alphanumeric display can be added or removed in the field
- External zero, span, and configuration capability
- On-board diagnostic capabilities
- World class overpressure protection
- Integral dual seal design for highest safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- Polarity-insensitive electrical connections
- Compliant to SIL 2/3 requirements
- Honeywell DE, HART v7.0 and Foundation Fieldbus communications options

New!

Replaces ST3000 models STA122, and STA140

Honeywell's new SmartLine® STA800 absolute pressure transmitters feature piezoresistive sensor technology combining pressure sensing with on-chip temperature compensation, for 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 automation and control software platform, providing the highest level of compatibility assurance and integration capabilities.

The ST800 modular features a basic alphanumeric LCD display that can be added or removed in the field. For easier access and visibility, the display can be mounted and adjusted to 0, 90, 180, and 270 degree positions. The two-line, 16-character LCD can display any one of 16 standard engineering units plus square root output indication.

Suitable for all electrical and environmental requirements, SmartLine offers the ability to zero and span the transmitter from three externally accessible buttons. With the display option, these buttons also let you configure the transmitter and display.

Using a handheld Honeywell MCT202 configurator and Smartline transmitter two-way communications, you can field configure DE and HART devices. If you prefer, you can use Honeywell's SCT3000 configuration toolkit and a PC to configure Honeywell Digitally Enhanced (DE) instruments.

Field Device Manager (FDM) software and FDM Express are available for managing HART and Fieldbus device configurations. ST800 transmitters integrate with Honeywell's Experion PKS control software platform for tamper-reporting, FDM plant area views, and health summaries.

To help control maintenance and inventory costs, Honeywell ST800 transmitters are modular, giving you the ability to replace meter bodies, add indicators, or change electronics modules without affecting overall performance or approval certification.

Each meter body is uniquely characterized to provide in-tolerance performance over a range of varying temperatures and pressures. Because of Honeywell's advanced interface, electronic modules can be swapped without losing in-tolerance performance characteristics.

Specifications

Reference Accuracy: 0.055% span

Temperature: *Ambient:* -40° to 185° F; *Meter Body:* -40° to 257° F; *LCD:* -4° to 158° F

Humidity: 0 to 100% RH

Vacuum Region Pressure: 1"WC min. absolute @; 2 hours at 158° F

Maximum Allowable Working Pressure (MAWP): Units can withstand overpressure of 1.5 x MAWP without damage

Analog Output: Two-wire, 4 to 20 mA (HART & DE Transmitters only)

Digital Communications: Honeywell DE, HART 7 protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant

Output Failure: *Normal Limits:* 3.8 to 20.8 mA Honeywell standard, or 3.8 to 20.5 mA NAMUR NE 43 Compliant; *Failure Mode:* ≤3.6 mA and ≥21.0 mA

Supply Voltage: 10.8 to 42.4 VDC at terminals (IS versions limited to 30 VDC); *Voltage Effect:* 0.005% span per volt

Transmitter Turn-On Time: *HART or DE:* 2.5 seconds; *Foundation Fieldbus:* Host-dependent. Includes power up and test algorithms

Response Time (Delay + Time Constant): *HART or DE:* 80 mS; *Foundation Fieldbus:* 150 mS host-dependent

Damping Time Constant: *HART:* Adjustable from 0 to 32 seconds in 0.1 increments. *Default:* 0.50 seconds; *DE:* Discrete values 0, 0.16, 0.32, 0.48, 1, 2, 4, 8, 16, 32 seconds. *Default:* 0.48 seconds

Vibration Effect: Less than ±0.1% URL without damping. Per IEC60770-1 field or pipeline, high vibration level

Electromagnetic Compatibility: IEC 61326-3-1

Lightning Protection (Option): *Leakage Current:* 10uA max @ 42.4 VDC 93C

Materials: *Barrier Diaphragms:* 316L SS, Hastelloy® C-276, Monel® 400, Tantalum; *Process Head:* 316 SS, Carbon Steel (Zinc-plated), Hastelloy C-276; *Vent/Drain Valves and Plugs:* 316 SS, Hastelloy C-276; *Head Gaskets:* Glass-filled PTFE standard. Viton®, graphite optional; *Meter Body Bolting:* Zinc-Plated Carbon Steel standard. 316 SS, NACE A286 SS bolts; *Mounting Bracket:* 2" Pipe, Carbon Steel (Zinc-plated) or 304 Stainless Steel; *Fill Fluid:* Silicone DC® 200 oil or CTFE; *Electronic Housing:* Pure polyester powder-coated low copper aluminum. Meets NEMA 4X, IP66, IP67. All stainless steel housing is optional.

Mounting: Can be mounted in virtually any position using a standard mounting bracket. Bracket is designed to mount on 2" vertical or horizontal pipe.

