

Honeywell and Siemens smart pressure transmitters are available with HART®! Now your new transmitters can talk to your existing data communication and control network. Looking for a low-cost smart transmitter with a digital display? Check out the models available from Siemens and WIKA.

Lesman is your authorized representative for Siemens transmitters. The SITRANS P series is truly unique, with digital display, five-year "powered up" warranty, local setup with built-in pushbuttons,



**Looking for wireless transmitters? See page 1!**

## Absolute Pressure

|  | Prices Start at | See Page |
|--|-----------------|----------|
| Siemens SITRANS P300 Sanitary Pressure Transmitters    | \$812.00        | 175      |
| Siemens SITRANS P ZD Programmable Pressure Transmitter | \$420.00        | 172      |
| WIKA PSD-30 Pressure Transmitter with LED Display      | \$297.00        | 173      |

## Differential Pressure

|   |           |     |
|---|-----------|-----|
| Honeywell ST3000 900 Series Differential Pressure Smart Transmitters    | \$1220.00 | 182 |
| Honeywell STD110 Draft Range Differential Pressure Smart Transmitter    | \$1866.00 | 186 |
| Honeywell STD904 Low Cost Differential Pressure Smart Transmitter       | \$881.00  | 177 |
| Siemens SITRANS P250 Stainless Steel Differential Pressure Transmitters | \$450.00  | 176 |
| Siemens SITRANS P DS III Differential Pressure Transmitter              | \$1427.00 | 184 |

## Gauge Pressure

|  |           |     |
|--|-----------|-----|
| Honeywell ST3000 900 Series Gauge Pressure Smart Transmitters        | \$1101.00 | 178 |
| Honeywell STG90L Low Cost Gauge Pressure Smart Transmitter           | \$877.00  | 177 |
| Siemens SITRANS P DS III Gauge Pressure Transmitter                  | \$1057.00 | 180 |
| Siemens SITRANS P ZD Programmable Pressure Transmitter               | \$420.00  | 172 |
| UE TX200 Stainless Steel Pressure Transmitter for Harsh Environments | \$350.00  | 173 |
| WIKA A-10 Stainless Steel Pressure Transmitters for OEM Service      | \$125.00  | 170 |
| WIKA C-10 Pressure Transmitter for OEM Service                       | \$219.08  | 170 |
| WIKA F-20 Stainless Steel Transmitter with Integral Junction Box     | \$466.25  | 172 |
| WIKA IS-20 Intrinsically Safe Gauge Pressure Transmitter             | \$410.08  | 171 |
| WIKA PSD-30 Pressure Transmitter with Switch Output and LED Display  | \$297.00  | 173 |
| WIKA S-10 and S-11 General Service Gauge Pressure Transmitters       | \$331.43  | 171 |
| WIKA UniTrans Pressure Transmitter with Temperature Display          | \$730.28  | 174 |

## Sanitary Pressure Transmitters

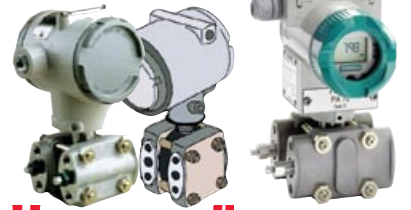
|   |          |     |
|---|----------|-----|
| WIKA S10.3A Gauge Pressure Sanitary Transmitters    | \$589.84 | 174 |
| Siemens SITRANS P300 Sanitary Pressure Transmitters | \$812.00 | 175 |

## Accessories

|  |           |     |
|--|-----------|-----|
| Honeywell SCT3000 SmartLine Configuration Toolkit          | \$2740.00 | 187 |
| Honeywell MC Toolkit Pocket PC-Based DE/HART® Configurator | \$6080.00 | 187 |
| Meriam MFC4150 HART® Handheld Communicator                 | \$3847.00 | 187 |
| Siemens Simatic PDM Configuration/Diagnostics Software     | \$72.00   | 188 |
| WIKA Loop-Powered Digital Indicator                        | \$234.81  | 171 |

**Need for a submersible transmitter for liquid level? See pages 214 and 215.**  
**Looking for Honeywell's smart multivariable transmitter for flow? See page 267.**

Prices in this catalog are current at the publication date, and are subject to change without notice.



Some products are not available in all Lesman markets or geographic areas.

## Low-Cost All-Stainless Pressure Transmitters

### Features

- Ranges from 0-15 to 0-10000 PSIG, 0-15 to 0-300 PSIA
- $\leq \pm 0.5\%$  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 Model | Price    | 0-10V 3-Wire Model | Price    |
|---|----------------------|----------|--------------------|----------|
| A-10 Pressure Transmitter: 1/4" NPTM Process Connection |                      |          |                    |          |
| 0-15 PSIA   | 50426354             | \$155.00 | 50426737           | \$155.00 |
| 0-100 PSIA  | 50426389             | 155.00   | 50426761           | 155.00   |
| 0-15 PSI  | 50426397             | 125.00   | 50426770           | 125.00   |
| 0-25 PSI  | 50426401             | 125.00   | 50426788           | 125.00   |
| 0-50 PSI  | 50426427             | 125.00   | 50426800           | 125.00   |
| 0-100 PSI   | 50372475             | 125.00   | 50426818           | 125.00   |
| 0-200 PSI   | 50398083             | 125.00   | 50426834           | 125.00   |
| 0-300 PSI   | 50426460             | 125.00   | 50426842           | 125.00   |
| 0-500 PSI   | 50426478             | 125.00   | 50426851           | 125.00   |
| 0-1000 PSI  | 50426486             | 125.00   | 50426869           | 125.00   |
| 0-1500 PSI  | 50426494             | 125.00   | 50426877           | 125.00   |
| 0-2000 PSI  | 50426508             | 125.00   | 50426885           | 125.00   |
| 0-3000 PSI  | 50426516             | 125.00   | 50426893           | 125.00   |
| 0-5000 PSI  | 50372483             | 125.00   | 50426907           | 125.00   |
| 0-10000 PSI   | 50426532             | 125.00   | 50426915           | 125.00   |

WIKA A-10 pressure transmitter is precision engineered, and designed to fit a variety of industrial and OEM pressure applications.

The rugged design provides resistance to vibration, shock, wide temperature variations, RFI, and other extreme conditions. The all stainless steel welded measuring cell eliminates the need for soft sealing materials that can deteriorate over time.



## Pressure Transmitters for OEM Applications

### Features

- $\pm 0.5\%$  accuracy
- Two-wire 4-20 mA output or three-wire 0-5V output
- CE Mark option available

These pressure transmitters are specifically designed to meet the price and performance requirements of OEM products.

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

### Specifications

**Accuracy:**  $\pm 0.5\%$  full span; *Linearity:*  $\leq 0.5\%$ ; *Hysteresis:*  $\leq 0.1\%$  span; *Repeatability:*  $\leq 0.05\%$  span; *One-Year Stability:*  $\leq 0.2\%$  span  
**Operating Temperature:** Effective temperature compensation 32° to 176°F; -22° to 212°F (media); 14° to 176°F (ambient)

**Power Supply:** 12-30 VDC

**System/Output Signal:** 2-wire 4-20 mA DC (shown). Also available with 3-wire 0-20 mA, 0-5V or 0-10V outputs

**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.



**Large quantity requirement?  
Call for pricing.**

### 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        | \$219.08   |
| 0-5 PSIG   | 30 PSI           | 30 PSI         | 8363434        | 219.08     |
| 0-15 PSIG  | 70 PSI           | 70 PSI         | 8363442        | 219.08     |
| 0-25 PSIG  | 145 PSI          | 145 PSI        | 8363450        | 219.08     |
| 0-50 PSIG  | 245 PSI          | 245 PSI        | 8363468        | 219.08     |
| 0-60 PSIG  | 245 PSI          | 245 PSI        | 8363476        | 219.08     |
| 0-100 PSIG   | 500 PSI          | 500 PSI        | 8363515        | 219.08     |
| 0-150 PSIG   | 500 PSI          | 500 PSI        | 8363485        | 219.08     |
| 0-200 PSIG   | 500 PSI          | 500 PSI        | 8363493        | 219.08     |
| 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        | 219.08     |
| 0-500 PSI  | 1160 PSI         | 5800 PSI       | 9697688        | 219.08     |
| 0-600 PSI  | 1160 PSI         | 5800 PSI       | 8357247        | 219.08     |
| 0-1000 PSI   | 1740 PSI         | 7975 PSI       | 8357255        | 219.08     |
| 0-1500 PSI   | 2900 PSI         | 11,600 PSI     | 8357264        | 219.08     |
| 0-2000 PSI   | 2900 PSI         | 11,600 PSI     | 8357272        | 219.08     |
| 0-3000 PSI   | 7250 PSI         | 17,400 PSI     | 8354753        | 219.08     |
| 0-5000 PSI   | 11,600 PSI       | 24,650 PSI     | 8347390        | 219.08     |
| 0-7500 PSI   | 17,400 PSI       | 34,800 PSI     | 8357280        | 219.08     |
| 0-10,000 PSI   | 17,400 PSI       | 34,800 PSI     | 8357298        | 219.08     |
| 0-15,000 PSI   | 21,750 PSI       | 43,500 PSI     | 8359576        | 219.08     |

**Models shown are normally available to ship from the factory within 5 days. Other pressures and output configurations are available.**

**Search Lesman.com by part number.**





# Industrial Pressure Transmitters

Buy online! Search [Lesman.com](http://Lesman.com) by WIKA Part Number

(Left to Right)  
WIKA S-10 Transmitter with Threaded Connection; S-11 Flush Diaphragm Transmitter; IS-20 Intrinsically Safe Transmitter



## Features

- **High accuracy.** 0.25% full span.
- **Electronics are fully encapsulated in silicone.** Excellent for use in shock or vibration applications.
- **Excellent response time (100 msec).** Quick response of small piezo-resistive element and sensitive diaphragm is important in rapidly fluctuating temperatures and pressures.
- **Electronics package is temperature-compensated.** Gives greater reliability in rapidly changing ambient temperatures.

## Specifications

**Maximum Overpressure:** 2X up to 5000 PSI; 1.2X above 5000 PSI

**Accuracy:** 0.25% full span; **Linearity:** ≤0.5%; **Hysteresis:** ≤0.1% of span

**Operating Temperature:** Media: -25° to 212°F; Ambient: 15° to 175°F; **Sensitivity Effect:** -0.005% per 1°F

**Power Supply:** 10-30VDC; **Supply Voltage Error:** ≤0.1% of span/10V

**System/Output Signal:** 2 wire 4-20 mA DC

**Production Class:** NEMA 12\*

**Process Connection:** S-10, IS-20: Threaded 1/2" NPT male; S-11: G1B or B1/2B, depending on pressure range

**Materials:** Body, Wetted Parts: Stainless steel; **Transmitting Liquid:** Silicone oil; **Electrical Connection:** Solderless screw terminals DIN 43650 (optional 1/2" conduit connection)

\* IS-20 Intrinsically safe models are FM approved for Class I, Div. 1, Groups A-D; Class II, Div. 1, Groups E-G; Class III, Div. 1; CENELEC Ex EEx ia IIC T5/T6. Install intrinsically safe models with appropriate barrier for use in hazardous areas.



## Model Selection Guides

### 2-Wire 4-20 mA DC Transmitter

|   | Range                             | Threaded |          | Flanged |          |  |
|---|-----------------------------------|----------|----------|---------|----------|--|
|   |                                   | S-10     | Price    | S-11    | Price    |  |
| Industrial Transmitter for General Service Applications       | 30" Hg Vac                        | 8642850  | \$404.46 | 8395706 | \$460.64 |  |
|   | 30"-0-30 PSI                      | 8415080  | 404.46   | 9796058 | 460.64   |  |
|   | 0-50" WC                          | 8367656  | 331.43   | 9739640 | 387.61   |  |
|   | 0-100" WC                         | 8341481  | 331.43   | 8341473 | 387.61   |  |
|   | 0-5 PSI                           | 8415072  | 331.43   | 4204051 | 387.61   |  |
|   | 0-10 PSI                          | 8642885  | 331.43   | 8341074 | 387.61   |  |
|   | 0-15 PSI                          | 8643628  | 331.43   | 8345726 | 387.61   |  |
|   | 0-25 PSI                          | 8341995  | 331.43   | 8395736 | 387.61   |  |
|   | 0-30 PSI                          | 8643636  | 331.43   | 8395746 | 387.61   |  |
|   | 0-50 PSI                          | 8348868  | 331.43   | 8395766 | 387.61   |  |
|   | 0-60 PSI                          | 8643644  | 331.43   | 8351312 | 387.61   |  |
|   | 0-100 PSI                         | 8643652  | 331.43   | 8341724 | 387.61   |  |
|   | 0-160 PSI                         | 8341155  | 331.43   | 8643407 | 387.61   |  |
|   | 0-200 PSI                         | 8644918  | 331.43   | 8641064 | 387.61   |  |
|   | 0-300 PSI                         | 8341732  | 331.43   | 8341171 | 387.61   |  |
|   | 0-400 PSI                         | 8341953  | 331.43   | 8342003 | 387.61   |  |
| 0-500 PSI   | 8341740                           | 331.43   | 8341197  | 387.61  |          |  |
| 0-600 PSI   | 8347128                           | 331.43   | 8345745  | 387.61  |          |  |
| 0-1000 PSI  | 8610007                           | 331.43   | 9777517  | 387.61  |          |  |
| 0-1500 PSI  | 8341219                           | 331.43   | 8366706  | 387.61  |          |  |
| 0-5000 PSI  | 8340638                           | 331.43   | 8340646  | 387.61  |          |  |
| 0-10000 PSI   | 8347242                           | 331.43   | —        | —       |          |  |
| 0-15000 PSI   | 8359143                           | 331.43   | —        | —       |          |  |
| Intrinsically Safe Transmitters for Explosion-Proof Processes |                                   | Threaded |          |         |          |  |
|   |                                   | Range    | IS-20    | Price   |          |  |
|   |                                   | 0-5 PSI  | 12127851 | 410.08  |          |  |
|   |                                   | 0-10 PSI | 12127877 | 410.08  |          |  |
|   |                                   | 0-15 PSI | 12127885 | 410.08  |          |  |
|   |                                   | 0-25 PSI | 12127893 | 410.08  |          |  |
|   |                                   | 0-30 PSI | 12127906 | 410.08  |          |  |
|   |                                   | 0-60 PSI | 12127914 | 410.08  |          |  |
|   | 0-100 PSI                         | 12127922 | 410.08   |         |          |  |
|   | 0-160 PSI                         | 12127940 | 410.08   |         |          |  |
|   | 0-200 PSI                         | 12127966 | 410.08   |         |          |  |
|   | 0-1000 PSI                        | 12128040 | 410.08   |         |          |  |
|   | 0-5000 PSI                        | 12128104 | 410.08   |         |          |  |
| <b>Accessories</b>  | Attachable Loop-Powered Indicator |          |          | 4210069 | 234.81   |  |

Looking for a different compound, vacuum, gauge pressure, or absolute pressure range? Call us.

## 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 on all WIKA products on 170, 171, and sanitary units on 174.

# Stainless Steel Pressure Transmitters

## SIEMENS SITRANS P ZD Pressure Transmitter with Digital Display



### Features

- Two-wire, loop powered transmitter, 4-20 mA output
- Integral 5-digit display shows measured pressure, units, limit errors, status messages
- High-grade steel housing and connection
- Measuring cell with ceramic diaphragm
- Turndown ratio 5:1 (maximum 10:1)
- Measuring ranges available 0 to 5800 PSI
- Programmable by three pushbuttons

Siemens SITRANS P ZD is a configurable pressure transmitter for measuring gage and absolute pressure of gases, liquids, and vapors.

The transmitter has a thin-film measuring cell with a ceramic diaphragm, an electronics board, and a digital indicator. All parts are enclosed in a stainless steel field housing, a five-digit display with a glass cover, and a stainless steel process connection.

Green and red LEDs on the display panel indicate operating status. The green LED signals that the measured pressure lies within set limits. The red LED indicates out-of-limit errors.

### Specifications

**Accuracy:** <0.25% full scale value typical, to a maximum of 0.5% (includes non-linearity, hysteresis, non-repeatability)

**Long-Term Drift:** 0.25% full scale value per year

**Vibration Influence:** 0.05%/g to 500 Hz in all directions

**Output:** 4-20 mA; Lower current limit: 3.6 mA; Upper current limit: 23 mA

**Output Protection:** Reversed polarity, overvoltage and short-circuits

**Power Supply:** 12-30 VDC terminal voltage on pressure transmitter

**Temperature:** Ambient: -13° to 185°F (-25° to 85°C); Process: -22° to 212°F (-30° to 100°C)

**Materials:** Stainless steel field housing and display cover with glass face; Al<sub>2</sub>O<sub>3</sub> measuring cell, Viton gasket, stainless steel process connection

**Degree of Protection:** IP65 to EN 60529

**Certificates and Approvals:** Per pressure equipment directive 97/23/EC

### Ordering Instructions

Select one option from each table section below. A complete catalog number looks like this: 7MF1580 - \_\_\_\_\_

Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.

### Model Selection Guide

| Description                                    |   | Catalog Number | Price    |
|--|---|----------------|----------|
| SITRANS P ZD Configurable Pressure Transmitter |   | 7MF1580-       | \$420.00 |
| Pressure                                       | Gage Pressure                           | 1 _____        | 0.00     |
|  | Absolute Pressure                       | 2 _____        | 24.00    |
| Range  | 0 to 29 PSI                             | _ D _ _ _ _    | 0.00     |
|  | 0 to 145 PSI                            | _ E _ _ _ _    | 0.00     |
|  | 0 to 725 PSI                            | _ F _ _ _ _    | 0.00     |
|  | 0 to 2900 PSI                           | _ G _ _ _ _    | 0.00     |
|  | 0 to 5800 PSI                           | _ H _ _ _ _    | 0.00     |
| Process Conn.                                  | Bottom Stem Mount Threaded 1/2"-14 NPTF | _ _ C30        | 8.00     |
|  | Center Back Mount Threaded 1/2"-14 NPTF | _ _ C40        | 8.00     |

## WIKAL<sup>®</sup> Pressure Transmitter with NEMA 4X Integral Junction Box

### Features

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



Wika's F-2X series pressure transmitters are designed for use in difficult, corrosive environments. The smooth exterior surface reduces areas where contaminants may collect — and makes it ideal for use in the 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       | \$466.25   |
| 0-5 PSI                          | 72 PSI           | 87 PSI         | 12127493       | 466.25     |
| 0-10 PSI                         | 72 PSI           | 87 PSI         | 12127507       | 466.25     |
| 0-15 PSI                         | 72 PSI           | 87 PSI         | 12127523       | 466.25     |
| 0-25 PSI                         | 72 PSI           | 87 PSI         | 12127531       | 466.25     |
| 0-30 PSI                         | 72 PSI           | 87 PSI         | 12127540       | 466.25     |
| 0-60 PSI                         | 240 PSI          | 290 PSI        | 12127566       | 466.25     |
| 0-100 PSI                        | 240 PSI          | 290 PSI        | 12128873       | 466.25     |
| 0-160 PSI                        | 500 PSI          | 600 PSI        | 12127574       | 466.25     |
| 0-200 PSI                        | 500 PSI          | 600 PSI        | 12127582       | 466.25     |
| 0-300 PSI                        | 500 PSI          | 600 PSI        | 12127591       | 466.25     |
| 0-500 PSI                        | 1160 PSI         | 5800 PSI       | 12127639       | 466.25     |
| F-21: Flush Diaphragm Connection |                  |                |                |            |
| 0-50"WC                          | 30 PSI           | 30 PSI         | 12126331       | 522.43     |
| 0-5 PSI                          | 72 PSI           | 87 PSI         | 12127728       | 522.43     |
| 0-10 PSI                         | 72 PSI           | 87 PSI         | 12127736       | 522.43     |
| 0-100 PSI                        | 240 PSI          | 290 PSI        | 12127744       | 522.43     |

Ranges available up to 15000 PSI. Call for pricing.