Process Connections: 1/2" NPT with DIN adapter

Wiring: Accepts up to 16 AWG (1.5 mm diameter)

Enclosure: Type 4X, IP66, IP67

Communication/Diagnostics: HART 7, Foundation Fieldbus, Honeywell DE

HART FIELD COMMUNICATIONS PROTOCOL

Agency Approvals: *FM/CSA:* Explosion-Proof: Class I, Div 1, Groups A-D; Dust-Ignition Proof: Class II, III, Div 1, Groups E-G T4; Intrinsically Safe: Class I, II, III, Div 1, Groups A-G T4; Non-Incendive: Class I, Div 2, Groups A-D; *ATEX:* Flameproof: II 1/2 G Ex d IIC T4; Intrinsically Safe: II 1 G Ex ia IIC T4; Non-Incendive: II 3 G Ex nA IIC T4; Enclosure: IP66/IP67

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

Fully modular!
Don't take the transmitter out of service to swap modules, add a digital interface, or replace parts.

Honeywell

Clockwise from top left: Diagnostic fault messages, large PV display for easy visibility, bar graph view, critical diagnostics indicators.

Unique Indication/Display Options

SmartLine transmitter modular display is more than your typical standard LCD. You get critical and non-critical diagnostics, custom messages, and up to eight screens for process variable formats. Plus, it can be added, removed, and replaced easily in the field without removing the transmitter from service.

Basic Alphanumeric LCD Display Features

- 0°, 90°, 180°, and 270° degree position adjustments
- 16 standard measurement engineering units
- 2 Lines 16 Characters (4.13 H x 1.83 W mm)
- Square root output indication

Advanced Graphics LCD Display Features

- 0°, 90°, 180°, and 270° degree position adjustments
- Standard or custom measurement units
- Up to eight display screens with three formats are possible (large display, bargraph, trend lines)
- Configurable screen rotation timing
- Display Square Root capabilities can be set separately from the 4-20mA DC output signal
- Honeywell's unique "Health Watch" indication provides instant visibility of diagnostics

Dimensions

Restrictions

j Available only with HART® digital output; Requires write protection enabled.

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Ordering Instructions

Make one selection from each table section below. Follow the availability column down and check any restriction letters or notes to be sure the unit is available. A finished catalog number looks like this:
STA8_ _ - _ _ _ _ _ _ - _ - _ - _ _ _ - _ _ _ - _ - _ _ _ _ - _ _ - 0000

Model Selection Guide

Description		Catalog Number	Avail-ability	Price
Absolute Dual Head	0 to 780 " mm HgA (50 " mm HgA)	STA822-	↓	$2363.00
	0 to 500 PSI (5 PSIA)	STA840-	↓	2363.00
Meter Body	Plated CS Head, 316L SS Diaphragm	A_ _ _ _ _-	•	0.00
	316 SS Head, 316L SS Diaphragm	E_ _ _ _ _-	•	78.00
Fill Fluid	Silicone Oil (DC 200)	_ 1 _ _ _ _-	•	0.00
	Fluorinated Oil CTFE	_ 2 _ _ _ _-	•	57.00
Process Connection	1/2" NPT Female	_ _ G _ _ _-	•	0.00
	DIN 19213 (1/4" NPT Female)	_ _ D _ _ _-	•	0.00
Bolt/Nut Materials	Carbon Steel	_ _ _ C _ _-	•	0.00
	316 SS	_ _ _ S _ _-	•	47.00
Head Type/Vent/Drain Position	Single Ended	_ _ _ _ 1 _-	•	0.00
	Single Ended, Side Drain and Vent	_ _ _ _ 2 _-	•	123.00
	Single Ended, Side Drain, Center SS Vent	_ _ _ _ 3 _-	•	120.00
	Dual Ended, End Drain and Vent	_ _ _ _ 4 _-	•	40.00
	Dual Ended, End Drain, Center SS Vent	_ _ _ _ 5 _-	•	123.00
	Dual Ended	_ _ _ _ 6 _-	•	40.00
Gasket	Teflon® or PTFE (Glass Filled)	_ _ _ _ _ A-	•	0.00
	Viton®	_ _ _ _ _ B-	•	23.00
	Graphite	_ _ _ _ _ C-	•	71.00
Head/Connect Orientation	High Side Left, Low Side Right	1-	•	0.00
	Low Side Left, High Side Right	2-	•	25.00
	High Side Left, Low Side Right, 90° Head Rotation	3-	•	25.00
Approvals	No Approvals Required	0-	•	0.00
	FM Approved	A-	•	25.00
	CSA Approved	B-	•	25.00
	ATEX Approved	C-	•	25.00
Electronic Housing	1/2" NPT Aluminum	A _ _-	•	0.00
	1/2" NPT Aluminum with Lightning Protection	C _ _-	•	71.00
Outputs	4-20mA DC and HART®	_ H _-	•	67.00
	4-20mA DC and Honeywell DE	_ D _-	•	181.00
Indicator and Interface	No Indicator or Buttons	_ _ 0-	•	0.00
	No Indicator, External Zero/Span Buttons	_ _ A-	•	56.00
	Indicator	_ _ B-	•	191.00
	Indicator, External Zero/Span/Config Buttons	_ _ C-	•	268.00
Failsafe/Write Protect	Fail Mode High	11S-A	•	0.00
	Fail Mode Low	12S-A	•	23.00
	Fail Mode High, Write Protect Enabled	13S-A	•	23.00
	Fail Mode Low, Write Protect Enabled	14S-A	•	23.00
Mounting Bracket	None	0 _ _ _	•	0.00
	Angle Bracket, Carbon Steel	1 _ _ _	•	35.00
	Angle Bracket, 304SS	2 _ _ _	•	81.00
	Flat Bracket, Carbon Steel	5 _ _ _	•	35.00
	Flat Bracket, 304SS	6 _ _ _	•	81.00
Tagging	None	_ 0 _ _	•	0.00
	One Wired SS Tag (4 lines x 26 char/line)	_ 1 _ _	•	25.00
	Two Wired SS Tag (4 lines x 26 char/line)	_ 2 _ _	•	35.00
Conduit Plugs/Adapters	None	_ _ A0	•	0.00
	1/2" NPTM to 3/4" NPTF 316 SS Conduit Adapter	_ _ A2	•	212.00
	1/2" NPT 316 SS Certified Conduit Plug	_ _ A6	•	67.00
	Minifast® 4 Pin (1/2" NPT) (not for X-Proof use)	_ _ A8	•	108.00
Certificates	Calibration Test & Cert of Conformance (F3399)	F1	•	35.00
	Certificate of Origin (F0195)	F5	•	25.00
	FMEDA (SIL 2/3) Certification (FC33337)	FE	j	25.00
Documen-tation	Printed English User Manual	34-ST-25-35	•	35.00
	HART/DE Communications Manual	34-ST-25-38	•	35.00
	Safety Manual	34-ST-25-37	•	35.00
	Function Block Manual	34-ST-25-42	•	35.00