# Digital Pressure Transmitters with Local Display

## WIKA Uni-Trans

### Features

- Pressure ranges to 15,000 PSI
- ±0.10% to ±0.15% accuracy
- Adjustable turndown up to 20:1
- 4-20 mA two-wire output signal
- All 316 stainless steel wetted parts
- Signal inversion and damping
- Integrated temperature measurement at pressure sensor
- Can be used with chemical seals and isolators for aggressive media
- 32-point scaling for tank level linearization applications
- Large, easy-to-read LCD displays bargraph, trend, and four-digit real-time pressure reading
- Welded sensor ensures long life and durability



### Specifications

- Accuracy:** <500 PSI: 0.15% span; >500 PSI: 0.10% span; *Temperature Error:* ≤0.1% span/18° F (temperature error between 50° and 104° F already included in accuracy)
- Hysteresis:** ≤0.04% span; *Repeatability:* ≤0.05% span; *One-Year Stability:* ≤0.01% span (under reference conditions)
- Adjustability:** 0 to 99%
- Response Time:** ≤10 milliseconds
- Damping:** User-adjustable from 0 to 40 seconds
- Temperature:** *Media:* -22° to 221° F; *Ambient:* -4° to 158° F
- Power Supply:** 12-36 VDC
- Display:** 1.75" square, 4-digit LCD with bargraph, trend display, and two additional text display lines
- Construction:** *Wetted Parts:* 316 and PH17-4 Stainless steel; *Case:* Fiberglass-reinforced plastic (PBT), IP65
- Pressure Connection:** *UT-10:* 1/2" NPT male; *UT-11:* G1B flush for 5 and 25 PSI ranges, G1/2B flush for ranges above 25 PSI
- Electrical Connection:** M20 x 1.5" locking plug, internal terminal block (accepts cable diameters from 0.25" to 0.5")

### Model Selection Guide

| Pressure Range   | Maximum Pressure | Burst Pressure | Catalog Number | Price Each |
|--|------------------|----------------|----------------|------------|
| UT-10 Pressure Transmitter: 1/2" NPT Male Connection. 4-20 mA Output |                  |                |                |            |
| 0 to 5 PSI   | 30 PSI           | 30 PSI         | 4292333        | \$730.28   |
| 0 to 25 PSI  | 150 PSI          | 150 PSI        | 4292341        | 730.28     |
| 0 to 100 PSI   | 500 PSI          | 500 PSI        | 4292350        | 730.28     |
| 0 to 250 PSI   | 1100 PSI         | 1100 PSI       | 4292368        | 730.28     |
| 0 to 500 PSI   | 1100 PSI         | 5800 PSI       | 4292376        | 730.28     |

| Pressure Range   | Maximum Pressure | Burst Pressure | Catalog Number | Price Each |
|--|------------------|----------------|----------------|------------|
| UT-11 Pressure Transmitter: Flush Diaphragm and O-ring, 4-20 mA Output |                  |                |                |            |
| 0 to 5 PSI   | 30 PSI           | 30 PSI         | 4292006        | 780.83     |
| 0 to 25 PSI  | 150 PSI          | 150 PSI        | 4292014        | 780.83     |
| 0 to 100 PSI   | 500 PSI          | 500 PSI        | 4292022        | 780.83     |
| 0 to 250 PSI   | 1100 PSI         | 1100 PSI       | 4292031        | 780.83     |
| 0 to 500 PSI   | 1100 PSI         | 5800 PSI       | 4292040        | 780.83     |

**Need higher ranges? Call for pricing and availability.**

## Pressure Transmitters for 3A Sanitary Applications

Wika sanitary transmitters meet 3A criteria for pressure and level measurement processes in the food, dairy, pharmaceutical, cosmetic, and beverage industries.

Type S-10.3A units feature ±0.5% span accuracy and a 316 stainless steel flush diaphragm to minimize product buildup. The food-grade liquid-filled, sealed sensing system is designed for Clean-In-Place and Sterilize-In-Place maintenance.

These transmitters are temperature compensated to ensure accuracy and long-term stability under extreme temperature changes. The printed circuit board is potted in silicone gel for protection 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% FS
- 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:* 304 Stainless steel, electronics potted in silicone gel; *Diaphragm:* 316 Stainless steel; *Connection:* DIN 43560 solderless screw terminal, 316 Stainless steel IP65/NEMA 5; *Transmitting Liquid:* Vegetable oil



Search [Lesman.com](http://Lesman.com) by Wika Part Number

### Model Selection Guide

| Description  | 1.5" Tri-Clamp     |         | 2" Tri-Clamp |         |          |
|--|--------------------|---------|--------------|---------|----------|
|  | Catalog            | Price   | Catalog      | Price   |          |
| S-10.3A Sanitary Transmitters  | 30"-0 HgVac        | 9766329 | \$702.34     | 9744770 | \$656.67 |
|  | 30" HgVac-0-30 PSI | 8997395 | 702.64       | 4204042 | 656.67   |
|  | 0-15 PSI           | 9748202 | 589.84       | 9748210 | 589.84   |
|  | 0-30 PSI           | 9748075 | 589.84       | 4225007 | 589.84   |
|  | 0-60 PSI           | 9744703 | 589.84       | 9748199 | 589.84   |
|  | 0-100 PSI          | 9748237 | 589.84       | 9747931 | 589.84   |
|  | 0-160 PSI          | 9748245 | 589.84       | 9748253 | 589.84   |
|  | 0-200 PSI          | 9749408 | 589.84       | 4213246 | 589.84   |
|  | 0-250 PSI          | 9776227 | 589.84       | 4268831 | 589.84   |
|  | 0-500 PSI          | 4205081 | 589.84       | 9745828 | 589.84   |
| 0-1000 PSI   | 8993470            | 589.84  | 4281737      | 589.84  |          |
| Integral cooling extension for media temperatures to 300°F (Only for Low Pressure Model S-11.3A) |                    |         | -C           | 95.50   |          |

Call Lesman for 3-wire and 4-wire output models (0-5 or 0-10V, 0-100 mV, 0-20 mA), or for vacuum and compound range transmitters.



# SIEMENS SITRANS P300 Sanitary Pressure Transmitters

## Features

- Measurement cells for gauge and absolute pressures
- Models available with flush-mounted diaphragm
- Programmable with local control keys and LCD display or by HART® communication tools
- Reliable under extreme chemical and mechanical loads
- Extensive diagnosis and simulation functions
- Wetted parts made of high-grade materials
- High measuring accuracy with minimum conformity error and small long-term drift ( $\leq 0.25\%$  over 5 years)
- Specified temperature ranges to 302°F (150°C)

Siemens' SITRANS P300 provides precise measurement in a rugged housing, ideal for processes in the food, beverage, and pharmaceutical industries. It features a maximum measurement error of 0.075% and a sanitary stainless steel housing with laser-inscribed nameplate.

Cleaning and sterilization in place during measurement result in no drift, up to the specified temperature range of 302°F (150°C). Drag pointers that record the minimum and maximum sensor temperatures aid in evaluation of the cleaning process. The process data can be read out over a HART® interface.



The SITRANS P300 can be combined with absolute and relative pressure measuring cells. The measuring cells have a process connection welded with the cell diaphragm. So, there are no seals on the process side, typically a hiding place for bacteria. The rugged components that come into contact with the measured substance are ensured according to EHEDG.

An optional extended temperature range allows the SITRANS P300 to be used in applications that would normally require remote seals.

The transmitter is available in gage pressure and absolute pressure models with 4-20 mA direct current output. It measures aggressive, non-aggressive, and hazardous gases, as well as vapors and liquids. The intrinsically safe version can be installed in Zone 1 hazardous areas.

With the appropriate parameter settings, the gage pressure model can also be used to measure level.