STG700 SmartLine Gauge Pressure Transmitter

Features

- Accuracies to 0.065% of span
- Stability up to 0.02% URL per year for 5 years
- Maximum turndown ratio to 100:1
- Response times as fast as 100ms
- Alphanumeric display capabilities
- External zero, span, and configuration capability
- On-board diagnostic capabilities
- World class overpressure protection
- Compliant to SIL 2/3 requirements
- Polarity-insensitive electrical connections
- Automatic temperature compensation
- Integral dual seal design for highest safety based on ANSI/NFPA 70-202 and ANSI/ISA 12.27.0
- Honeywell DE, HART v7.0 and Foundation Fieldbus communications options

Replaces retired models STG90L, STG94L, STG974, and STG97L

Honeywell's new SmartLine® STG700 and STG670L are suitable for monitoring, control and data acquisition. STG70X 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 automation and control software platform, providing the highest level of compatibility assurance and integration capabilities.

The ST700 modular features a basic alphanumeric LCD display that can be added or removed in the field. For easier access and visibility, the display can be mounted and adjusted to 0, 90, 180, and 270 degree positions. The two-line, 16-character LCD can display any one of 16 standard engineering units plus square root output indication.

Suitable for all electrical and environmental requirements, SmartLine offers the ability to zero and span the transmitter from three externally accessible buttons. With the display option, these buttons also let you configure the transmitter and display.

Using a handheld Honeywell MCT202 configurator and Smartline transmitter two-way communications, you can field configure DE and HART devices. Or, if you prefer, you can use Honeywell's SCT3000 configuration toolkit and a PC to configure Honeywell Digitally Enhanced (DE) instruments. Field Device Manager (FDM) software and FDM Express are available for managing HART and Fieldbus device configurations. ST700 transmitters integrate with Honeywell's Experion PKS control software platform for tamper-reporting, FDM plant area views, and health summaries.

To help control maintenance and inventory costs, Honeywell ST700 transmitters are modular, giving you the ability to replace meter bodies, add indicators, or change electronics modules without affecting overall performance or approval certification.

Each meter body is uniquely characterized to provide in-tolerance performance over a range of varying temperatures and pressures. Due to the Honeywell advanced interface, electronic modules may be swapped with any electronics module without losing in-tolerance performance characteristics.