## Specifications

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

**Ambient Temperature:** Measuring cell with silicone oil: -40° to 185°F (-40° to 85°C); Measuring cell with inert liquid (no front-flush diaphragm): -4° to 185°F (-20° to 85°C); **Digital display:** -22° to 185°F (-30° to 85°C)

**Process Media Temperature:** Measuring cell with silicone oil: -40° to 212°F (-40° to 100°C); Measuring cell with silicone oil and temperature isolator: -13° to 392°F (-25° to 200°C); Measuring cell with inert liquid (no front-flush diaphragm): -4° to 212°F (-20° to 100°C)

**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

Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.

| Description                                     | Catalog Number | Availability | Price    |
|---|----------------|--------------|----------|
| P300 for Gage/Absolute Pressure, Threaded Conn. | 7MF8023-       | ↓            | \$812.00 |
| P300 for Gage/Absolute Pressure, Flanged Conn.  | 7MF8123-       | ↓            | 812.00   |
| Cell Type                                       |                |              |          |
| Silicone Oil Fill, Standard Cleaning            | 1              | • •          | 0.00     |
| Inert Liquid Fill, Clean Lev 2 to DIN 25410     | 3              | • •          | 101.00   |
| Neobee M-20, Sanitary                           | 4              | •            | 0.00     |
| Range   |                |              |          |
| 0–14.5 PSIG                                     | B              | • •          | 0.00     |
| 0–58 PSIG                                       | C              | • •          | 0.00     |
| 0–232 PSIG                                      | D              | • •          | 0.00     |
| 0–914 PSIG                                      | E              | • •          | 0.00     |
| 0–2320 PSIG                                     | F              | •            | 60.00    |
| 0–5800 PSIG                                     | G              | •            | 112.00   |
| 0–3.63 PSIA                                     | Q              | •            | 0.00     |
| 0–18.9 PSIA                                     | S              | •            | 0.00     |
| 0–72.5 PSIA                                     | T              | •            | 96.00    |
| 0–435 PSIA                                      | U              | •            | 96.00    |
| Wetted Parts                                    |                |              |          |
| Stainless Steel Seal Diaphragm and Cell         | A              | • •          | 0.00     |
| Hastelloy Seal Diaphragm, SS Cell               | B              | •            | 60.00    |
| Hastelloy Seal Diaphragm and Cell               | C              | •            | 325.00   |
| Diaphragm Seal (Add 141 Process Conn.)          | Y              | •            | 0.00     |
| Process Conn.                                   |                |              |          |
| G1/2B to EN 837-1                               | 041            | •            | 0.00     |
| 1/2-14 NPT (Select with Y above)                | 141            | •            | 0.00     |
| SS Oval Flange, 7/16-20 UNF to EN 61518         | 241            | •            | 208.00   |
| SS Oval Flange, M10 to DIN 19213                | 341            | •            | 208.00   |
| SS Oval Flange, M12 to DIN 19213                | 441            | •            | 208.00   |
| Flange Version (Add a Z_ Option)                | 741            | •            | 278.00   |
| Approval Rating                                 |                |              |          |
| None  | A              | • •          | 0.00     |
| ATEX Intrinsic Safety (EEx ia)                  | B              | • •          | 20.00    |
| FM/CSA Intrinsic Safety                         | M              | • •          | 20.00    |
| Cable Entry                                     |                |              |          |
| Plastic Screwed Gland M20x1.5                   | A              | • •          | 0.00     |
| Metal Screwed Gland M20x1.5                     | B              | • •          | 24.00    |
| 1/2–14 NPT, Stainless Steel                     | J              | • •          | 6.00     |
| Display   |                |              |          |
| No Display, With Keys, Closed Lid               | 1              | • •          | 0.00     |
| Display and Keys, Closed Lid                    | 2              | • •          | 117.00   |
| 4-20 mA Display, Keys, Lid, Glass Pane          | 6              | • •          | 174.00   |
| Specified Display, Keys, Lid, Glass Pane        | 7              | • •          | 174.00   |
| Options   |                |              |          |
| Stainless Steel A2-70 Mounting Bracket          | ZA02           | • •          | 47.00    |
| Pressure Rating Plate (English)                 | ZB21           | • •          | 0.00     |
| ASME Class 150 2" Flange                        | ZM42           | • •          | 209.00   |
| ASME Class 150 3" Flange                        | ZM43           | • •          | 313.00   |
| ASME Class 150 4" Flange                        | ZM44           | • •          | 371.00   |
| 2" TriClamp (DN45 PN16)*                        | ZN14           | • •          | 46.00    |
| 3" TriClamp (DN65 PN16)*                        | ZN15           | • •          | 59.00    |

\* TriClamp connection according to DIN 32676, ISO 2852.

# Low-Cost Differential Pressure Transmitter



## Features

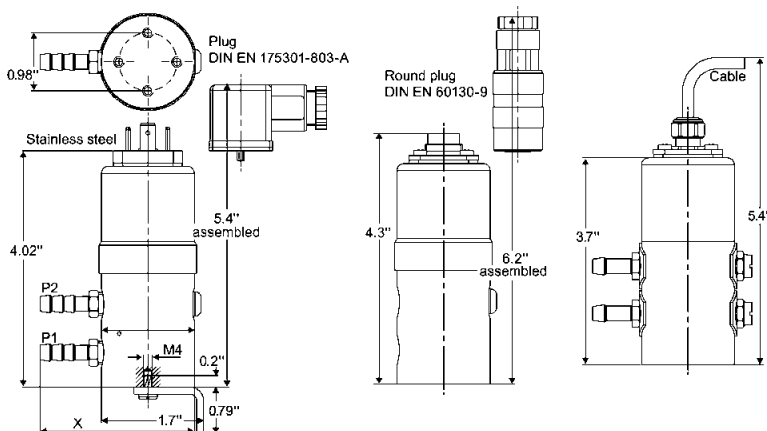
- Measures the differential pressure of liquids and gases
- Works in both aggressive and non-aggressive media
- Stainless steel enclosure with piezo-resistive ceramic measuring cell and temperature-compensated electronics module
- Stainless steel process connections
- Wheatstone bridge circuit
- 4-20 mA, 0-5 or 0-10 VDC output
- Measuring ranges from 0-40" WC to 0-373 PSI; Negative and compound ranges also available, call for pricing



## Specifications

- Media:** Liquids and neutral gases
- Measuring Principle:** Piezo-resistive measuring cell with ceramic diaphragm
- Response Time:** <5 mS
- Load Variation:** <50 Hz
- Output:** 4-20 mA current (standard); 0-5 VDC or 0-10 VDC optional
- Accuracy:** <1% typical full scale value (see table at right); Long-term drift: ≤0.5% full scale value per year
- Ambient/Media Temperature:** 5° to 185°F
- Ambient Temperature Influence:** Start of scale: ≤0.6%/10K full scale value; Full-scale value: ≤0.22%/10K full scale value
- Power Supply:** 4-20 mA model: 11-33 VDC; 0-5 VDC model: 11-33 VDC/24 VAC±15%; 0-10 VDC model: 18-33 VDC/24 VAC±15%
- Current Consumption:** 4-20 mA model: <20 mA; VDC models: <5 mA
- Polarity Protection:** Connections protected against short circuit and polarity reversal against each other with maximum supply voltage
- Construction:** Stainless Steel enclosure, rated IP65; Nickel-plated stainless steel wetted parts, Ceramic Al<sub>2</sub>O<sub>3</sub> diaphragm, FMP seal (EPDM, NBR, silicone, and neoprene optional)
- Mounting:** Brackets included with unit, can be mounted in any position
- Electrical Connections:** Plug EN 175301-803-A (standard), circular plug EN 6130-9, 1.5m cable
- Process Connections:** 1/8"-27 NPTF (standard), hose sleeve, pipe union, 7/16"-20 UNF G1/8, or G1/8 optional
- Approval:** CE conformity

## Dimensions



## Pressure Range Specifications

| Range         | Burst Pressure | Maximum Permissible Operating Pressure |          | Accuracy |
|---------------|----------------|--|----------|----------|
|               |                | Either Side                            | One Side |          |
| 0 to 40" WC   | 433 PSI        | 363 PSI                                | 8.7 PSI  | ≤1.0%    |
| 0 to 80" WC   | 544 PSI        | 363 PSI                                | 8.7 PSI  | ≤1.0%    |
| 0 to 100" WC  | 544 PSI        | 363 PSI                                | 8.7 PSI  | ≤0.5%    |
| 0 to 120" WC  | 544 PSI        | 363 PSI                                | 8.7 PSI  | ≤0.5%    |
| 0 to 160" WC  | 544 PSI        | 363 PSI                                | 17.4 PSI | ≤0.8%    |
| 0 to 200" WC  | 544 PSI        | 363 PSI                                | 17.4 PSI | ≤0.5%    |
| 0 to 240" WC  | 544 PSI        | 363 PSI                                | 17.4 PSI | ≤0.5%    |
| 0 to 400" WC  | 544 PSI        | 363 PSI                                | 29 PSI   | ≤0.5%    |
| 0 to 640" WC  | 544 PSI        | 363 PSI                                | 46.4 PSI | ≤0.5%    |
| 0 to 1000" WC | 544 PSI        | 363 PSI                                | 72.5 PSI | ≤0.5%    |
| 0 to 1600" WC | 544 PSI        | 363 PSI                                | 116 PSI  | ≤0.5%    |
| 0 to 2400" WC | 544 PSI        | 363 PSI                                | 174 PSI  | ≤0.5%    |
| 0 to 145 PSI  | 1088 PSI       | 725 PSI                                | 290 PSI  | ≤0.5%    |
| 0 to 232 PSI  | 1088 PSI       | 725 PSI                                | 464 PSI  | ≤0.5%    |
| 0 to 363 PSI  | 1088 PSI       | 725 PSI                                | 725 PSI  | ≤0.5%    |

## Ordering Instructions

Make one choice from each table section below. A finished catalog number looks like this: 7MF1641-\_\_\_\_-1AA0

## Model Selection Guide

Issue orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.

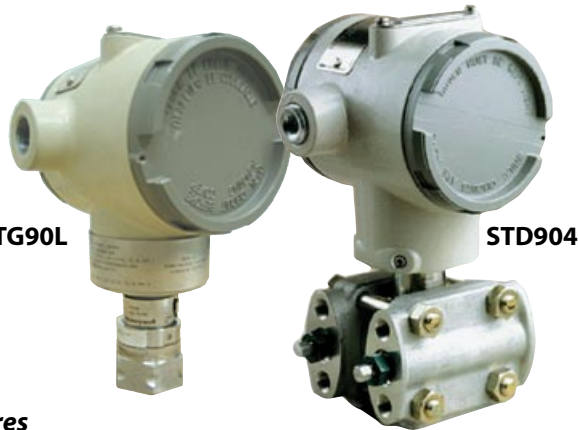
| Description  | Catalog Number     | Price        |
|--|--------------------|--------------|
| SITRANS P250 Differential Pressure Transmitter   | 7MF1641-           | \$450.00     |
| Measuring Range  | 0 to 40" WC        | 3AA ___ 0.00 |
|  | 0 to 80" WC        | 3AC ___ 0.00 |
|  | 0 to 100" WC       | 3AD ___ 0.00 |
|  | 0 to 120" WC       | 3AE ___ 0.00 |
|  | 0 to 160" WC       | 3AF ___ 0.00 |
|  | 0 to 200" WC       | 3AG ___ 0.00 |
|  | 0 to 240" WC       | 3AH ___ 0.00 |
|  | 0 to 400" WC       | 3BA ___ 0.00 |
|  | 0 to 640" WC       | 3BB ___ 0.00 |
|  | 0 to 1000" WC      | 3BD ___ 0.00 |
|  | 0 to 1600" WC      | 3BE ___ 0.00 |
|  | 0 to 2400" WC      | 3BG ___ 0.00 |
|  | 0 to 145 PSI       | 3CA ___ 0.00 |
| 0 to 232 PSI   | 3CB ___ 0.00       |              |
| 0 to 373 PSI   | 3CD ___ 0.00       |              |
| Output   | 4-20 mA (Standard) | ___00- 0.00  |
|  | 0-5 VDC            | ___10- 0.00  |
|  | 0-10 VDC           | ___20- 0.00  |
| EN 175-301-803-A Electrical Connection, 1/8" -27 NPT Threaded Process Connection, Viton FPM Fluoro Rubber Sealing Material | 1AA0               | 0.00         |

Other sealing materials, electrical connections, and process connection materials and styles available. Call Lesman for prices. Alternate materials and configurations may affect delivery speed.



**Looking for Siemens SITRANS P DS III smart transmitters for differential pressure?**  
**See Page 184.**

# Low Cost Gauge and Differential Pressure Transmitters



STG90L

STD904

## Features

- STD904 offers linear or square root output conformity
- Unique piezo-resistive sensor automatically compensates input for temperature and static pressure
- Configurable lower and upper range values, simulating accurate analog output, and selecting engineering units for display
- Smart transmitter capabilities with local or remote interfacing
- Local zero and span adjustments available

Honeywell's STD904 and STG90L models offer an economical solution to many pressure measurement applications that don't require tight accuracy. These models provide the same outstanding functionality and reliability found in other ST3000 models.

The STD904 and STG90L process wetted materials are made of 316 stainless steel. The units can be specified with either 4-20mA/DE or 4-20mA/HART® output. Configuration of the DE version is handled with either the Honeywell MC Toolkit or the SCT3000 SmartLine Configuration Toolkit, a Windows®-based PC program. The HART® Protocol version is configured using any HART-compatible communicator.

Like other ST3000 transmitters, the STD904 and STG90L feature two-way communication between the operator and the transmitter through the Honeywell MC Toolkit. Connect the handheld anywhere that you can access the transmitter signal lines, and it provides the capabilities of transmitter adjustments and diagnostics from remote locations.

## Specifications

**Output (Two-Wire):** Analog 4 to 20 mA, Digital DE or HART®

**Supply:** Voltage range: 10.8 to 42.4VDC at terminals; Current range: 3.0 to 21.8 mA Load resistance: 0 to 1440Ω; Effect: 0.005% span per volt

**Damping Time Constant:** Adjustable, 0 to 32 seconds digital damping

**Temperature:** Ambient: -40° to 185° F (-40° to 85° C); Meter Body: -40° to 257° F (-40° to 125° C)

**Humidity:** 0 to 100% RH

**Turndown Ratio:** 25 to 1; Stability: ±0.03% of URL per year

**Construction:** Barrier Diaphragms: 316L SS; Process Head Material: 316 SS; Head Gaskets: Teflon (STD904 only); Meter Body Bolting: Carbon steel (zinc plated, standard). (STD904 only). Mounting Bracket: Carbon steel (zinc-plated); stainless steel angle bracket or carbon steel flat bracket available. Fill Fluid: Silicone DC 200 oil. Electronic Housing: Epoxy-polyester hybrid paint. Low copper-aluminum. Meets NEMA 4X and NEMA 7. Stainless steel optional.

**Process Connections:** STD904: 1/4" NPT; 1/2" NPT with adapter, standard option; DIN. STG90L: 1/2" NPT

**Approval Bodies:** Explosion proof and intrinsically safe for use in Class I, Division 1, Groups A-D, and non-incendive for Class I, Division 2, Groups A-D.

For complete specifications, visit [www.Lesman.com](http://www.Lesman.com).



# Honeywell

## Ordering Instructions

Make a 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: ST\_90\_ - \_ \_ \_ - 00000- \_ \_ \_ \_ \_ , (Comms, then options in alpha order.)

| Description  |  | Catalog Number                                   | Availability | Price    |
|--|--|--|--------------|----------|
| Gauge Pressure Transmitter (50 PSI URL)                      |  | STG90L-  | ↓            | \$877.00 |
| Differential Pressure Transmitter (400"H <sub>2</sub> O URL) |  | STD904-  | ↓            | 804.00   |
| Material   | 316 SS Wetted Process Heads, 316LSS Barrier Diaphragms                           | E_ _ _   | •            | 0.00     |
|  | 316 SS Wetted Process Heads, Vent/Drain Valves, Plugs, 316LSS Barrier Diaphragms | E_ _ _   | •            | 77.00    |
| Silicone Fill Fluid  |  | _ 1 _  | • •          | 0.00     |
| Head Configuration   | 1/4" NPT   | _ _ A  | •            | 0.00     |
|  | 1/2" NPT (Female)  | _ _ G  | •            | 0.00     |
|  | 1/2" NPT with Adapter (on 1/4" NPT Head)   | _ _ H  | a            | 0.00     |
| For Factory Use (Future Expansion)                           |  | 00000  | • •          | 0.00     |
| Analog Communications Only (Standard)                        |  | AN   | d d          | 0.00     |
| DE Protocol Communications                                   |  | DE   | d d          | 53.00    |
| HART® Protocol Compatible Electronics                        |  | HC   | d d          | 44.00    |
| <b>Options</b>   |  |  |              |          |
| Analog Meter (0-100 Even 0-100 Square Root)                  |  | ME   | • •          | 169.00   |
| Smart Meter  |  | SM   | • •          | 169.00   |
| Local Zero and Span  |  | ZS   | f f          | 30.00    |
| SIL2 TUV- Certified Transmitter (Requires HC/LP)             |  | SL   | • •          | 0.00     |
| Write Protection (Delivered in Enabled Position)             |  | WP   | • •          | 19.00    |
| Lightning Protection   |  | LP   | • •          | 63.00    |
| Custom Calibration and I.D. in Memory                        |  | CC   | • •          | 30.00    |
| Transmitter Configuration                                    |  | TC   | • •          | 18.00    |
| 1/2" NPT to 3/4" NPT 316 SS Conduit Adapter                  |  | A2   | e e          | 30.00    |
| Stainless Steel Tag (Blank)                                  |  | TB   | • •          | 10.00    |
| Stainless Steel Tag (4 Lines x 28 Char, Customer Info)       |  | TG   | • •          | 10.00    |
| 1/2" NPT Stainless Steel Adapter Flange, CS Bolts            |  | S2   | c            | 24.00    |
| Carbon Steel Mounting Bracket                                |  | MB   | • •          | 19.00    |
| Stainless Steel Mounting Bracket                             |  | SB   | • •          | 73.00    |
| Carbon Steel Flat Mounting Bracket                           |  | FB   | • •          | 19.00    |
| Certificate of Conformance (F3391)                           |  | F3   | • •          | 10.00    |
| Certificate of Origin (F0195)                                |  | F5   | • •          | 10.00    |
| Additional Warranty (1 Year)                                 |  | W1   | • •          | 19.00    |
| Body   | Approval Type  | Location/Class                                   |              |          |
| No Hazardous Location Approvals                              |  | 9X   | • •          | 0.00     |
| Factory Mutual   | Explosion Prf  | Cl I, Div 1, Grp A-D                             | 1C           | • •      |
|  | Dust Ignition Prf  | Cl II, III, Div 1, Grp E-G                       |              |          |
|  | Non-Incendive Intrinsically Safe   | Cl I, Div 2, Grp A-D<br>Cl I-III, Div 1, Grp A-G |              |          |
| CSA  | Explosion Prf  | Cl I, Div 1, Grp B-D                             | 2J           | • •      |
|  | Dust Ignition Prf  | Cl II, III, Div 1, Grp E-G                       |              |          |
|  | Intrinsically Safe   | Cl I-III, Div 1, Grp A-G                         |              |          |

## Notes:

- Available only with adapter flange (selection S2).
- Select only one option from this group.
- Available only with 1/2" NPT with adapter.
- Must choose a communications option.
- Available only with FM and CSA approved models.
- Not available with analog meter.

**Add a Three-Valve Manifold to Your Transmitter! See Page 182.**

# Gauge Pressure Smart Transmitter



**Windows® Configuration Software Available! See Page 187.**

Search [www.lesman.com](http://www.lesman.com) for "Honeywell STG"



Honeywell's ST3000 Smart Gauge Pressure Transmitter measures process pressure and transmits an output signal proportional to the measured variable. The output signal is transmitted in either an analog 4–20 mA format or in digital format for communicating with TDC3000. The output selection in analog or digital communications mode is made through the Honeywell MC Toolkit.

Model STG94L measures pressures from 0–20 PSI up to 0–500 PSI (0–1.4 Bar up to 0–35 Bar). Model STG97L measures pressures from 0–300 PSI up to 0–3000 PSI (0–21 Bar up to 0–210 Bar).