Specifications

Reference Accuracy: 0.065% span

Stability (%URL/year for five years): 0.020%

Temperature: *Ambient:* -40° to 185° F; *Meter Body:* -40° to 257° F; *LCD:* -4° to 158° F

Humidity: 0 to 100% RH

Vacuum Region Pressure: 1"WC min. absolute @ 2 hours at 158° F

Maximum Allowable Working Pressure (MAWP): Units can withstand overpressure of 1.5 x MAWP without damage

Analog Output: Two-wire, 4 to 20 mA (HART & DE Transmitters only)

Digital Communications: Honeywell DE, HART 7 protocol or FOUNDATION Fieldbus ITK 6.0.1 compliant

Output Failure: *Normal Limits:* 3.8 to 20.8 mA Honeywell standard, or 3.8 to 20.5 mA NAMUR NE 43 Compliant; *Failure Mode:* ≤3.6 mA and ≥21.0 mA

Supply Voltage: 10.8 to 42.4 VDC at terminals (IS versions limited to 30 VDC); *Voltage Effect:* 0.005% span per volt

Transmitter Turn-On Time: *HART or DE:* 2.5 seconds; *Foundation Fieldbus:* Host-dependent. Includes power up and test algorithms

Response Time (Delay + Time Constant): *HART or DE:* 100 mS; *Foundation Fieldbus:* 150 mS host-dependent

Damping Time Constant: *HART:* Adjustable from 0 to 32 seconds in 0.1 increments. *Default:* 0.50 seconds; *DE:* Discrete values 0, 0.16, 0.32, 0.48, 1, 2, 4, 8, 16, 32 seconds. *Default:* 0.48 seconds

Vibration Effect: Less than ±0.1% URL without damping. Per IEC60770-1 field or pipeline, high vibration level

Electromagnetic Compatibility: IEC 61326-3-1

Lightning Protection (Option): *Leakage Current:* 10uA max @ 42.4 VDC 93C

Materials: *Barrier Diaphragms:* 316L SS, Hastelloy® C-276, Monel® 400, Tantalum; *Process Head:* 316 SS, Carbon Steel (Zinc-plated), Hastelloy C-276; *Vent/ Drain Valves and Plugs:* 316 SS, Hastelloy C-276; *Head Gaskets:* Glass-filled PTFE standard. Viton®, graphite optional; *Meter Body Bolting:* Zinc-Plated Carbon Steel standard. 316 SS, NACE A286 SS bolts; *Mounting Bracket:* 2" Pipe, Carbon Steel (Zinc-plated) or 304 Stainless Steel; *Fill Fluid:* Silicone DC® 200 oil or CTFE; *Electronic Housing:* Pure polyester powder-coated low copper aluminum. Meets NEMA 4X, IP66, IP67, and NEMA 7. All stainless steel housing is optional.

Mounting: Can be mounted in virtually any position using a standard mounting bracket. Bracket is designed to mount on 2" vertical or horizontal pipe.

Process Connections: 1/2" NPT or 1/2" NPT with DIN adapter

Wiring: Accepts up to 16 AWG (1.5 mm diameter)

Enclosure: Type 4X, IP66, IP67

Communication/Diagnostics: HART 7, Foundation Fieldbus, Honeywell DE

HART FIELD COMMUNICATIONS PROTOCOL

Agency Approvals: *FM/CSA:* Explosion-Proof: Class I, Div 1, Groups A-D; Dust-Ignition Proof: Class II, III, Div 1, Groups E-G T4; Intrinsically Safe: Class I, II, III, Div 1, Groups A-G T4; Non-Incendive: Class I, Div 2, Groups A-D; *ATEX:* Flameproof: II 1/2 G Ex d IIC T4; Intrinsically Safe: II 1 G Ex ia IIC T4; Non-Incendive: II 3 G Ex nA IIC T4; Enclosure: IP66/IP67
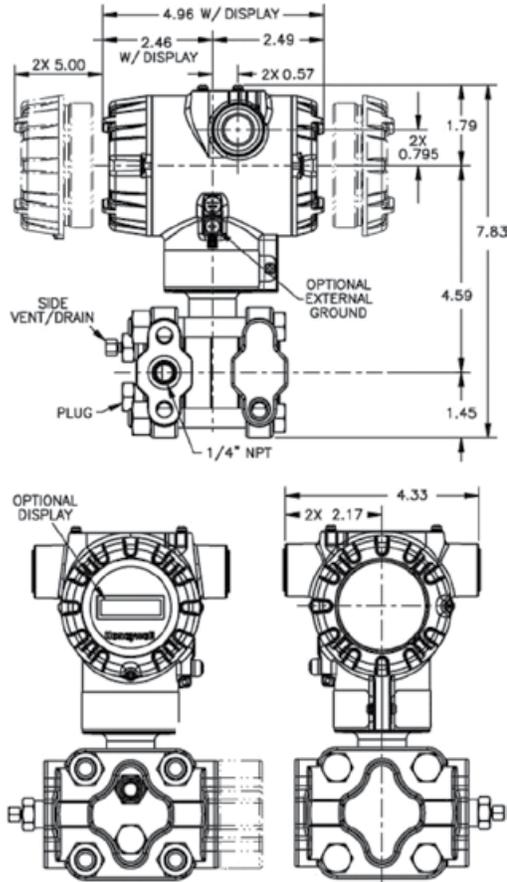
SIL 2/3 Certification: IEC 61508 SIL 2 for non-redundant use and SIL 3 for redundant use according to EXIDA and TÜV Nord Sys

Fully modular!
Don't take the transmitter out of service to swap modules, add a digital interface, or replace parts.

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Honeywell

Dimensions

Displays provide PV, bargraphs, trend lines, and text messages for diagnostics and maintenance.

Ordering Instructions

Make one selection from each table section below. Follow the availability column down and check any restriction letters or notes to be sure the unit is available. A finished catalog number looks like this:
STG7_ _ - _ _ _ _ _ _ - _ - _ - _ _ _ - _ _ _ - A - _ _ _ _ - _ _ - 0000

Model Selection Guide

Description		Catalog Number	Avail-ability				Price
Dual Head	5 to 500 PSI (0.35 to 35 bar)	STG740-	↓				$1374.00
	30 to 3000 PSI (2.1 to 210 bar)	STG770-		↓			1456.00
In-Line	5 to 500 PSI (0.35 to 35 bar)	STG74L-			↓		1250.00
	30 to 3000 PSI (2.1 to 210 bar)	STG77L-				↓	1385.00
Meter Body	Plated CS Head, 316L SS Diaphragm	A_ _ _ _ _-	•	•			0.00
	316 SS Head, 316L SS Diaphragm	E_ _ _ _ _-	•	•	•	•	78.00
Fill Fluid	Silicone Oil (DC 200)	_ 1 _ _ _ _-	•	•	•	•	0.00
	Fluorinated Oil CTFE	_ 2 _ _ _ _-	•	•	•	•	57.00
Process Connection	9/16" Aminco	_ _ A _ _ _-	•	•	•	•	40.00
	1/2" NPT Female	_ _ G _ _ _-	•	•	•	•	0.00
Bolt/Nut Materials	Carbon Steel	_ _ _ C _ _-	•	•	•	•	0.00
	316 SS	_ _ _ S _ _-	•	•	•	•	47.00
	Grade 660 (NACE A286), NACE 304 SS Nuts	_ _ _ N _ _-	•	•	•	•	182.00
Head Type/ Vent/Drain Position	Single Ended	_ _ _ _ 1 _-	•	•	•	•	40.00
	Single Ended, Side Drain and Vent	_ _ _ _ 2 _-	•	•	•	•	123.00
	Single Ended, Side Drain, Center SS Vent	_ _ _ _ 3 _-	•	•	•	•	120.00
	Dual Ended, End Drain and Vent	_ _ _ _ 4 _-	•	•	•	•	40.00
	Dual Ended, End Drain, Center SS Vent	_ _ _ _ 5 _-	•	•	•	•	123.00
	Dual Ended	_ _ _ _ 6 _-	•	•	•	•	40.00
Gasket	Teflon® or PTFE (Glass Filled)	_ _ _ _ _ A-	•	•	•	•	0.00
	Viton® or Fluorocarbon Elastomer	_ _ _ _ _ B-	•	•	•	•	23.00
	Graphite	_ _ _ _ _ C-	•	•	•	•	71.00
Head/ Connect Orientation	High Side Left, Low Side Right	1-	•	•	•	•	0.00
	Low Side Left, High Side Right	2-	•	•	•	•	25.00
	High Side Left, Low Side Right, 90° Head Rotation	3-	•	•	•	•	25.00
Approvals	No Approvals Required	0-	•	•	•	•	0.00
	FM Approved	A-	•	•	•	•	25.00
	CSA Approved	B-	•	•	•	•	25.00
	ATEX Approved	C-	•	•	•	•	25.00
Electronic Housing	1/2" NPT Aluminum	A _ _-	•	•	•	•	0.00
	1/2" NPT Aluminum with Lightning Protection	C _ _-	•	•	•	•	71.00
Outputs	4-20mA DC and HART®	_ H _-	•	•	•	•	67.00
	4-20mA DC and Honeywell DE	_ D _-	•	•	•	•	181.00
Indicator and Interface	No Indicator or Buttons	_ _ 0-	•	•	•	•	0.00
	No Indicator, External Zero/Span Buttons	_ _ A-	•	•	•	•	56.00
	Indicator	_ _ B-	•	•	•	•	191.00
	Indicator, External Zero/Span/Config Buttons	_ _ C-	•	•	•	•	268.00
Failsafe/ Write Protect	Fail Mode High	11S-A-	•	•	•	•	0.00
	Fail Mode Low	12S-A-	•	•	•	•	23.00
	Fail Mode High, Write Protect Enabled	13S-A-	•	•	•	•	23.00
	Fail Mode Low, Write Protect Enabled	14S-A-	•	•	•	•	23.00
Mounting Bracket	None	0 _ _ _	•	•	•	•	0.00
	Angle Bracket, Carbon Steel	1 _ _ _	•	•	•	•	35.00
	Angle Bracket, 304SS	2 _ _ _	•	•	•	•	81.00
	Flat Bracket, Carbon Steel	5 _ _ _	•	•	•	•	35.00
	Flat Bracket, 304SS	6 _ _ _	•	•	•	•	81.00
Tagging	None	_ 0 _ _	•	•	•	•	0.00
	One Wired SS Tag (4 lines x 26 char/line)	_ 1 _ _	•	•	•	•	25.00
	Two Wired SS Tag (4 lines x 26 char/line)	_ 2 _ _	•	•	•	•	35.00
Conduit Plugs/ Adapters	None	_ _ A0	•	•	•	•	0.00
	1/2" NPTM to 3/4" NPTF 316 SS Conduit Adapter	_ _ A2	•	•	•	•	212.00
	1/2" NPT 316 SS Certified Conduit Plug	_ _ A6	•	•	•	•	67.00
	Minifast® 4 Pin (1/2" NPT) (not for X-Proof use)	_ _ A8	•	•	•	•	108.00
Certificates	Calibration Test & Cert of Conformance (F3399)	F1	•	•	•	•	35.00
	Certificate of Origin (F0195)	F5	•	•	•	•	25.00
	FMEDA (SIL 2/3) Certification (FC33337)	FE	j	j	j	j	25.00
Documen-tation	Printed English User Manual	34-ST-25-44	•	•		•	35.00
	HART/DE Communications Manual	34-ST-25-47	•	•		•	35.00
	Safety Manual	34-ST-25-37	•	•		•	35.00
	Function Block Manual	34-ST-25-49	•	•		•	35.00