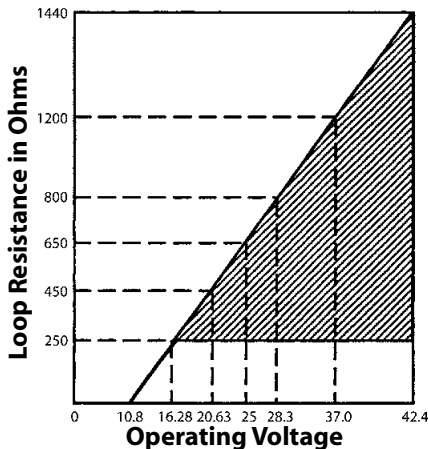
The measuring means is a piezo-resistive sensor, which contains a process variable sensor and a temperature sensor. Microprocessor-based electronics provide major improvements: higher span-turndown ratio, improved temperature compensation, and improved accuracy.

The ST3000 transmitter can replace any 4–20 mA output pressure transmitter in use today, and operates over a standard two-wire system. ST3000 features two-way communication between the operator and the transmitter through the Honeywell MC Toolkit. The MCT handheld can be connected anywhere that you can access the transmitter signal lines, and provides the capabilities of transmitter adjustments and diagnostics from remote locations, such as the control room.

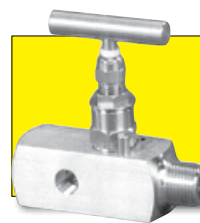
The transmitter's meter body and electronics housing resist shock, vibration, corrosion, and moisture. The electronics housing contains a compartment for the single-board electronics, which is isolated from an integral junction box. The single-board electronics is replaceable, and interchangeable with any other ST3000 Series 900 model.

## Operating Conditions

|                                    |          | Rated Condition                     | Operative Limits   |
|------------------------------------|----------|-------------------------------------|--------------------|
| Ambient Temperature                | °C       | -25 to 70                           | -40 to 85          |
|                                    | °F       | -13 to 158                          | -40 to 185         |
| Meter Body Temperature             | °C       | -25 to 70                           | -40 to 110         |
|                                    | °F       | -13 to 158                          | -40 to 230         |
| Humidity                           | %        | 0-100                               | 0-100              |
| Supply Voltage and Load Resistance |          | See Chart (Below)                   |                    |
| Overpressure                       | PSI      | Model STG94L:<br>750 PSI (50 Bar)   | 750 PSI (50 Bar)   |
|                                    |          | Model STG97L:<br>4500 PSI (310 Bar) | 4500 PSI (310 Bar) |
| In Vacuum Region (Min Press)       | mmHg Abs | 25                                  | 2 (short term)     |

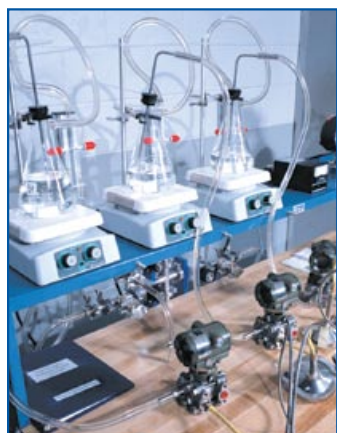


Note: 250Ω minimum loop resistance is necessary to support communication. Loop resistance equals the sum of barrier, wire, and receiver resistances. Also, 45 volt operation is permitted if not an intrinsically safe installation.



## Need Shut-Off Valves?

Call Lesman toll free at **800-9LESMAN**.  
That's (800)953-7626!



### Lesman can...

- Attach your Honeywell smart transmitter to a chemical seal with your choice of fill fluid
- Back-weld
- Determine the temperature effect on a capillary system
- Add special plating
- See pages 428–429 for chemical seals, fill fluids, and calibration services

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

### Welded Metal Seals

- Welded diaphragm and body
- Materials for use in general service and corrosive environments
- Threaded and flanged connections

### Sanitary Application Seals

- Fits Tri-Clamp® systems
- Welded diaphragm and body make almost any transmitter viable for sanitary application use

### Inline Chemical Seal

Mounts directly into the process line to reduce damage caused by media that clog or foul transmitters. Helps eliminate corners or obstructions to media flow.



All these seals and more! Call Lesman!

**Specifications**

**Upper Range Limit:** STG94L: 500 PSI; STG97L: 3000 PSI **Turndown Ratio:** STG94L: 25:1; STG97L: 10:1

**Minimum Span:** STG94L: 20 PSI (1.4 Bar); STG97L: 300 PSI (21 Bar)

**Zero Elevation and Suppression:** No limit (except minimum span) from absolute zero to +100% URL. Specifications valid over this range.

**Accuracy (Reference): Analog mode:** STG94L: Greater of ±0.075% calibrated span or upper range value (URV). STG97L: Greater of ±0.10% calibrated span or URV. **Digital mode:** STG94L: ±0.0625% span; STG97L: ±0.075% span.

*Accuracy includes combined effects of linearity, hysteresis, and repeatability, and residual error after averaging successive readings.*

**Combined Zero/Span Temperature Effect per 50°F:** Analog Mode: STG94L: ±0.25% span; STG97L: ±0.325% span. Digital Mode: STG94L: ±0.225% span; STG97L: ±0.3% span

**Output (Two-Wire):** 4-20 mA, or digital communications mode

**Supply Voltage Effect:** 0.005% span per volt

**Damping Time Constant:** Adjustable from 0 to 32 seconds digital damping



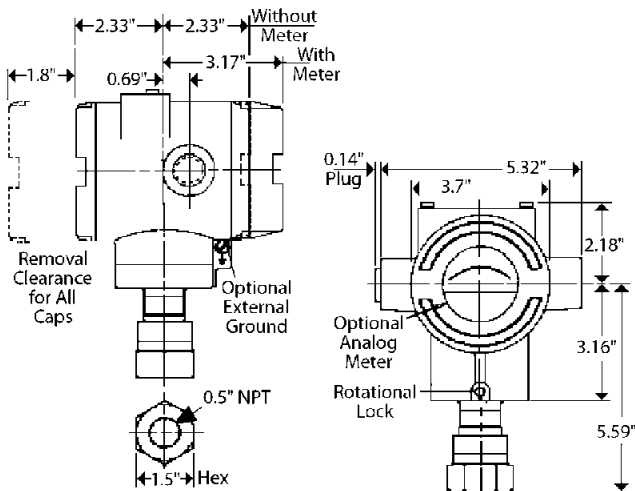
**RFI Protection (Standard):** Negligible effect (20-1000 MHz at 30 V/meter)

**Construction:** *Process Interface:* 316L SS, Hastelloy C-276; *Fill Fluid:* Silicone oil or CTFE (chlorotrifluoroethylene); *Electronic Housing:* Low copper aluminum. NEMA 4 (watertight) and NEMA 7 (explosion-proof); *Process Connection:* 1/2" NPT female, Accepts up to 16 AWG wiring (1.5 mm diam); *Mounting Bracket:* Zinc-plated carbon steel

**Net Weight:** 3.8 lbs (1.7 kg)

**Approvals:** FM/CSA: Meets requirements of explosion-proof and intrinsically safe systems for North American Class I, Groups A, B, C, and D, Division I (explosion-proof systems, Groups B, C, D only), European (CENELEC) EEx, ia, IIC, T5 and BASEEFA Type N.

**Dimensions**



**Ordering Instructions**

Make one selection from each table section below. Follow the availability column down and check any restriction letters or notes (E.g.: N3) to be sure the unit is available. A finished catalog number looks like this:

STG94L - A1G - 00000 - ZS - F1D3 - XXXX

**Model Selection Guide**

| Description   |                                     | Catalog Number   | Availability       | Price |           |       |
|---|-------------------------------------|--|--------------------|-------|-----------|-------|
| Gauge Pressure  | 0-20 to 0-500 PSI                   | 0-1.4 to 0-35 Bar  | STG94L             | ↓     | \$1101.00 |       |
|   | 0-300 to 0-3000 PSI                 | 0-21 to 0-210 Bar  | STG97L             | ↓     | 1220.00   |       |
|   | 0-500 to 0-6000 PSI                 | 0-35 to 0-415 Bar  | STG98L             | ↓     | 1220.00   |       |
|   | 0-500 to 0-10000 PSI                | 0-35 to 0-690 Bar  | STG99L             | ↓     | 1339.00   |       |
| Materials   | Process Head                        | Vent/Drain Valve   | Barrier Diaphragms |       |           |       |
|   | 316 SS                              | --   | 316 SS             | E __  | •         | 0.00  |
|   | 316 SS                              | --   | Hastelloy C        | F __  | •         | 84.00 |
| Fill Fluid  | Silicone                            |  | _ 1 _              | •     | 0.00      |       |
|   | CTFE                                |  | _ 2 _              | •     | 56.00     |       |
| 1/2" NPT Female Process Head                              |                                     |  | _ _ G              | •     | 0.00      |       |
| No Selection  |                                     | 00000  | •                  | •     | 0.00      |       |
| Analog Communications Only                                |                                     | AN   | } b                | •     | 0.00      |       |
| DE Protocol Communications                                |                                     | DE   |                    | •     | 53.00     |       |
| HART® 5.x Protocol Compatible Electronics                 |                                     | HC   |                    | •     | 44.00     |       |
| Analog Meter (0-100 Even 0-10 Square Root)                |                                     | ME   | } b                | •     | 169.00    |       |
| Smart Meter (Digital)                                     |                                     | SM   |                    | •     | 169.00    |       |
| Local Zero and Span                                       |                                     | ZS   |                    | •     | 30.00     |       |
| NAMUR Failsafe Software                                   |                                     | NE   | •                  | •     | 0.00      |       |
| SIL2 TUV- Certified Transmitter (Requires HC/LP)          |                                     | SL   | •                  | •     | 0.00      |       |
| Write Protection (Delivered in Enabled Position)          |                                     | WP   | •                  | •     | 19.00     |       |
| Lightning Protection                                      |                                     | LP   | •                  | •     | 63.00     |       |
| Custom Calibration and I.D. in Memory                     |                                     | CC   | •                  | •     | 30.00     |       |
| Transmitter Configuration                                 |                                     | TC   | •                  | •     | 19.00     |       |
| 316SS Electronics Housing, M20 Conduit Connections        |                                     | SH   | n                  | •     | 457.00    |       |
| Stainless Steel Wired-On Tag (Blank)                      |                                     | TB   | •                  | •     | 10.00     |       |
| Stainless Steel Tag (4 Lines x 28 Char/Line, Custom Info) |                                     | TG   | } b                | •     | 10.00     |       |
| Carbon Steel Mounting Bracket                             |                                     | MB   |                    | •     | 19.00     |       |
| Stainless Steel Mounting Bracket                          |                                     | SB   |                    | •     | 73.00     |       |
| Carbon Steel Flat Mounting Bracket                        |                                     | FB   | } b                | •     | 19.00     |       |
| 1 Year Warranty Extension                                 |                                     | W1   |                    | •     | •         | 19.00 |
| Approval Type   |                                     | Location/Classification  |                    |       |           |       |
| Factory Mutual  | Explosion Proof                     | Class I, Div. 1, Grp A-D<br>Class II, III, Div. 1, Grp E-G<br>Class I, Div. 2, Grp A-D<br>Class I-III, Div. 1, Grp A-G | 1C                 | •     | 0.00      |       |
|   | Dust Ignition Proof                 |  |                    |       |           |       |
|   | Non-Incendive<br>Intrinsically Safe |  |                    |       |           |       |
| CSA   | Explosion Proof                     | Class I, Div. 1, Grp B-D<br>Class II, III, Div. 1, Grp E-G<br>Class I-III, Div. 1, Grp A-G                             | 2J                 | } b   | •         | 0.00  |
|   | Dust Ignition Proof                 |  |                    |       |           |       |
|   | Intrinsically Safe                  |  |                    |       |           |       |
| ATEX  | Flameproof, Zone 1                  | ExII 2 G Ex d IIC T5, T6, Enclosure IP66/67  | 3D                 | •     | 0.00      |       |