Restrictions

j   Available only with HART® digital output; Requires write protection enabled.

Level Measurement Instruments
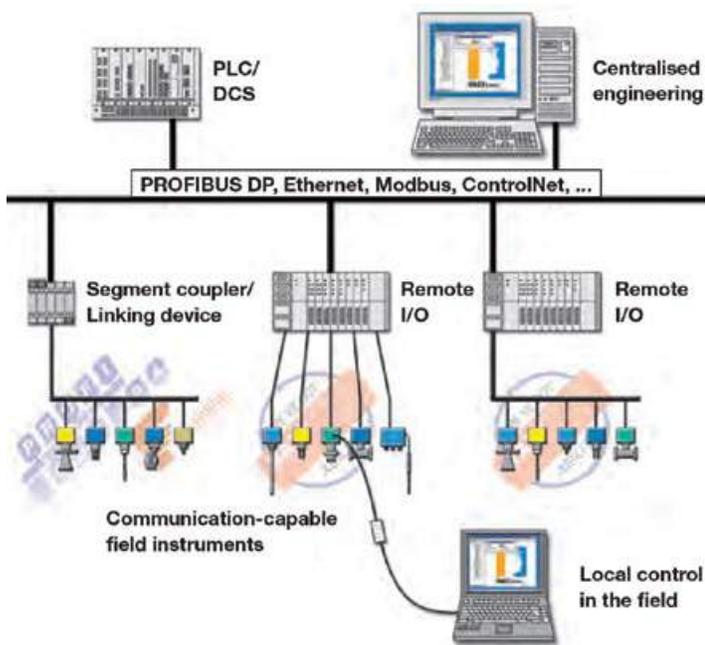
Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

94 **PROGRAMMING TOOLS**

PACTware Configuration Software for Field Instruments

What is PACTware?

PACTware is a manufacturer and fieldbus-independent software for operating field instruments.

Up to now it was often necessary to use several different manufacturer-specific programs to operate different field instruments to the full extent. This is no longer necessary, because PACTware enables adjustment of any and all field instruments with only one software tool.

PACTware uses a standardised interface between the frame program and the individual software modules for instrument operation. This interface is known as FDT; the software modules for instrument adjustment are called DTMs. This configuration makes modern and user-friendly adjustment concepts possible because the interface for instrument adjustment is optimally adapted to each instrument.

Furthermore, you can communicate with PACTware not only via HART but also via any standard field bus system. To this end, different so-called "communication DTMs" are available. In PACTware, these instrument and communication DTMs are assembled individually according to the given requirements.

PACTware enables open, comprehensive adjustment of different field instruments via any bus system.

For which fieldbusses is PACTware suitable?

PACTware can be implemented in process as well as plant automation. The prerequisite is a bus system that can transmit, apart from actual values (process data), also parameter adjustment data. Communication DTMs are already available for the following fieldbusses and communication types:

- HART®
- Modbus standard communication (RS232)
- Ethernet
- PROFIBUS PA
- Foundation Fieldbus
- ControlNET
- DeviceNET/CIP
- AS-Interface
- Interbus
- Various proprietary networks

Download the software and drivers free. All you need to buy is a HART® modem!

HART communications without busting the budget

Dan Weise,
Product Specialist

The HART communication protocol has been firmly established as the standard means of configuring field instruments for some years. But talking to a field instrument needs a communicator.