**Restrictions**

- b Select only one option from this group.
- n Not available on FM or CSA approved transmitters.



**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](http://www.Meriam.com).

**Communicator with 3-Year Device File Download Web Subscription**

- General Service HART Communicator.....MFC4150-01 ..... \$3847.00
- Intrinsically Safe HART Communicator.....MFC4150X-01 .....4046.00

# 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?

- 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?
- 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?
- 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:

- Set up Zero and Span** without applying pressure.
- 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!
- 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.*
- 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.
  - Have you ever had a transmitter fail and cause an unsafe condition in your plant?
  - 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:

- Operating Hours Meter:** Logs the number of hours the unit has been powered, to track the 5-year "on power" warranty.
- 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.
  - 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?
- 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.
  - During troubleshooting, these values can help determine if the unit has been exposed to pressure spikes or temperatures outside of spec.
  - These values can diagnose if the transmitter failure is an application problem or a hardware problem.
  - How do you sort out application problems from hardware problems now?
- 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.
  - What alarm functions are available on the product you are currently using?
  - If there are no alarms available on your transmitter, how are alarms accomplished?
  - Do you use pressure switches or additional transmitters?



## 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 428-429 for chemical seals, fill fluids, and calibration services.

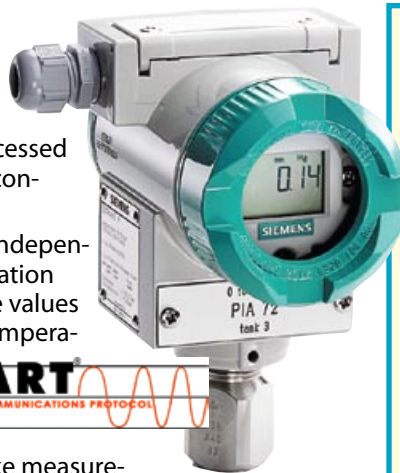
**Call Inside Sales in our Bensenville office for full details. (800)953-7626**



# 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



Ever go out to the field with a handheld configurator — only to find out you brought the wrong one? Or that it was out of batteries? With Siemens transmitters, you'll never have that problem again!

SITRANS P has three pushbuttons for configuration and diagnostics. You can set or adjust measuring ranges to 100:1, adjust output damping and failsafe, and check the current loop — all without opening the cover, maintaining the hazardous area rating.

With a five-year runtime warranty, 0.75% full scale accuracy, and 99% measurement precision after 10 years, why look elsewhere?

Learn more at [www.Lesman.com](http://www.Lesman.com). Click on Instruments by Type > Transmitters.



Visit our website for full specifications.

## 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):** 1 pp 0.5% of max. output current

**Electric Damping:** Adjustable time constant (T<sub>63</sub>): 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<sub>B</sub> (UH - 10.5 V) / 0.023 A in Ω, UH: power supply in V; With HART: R<sub>B</sub> = 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; Measuring cell with inert filling liquid: -4 to 185°F; Digital display: -22 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



Looking for differential pressure transmitters? See page 184. Need a level transmitter? Turn to page 197.

## Model Selection Guide

Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.

| Description  |  | Catalog Number            | Price     |
|--|--|---------------------------|-----------|
| SITRANS P DS III Programmable Smart Pressure Transmitter with HART                   |  | 7MF4033 -                 | \$1057.00 |
| Fill Fluid   | Silicon Oil                              | 1                         | 0.00      |
|  | Fluorolube (Grease Free)                 | 3                         | 100.00    |
| Pressure (PSI)   | <b>Span</b>                              | <b>Overload Limit</b>     |           |
|  | 0.15 to 15                               | -14.5 to 87               | B 0.00    |
|  | 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 0.00    |
|  | 2.3 to 2320                              | -14.5 to 3625             | F 59.00   |
|  | 58.0 to 5800                             | -14.5 to 8700             | G 112.00  |
| Wetted Parts   | <b>Diaphragm</b>                         | <b>Process Connection</b> |           |
|  | Stainless Steel                          | Stainless Steel           | A 0.00    |
|  | Hastelloy                                | Stainless Steel           | B 59.00   |
|  | Hastelloy                                | Hastelloy                 | C 321.00  |
|  | 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                         | 1146.00   |
| Approvals  | None                                     | 1A                        | 0.00      |
|  | FM/CSA Intrinsic Safety, Explosion Proof | 1N                        | 64.00     |
| 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                         | 100.00    |
|  | Digital LCD (Set per Option Y21)         | 7                         | 100.00    |
| <b>Accessories (For all accessories, add -Z and accessory code to model number.)</b> |  |                           |           |
| Transmitter with Carbon Steel Mounting Bracket                                       |  | A01                       | 33.00     |
| Transmitter with Stainless Steel Mounting Bracket                                    |  | A02                       | 52.00     |
| Rating Plate, Pressure Units in H2O Respective to PSI                                |  | B21                       | 0.00      |
| Manufacturer's Test/Calibration Certificate (ISO 8402)                               |  | C11                       | 20.00     |
| Acceptance Test/Material Certificate (EN 10204)                                      |  | C12                       | 52.00     |
| Test Report (EN 10204-2.2)   |  | C14                       | 20.00     |
| Calibrated Measuring Range (Please Specify)  |  | Y01                       | 0.00      |
| Tag Number (16 Characters Maximum)   |  | Y15                       | 13.00     |
| Measuring Point Description (27 Characters Max)                                      |  | Y16                       | 13.00     |
| Set LCD (Specify Units: PSI, InH2O, FtH2O)   |  | Y21 (units)               | 13.00     |

# Differential Pressure Smart Transmitter



Search [www.lesman.com](http://www.lesman.com) for "Honeywell differential"

## DP Smart Transmitters

Honeywell differential pressure smart transmitters measure with a piezo-resistive sensor, which contains three sensors in a single unit: a differential pressure sensor, a static pressure sensor, and a temperature sensor. Microprocessor-based electronics provide higher span-turndown ratio, improved temperature and pressure compensation, and improved accuracy.

Honeywell's ST3000 differential pressure smart transmitter can replace any 4-20 milliamp output pressure transmitter in use today, and operates over a standard two-wire system. ST3000 features two-way communication between the operator and the transmitter through the Honeywell handheld MC Toolkit or the SCT3000 SmartLine Configuration Toolkit. The handheld can be connected anywhere that you can access the transmitter signal lines and provides the capabilities of transmitter adjustments and diagnostics from remote locations, such as the control room.

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

Honeywell's microprocessor-based ST3000 Differential Pressure Transmitter measures differential pressures and transmits an output signal proportional to the measured variable. The output signal is transmitted

## Operating Conditions

|                                 |              | Rated Condition | Operative Limits |
|---------------------------------|--------------|-----------------|------------------|
| Ambient Temperature             | °C           | -25 to 70       | -40 to 85        |
|                                 | °F           | -7 to 158       | -40 to 185       |
| Meter Body Temperature          | °C           | -25 to 70       | -40 to 110       |
|                                 | °F           | -13 to 158      | -40 to 230       |
| Humidity                        | %            | 0-100           | 0-100            |
| Supply Voltage, Load Resistance | Call Lesman. |                 |                  |
| Overpressure                    | PSI (Bar)    | 3000 (210)      | 3000 (210)       |
| Min. Pressure (In Vacuum)       | mmHg Abs     | 25              | 2 (short term)   |

**Windows® Configuration Software Available!**  
**See the SmartLine Configuration Toolkit, page 187.**

in either an analog 4-20 mA format or in digital format for communication with the TDC3000. The output selection in both analog or digital communications modes is made through the MC Toolkit.