There are the handheld communicators, Rosemount's x75s and the "budget-priced" Meriam MFC 4150, but at a cost that's more a capital appropriation than an MRO expense. Even the Meriam, with a 3-year field device description subscription starts at more than $4000. People ask if there isn't a more budget conscious approach to HART configuration.

There is: Pactware, a Windows application software that can talk HART to field instruments. It's a free download with NO licensing fee.

Before you get started, here's what you need to make it work

- **Software:** I use the Krohne version. It runs in both XP and Windows 7 (32-bit). *http://www.pactware.com/en/products/pactware.html*
- **A HART modem, to connect your PC to the field device:** I use the Viator USB HART modem from MACTek. It runs about $500.
- **Download two files:** The first is a basic HART driver (called a DTM) that enables and manages HART communications through a HART modem. http://www.codewrights.biz/
- **A driver (DTM) for each model field instrument:** Instrument manufacturers are responsible for providing DTMs. Ask the manufacturer whether a DTM is available, and where to download it.

HART needs at least 230 ohms of loop resistance to operate, when trying to connect with an instrument on the shop bench, be sure to put a resistor in the loop, it won't communicate with just an instrument and a power supply.

A laptop with a HART modem is not usable in hazardous areas, but the nature of HART allows communication without being directly connected to the instrument. It works fine connected at the marshalling panel, control panel, or wherever wiring terminations for loop can be found.

The power of PC offers two key advantages over a handheld.

- The configuration parameters are listed in an overview form:
- On a PC, the graphics can offer more than a handheld, like echo profiles for non-contact radar or ultrasonic level instruments:

So, if you think a HART handheld is a budget-buster in your world, consider Pactware and a HART modem as your HART communications tool.

How is PACTware different from other engineering tools?

- A lean, efficient tool for parameter adjustment of field instruments
- Intuitive adjustment, diagnostics and asset management functionality
- Can be equipped with additional functionality via so called "add-ins"
- Supports the full range of functions of all field instruments
- Offers diagnostics and asset management functionality
- Simplifies setup in automation
- Software is free of charge — all you need is a HART® modem!

Connection Devices

Description		Catalog Number	Price
HART® Modems	Siemens RS-232 HART Modem	7MF4997-1DA	$449.65
	Siemens USB HART Modem	7MF4997-1DB	591.10

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

Honeywell Programming Tools for Smart Transmitters

SCT3000 Smart Configuration Toolkit

- For Honeywell smart pressure and smart temperature transmitters, SMV3000 multivariable transmitters, and MagneW flowmeters
- Use on-line mode for field configuration, device diagnostics, calibration, displaying device parameters, selecting communications mode; Build and store configurations offline — even before the transmitter arrives at your plant
- Kit includes DE/HART® modem, RS-232 cable (50032086-001), specified cable length, installation guide and software

Model Selection Guide

Description	Catalog Number	Price
Configuration Toolkit, 6-Ft Cable	SCT101-002-44-XXXX	$3237.00
Configuration Toolkit, 20-Ft Cable	SCT101-012-44-XXXX	3273.00
SCT3000 Cable Kit, Installation Guide	50033453-501	151.00

Left to Right: Rugged field-hardened unit (no approvals), Zone 1/Div 1 version, Zone 2/Div 2 version.

MC Toolkit Handheld Configurator

- Configures any Honeywell DE device: ST3000 pressure and STT3000 temperature transmitters and configures any HART® device with a published HART Device Descriptions (DD), regardless of device manufacturer
- Comes fully loaded with complete set of HART® device descriptions. Download new device descriptions from the HART website, or get the latest DD releases from the manufacture's website
- Intuitive user interface provides simple navigation, with detailed explanations
- Fully supports all HART 5.X commands and universal commands for HART 6, Uses DD-IDE/SDC 625 technology and Open Tools standard

Specifications

Pocket PC: i.roc 627 (HP iPAQ hx2490 or equivalent) with Intel PXA270 520 MHz processor, 128 MB ROM and 64 MB SDRAM, 1GB flash memory, MS Windows Mobile 5.0 OS, 3.5"TFT color touchscreen, LED backlight

Operating Conditions: *Temperature:* 14° to 122° F; *Humidity:* 10 to 90% rH

Power: Rechargeable Lithium-Ion battery. AC power options accept 90-264 VAC inputs.

Memory Requirements: Approx. 51MB (includes all HART registered DDs). MC Toolkit software, including SDC 625 and HART DD files, are loaded on flash memory card. Flash memory card in the MCT202 is not removable.

Approvals: *European EMC Standards:* EEC Directive 89/336 (EMC), CE Mark; *FM C-US:* Intrinsically Safe Class I, Div 1 Group A-D; Non-incendive Class I, Div 2 Group A-D; *ATEX:* Intrinsically Safe Ex II 2G EEx ia IIC T4, Type n; Ex II 3G EEx nL IIC T4, Dust ignition proof Ex II 2D T99oC IP65; Ex II 3D T55oC IP65

Kit includes Pocket PC hardware, two stylus pens, LGx10 charger, integrated HART/DE modem, USB interface kit with charger cable, 4-foot transmitter connector cable, clips, and user manual CD-ROM

meriam MFC 5150 HART® Handheld Communicator

- Full QWERTY keyboard
- Just 15 seconds from power-up to use!
- General purpose and intrinsically safe models available
- No annual subscription required for firmware or DDF updates
- 8GB SD card holds DD files for more than 1200 compatible field instruments
- Replaces retired MFC 4150
- Rechargeable Lithium Ion batteries; Average 10 hour continuous use
- Document and store, clone, upload, and download; Offline mode for editing and reviewing configurations
- Update firmware and device files for free for HART devices from Meriam's website

Model Selection Guide

Description	Catalog Number	Price
Communicator — No Download Subscription Required Ever!		
General Service HART Communicator	MFC5150	$5200.00
Intrinsically Safe HART Communicator	MFC5150X	5500.00

All communicator kits include: Handheld communicator, charger/USB dock, PC utility software, USB cable, HART leads, carrying case, and wrist strap.

View the field device list at www.Meriam.com
Select Resources > Download Center > Available DOFs.

Model Selection Guide

Description		Catalog Number	Price
MC Toolkit Rugged Communications Configurator		MCT202-	$7423.00
Approvals	None	ZZ	0.00
	FM, Class 1, Div 1 Intrinsically Safe	XF	1355.00
	FM, Class 1, Div 2 Non-Incendive	YF	677.00
	ATEX Zone 1, Div 1 IS, Dust-Ignition-Proof	XA	1355.00
	ATEX, Zone 2, Div 2, Type N	YA	677.00
Universal Power Adapter, Printed User Manual		00-UM	22.00

Note: *Not suitable for programming the Honeywell SMV3000 smart multivariable mass flowmeter. Please see SCT3000 smart configuration toolkit.*

Level Measurement Instruments

Flow Measurement Instruments

Pressure Transmitter

Temperature Sensors and Transmitters

Wireless Sensing and Communications

Analytical Instruments and Systems

SIMATIC PDM Configuration and Diagnostic Software

SIEMENS

Configure just about any HART®-compatible instrumentation with your PC and Siemens' SIMATIC PDM software tool!

SIMATIC PDM (Process Device Manager) is a universal tool for configuration, parameter assignment commissioning, diagnostics and maintenance of intelligent process devices and automation components.

With SIMATIC PDM, you can use one software program to configure a number of field devices by different manufacturers using a single user interface. Process device data can be easily set, changed, checked for plausibility, managed and simulated. In addition, you can monitor selected process values, alarms and status signals of devices online.

Major Advantages at a Glance

- Simple, operating system-independent integration of field devices based on device descriptions (e.g. HART DD)
- Similar visualization of all field devices
- Provides basic functions (e.g. export, data comparison, printing) for all field devices
- Communication with PROFIBUS DP/PA, HART, or Modbus
- No configuration knowledge required for parameter assignment and diagnostics of field devices via the LifeList.
- Type-independent and cross-manufacturer field device parameter assignment and diagnostics
- Support of comprehensive field device-specific functions (simulation, measuring circuit test, characteristics curve definitions, calibration functions, documentation etc.) which can form the overall characteristics of field device manufacturers

Device Integration

SIMATIC PDM is the most efficient process device manager on the world market. With SIMATIC PDM you can assign parameters to more than 1,000 different field devices by over 150 manufactures worldwide and new field devices are constantly being added to the list.

The electronic device descriptions (EDD) are either on the supplied CD of SIMATIC PDM or can be obtained from the field device manufacturer on a diskette or via the Internet. Using import functions, you can easily integrate new field device descriptions or corrections into SIMATIC PDM anytime.

User Interface

The SIMATIC PDM user interface offers menu structures and toolbars as well as an Explorer view that makes navigation between parameter groups easier. You can easily navigate in highly complex stations, such as Remote I/Os, up to connected field devices.

Model Selection Guide

Description	Catalog Number	Price
SIMATIC PDM v8.1 Software for Configuration, Commissioning, and Diagnostics of Intelligent Field Devices (Supports Profibus and HART®)		
SIMATIC PDM with 1 Tag	TGX:PDM-3HA18-0YA5	$77.00
SIMATIC PDM with 4 Tags	TGX:PDM-3AB18-0YA5	689.00
10 Additional SIMATIC PDM Tags	TGX:PDM-3XC18-2YB5	157.00
100 Additional SIMATIC PDM Tags	TGX:PDM-3XD18-2YB5	1454.00

Connection Devices

Description		Catalog Number	Price
HART® Modems	Siemens RS-232 Hart Modem	7MF4997-1DA	$449.65
	Siemens USB Hart Modem	7MF4997-1DB	591.10