This model measures differential pressures as low as 0-10" H<sub>2</sub>O, up to 0-400" H<sub>2</sub>O (0-62 mBar to 0-1000 mBar). Both linear and square root output conformity are available from the same electronic module.

## HART® Field Communication Protocol on the ST3000!

You can use Honeywell Series 900 smart pressure transmitters in all of your applications that communicate via HART. Just add the option to the smart transmitter, and it will talk to your current HART system. You can program it with a hand-held universal HART programmer (after you add the new device description to your programmer).

The HART (HC) option consists of an electronics module that communicates using the HART protocol. It can be substituted for the Series 900's standard DE compatible electronics, and is available on all Series 900 smart pressure transmitters. You can combine the HC option with the Series 900 Analog and Smart Meter options, though this limits the Smart Meter to display 0 to 100%, and not engineering units.

**Need special plating? Need back-welding? Want to know the temperature effect on a capillary system? We can do it all!**

**Call 800-953-7626 for details.**



## Add a Three-Valve Manifold to Your Transmitter!



**More on page 189.**

### Specifications

**Pressure Rating:** To 10,000 PSI @ 100° F

**Construction:** 316 stainless steel body and integral soft seat, Teflon packing. Metal-to-metal seating ensures positive closure with smooth opening.

### Model Selection Guide

| Mount   | Description  | Catalog Number | Price Each |
|---|--|----------------|------------|
| 1/2" NPTF x Flanged                             | Direct Mount 3-Valve Manifold with Bolts and Flange Seal Rings (2 1/8" Ctrs) | M4TVIS-4       | \$312.68   |
| 1/2" NPTF x 1/2" NPTF                           | Remote Mount 3-Valve Manifold  | M1VIS-4        | 290.74     |
| Teflon Gasket for 3-Valve Manifold (2 Required) |  | 02-2511-001    | 2.25       |

**ANDERSON GREENWOOD INSTRUMENTATION PRODUCTS**



**Specifications**

**Upper Range Limit:** 400" H<sub>2</sub>O (1000 mbar)

**Turndown Ratio:** 40:1

**Recommended Minimum Span:** 10" H<sub>2</sub>O (62 mbar)

**Zero Elevation/Suppression:** -5% to 100% upper range limit.

**Accuracy (Reference):** *Analog mode:* Greater of ±0.075% calibrated span or upper range value (URV); *Digital mode:* ±0.0675% span. Includes combined effects of linearity, hysteresis, and repeatability, and a residual error after averaging successive readings.

**Combined Zero/Span Temperature Effect per 28°C:** *Analog mode:* ±0.25% span. For URV below reference point (50" H<sub>2</sub>O), effect equals: 0.1 + 0.15 x (50" H<sub>2</sub>O/span "H<sub>2</sub>O) in % span; *Digital mode:* ±0.3% span; 0.0125 + 0.15 x (50" H<sub>2</sub>O/span "H<sub>2</sub>O) in % span

**Combined Zero and Span Static Pressure Effect per 1000 PSI:** ±0.30% span; For URV below reference point (50" H<sub>2</sub>O), effect equals: 0.15 + 0.15 x (50" H<sub>2</sub>O/span "H<sub>2</sub>O) in % span

**Supply Voltage Effect:** 0.005% span per volt

**Damping Time Constant:** Adjustable from 0 to 32 seconds

**RFI Protection:** Negligible effect (20 to 1000 MHz at 30 V/meter)

**Materials**

**Wetted Parts:** *Process barrier diaphragm:* 316L SS, Hastelloy C-276; *Process head:* 316 SS, Carbon steel, Hastelloy; *Head gaskets:* Teflon, Viton; *Bolting:* Carbon steel, A-286 SS (NACE)

**Mounting Bracket:** Zinc-plated carbon steel

**Fill Fluid:** Silicone oil or CTFE

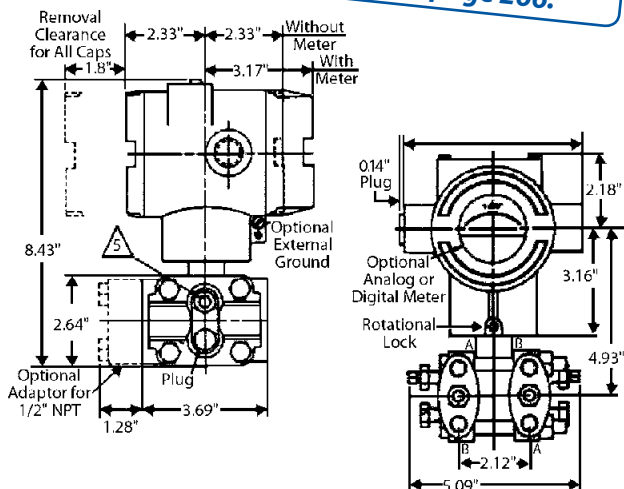
**Electronic Housing:** Low copper aluminum; Meets NEMA 4 (water-tight) and NEMA 7 (explosion-proof)

**Process Connections:** 1/4" NPT (optional 1/2 NPT with adapter); Accepts up to 16 AWG (1.5mm diameter)

**Hazardous Conditions:** Meets requirements of explosion-proof and intrinsically safe systems for North American Class I, Groups A, B, C, and D, Division I (explosion-proof systems, Groups B, C, D only), European (CENELEC) EEx, ia, IIC, T5 and BASEEFA Type N. ATEX approval available as needed.

**Note:** 250Ω min. loop resistance is necessary to support communication. Loop resistance equals the sum of barrier, wire, and receiver resistances. Also, 45-volt operation is permitted if not an intrinsically safe installation.

**Dimensions**



**Need an orifice plate? See page 266.**

**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: STD924-A1H-00000-S2,ZS-1C - XXXX

**Model Selection Guide**

| Description   | Catalog Number  | Availability   | Price                         |       |    |        |      |
|---|---|--|-------------------------------|-------|----|--------|------|
| 0-10" to 0-400" H <sub>2</sub> O/0-62.2 to 0-1000 mbar<br>Body Rating: 3000 PSI (210 bar)   | STD924  | •  | \$1220.00                     |       |    |        |      |
| Construction  | Process Head  | Vent/Drain Valves & Plug   | Barrier Diaphragm             |       |    |        |      |
| Materials   | Carbon Steel  | 316 SS   | 316 SS                        | A _ _ | •  | 0.00   |      |
|   | 316 SS  | 316 SS   | 316 SS                        | E _ _ | •  | 77.00  |      |
| Fill Fluid  | Silicone  |  |                               | _ 1 _ | •  | 0.00   |      |
|   | CTFE  |  |                               | _ 2 _ | •  | 56.00  |      |
| Process Head Configuration  | 1/4" NPT  |  |                               | _ _ A | •  | 0.00   |      |
|   | 1/2" NPT + Adapter (on 1/4" NPT Head)   |  |                               | _ _ H | t  | 0.00   |      |
| No Selection  |   |  |                               | 00000 | •  | 0.00   |      |
| Analog Communications Only (Standard)<br>DE Protocol Communications<br>HART® Field Communications Protocol  | AN  |  |                               | } b   | •  | 0.00   |      |
|   | DE  |  |                               |       | •  | 53.00  |      |
|   | HC  |  |                               |       | •  | 44.00  |      |
| Analog Meter (0-100 Even 0-10 Square Root)<br>Smart Meter (Digital)<br>Local Zero and Span  | ME  |  |                               | } b   | •  | 169.00 |      |
|   | SM  |  |                               |       | •  | 169.00 |      |
|   | ZS  |  |                               |       | •  | 30.00  |      |
| SIL2 TUV- Certified Transmitter (Requires HC/LP)<br>Write Protection (Delivered in Enabled Position)<br>Lightning Protection<br>Custom Calibration and I.D. in Memory<br>Transmitter Configuration<br>Stainless Steel Tag (4 Line x 28 Char, Customer Info) | SL  |  |                               | } b   | •  | 0.00   |      |
|   | WP  |  |                               |       | •  | 19.00  |      |
|   | LP  |  |                               |       | •  | 63.00  |      |
|   | CC  |  |                               |       | •  | 30.00  |      |
|   | TC  |  |                               |       | •  | 19.00  |      |
| TG  |   |  | •                             | 10.00 |    |        |      |
| 316 SS Bolts and Nuts for Process Head<br>A-286SS (NACE) Bolts and Nuts for Heads and Adapters<br>316 SS Adapter Flange - 1/2" NPT with CS Bolts<br>Side Vent/Drain (end vent/drain is standard)<br>Viton Head Gaskets (1/2" adaptor gaskets are special)   | SS  |  |                               | } b   | •  | 39.00  |      |
|   | CR  |  |                               |       | •  | 86.00  |      |
|   | S2  |  |                               |       | •  | 24.00  |      |
|   | SV  |  |                               |       | •  | 35.00  |      |
|   | VT  |  |                               |       | •  | 0.00   |      |
| Carbon Steel Mounting Bracket<br>304 Stainless Steel Mounting Bracket   | MB  |  |                               | } b   | •  | 19.00  |      |
|   | SB  |  |                               |       | •  | 73.00  |      |
| Over-Pressure Leak Test with F3392 Certificate<br>Calibration Test Report and Cert of Conformance F3399<br>Certificate of Origin F0195  | TP  |  |                               | } b   | •  | 30.00  |      |
|   | F1  |  |                               |       | •  | 19.00  |      |
|   | F5  |  |                               |       | •  | 10.00  |      |
| 1 Year Extended Warranty<br>2 Year Extended Warranty  | W1  |  |                               | } b   | •  | 19.00  |      |
|   | W2  |  |                               |       | •  | 35.00  |      |
| Approval Type   | Location/Classification   |  |                               |       |    |        |      |
| FM<br>Explosion Proof<br>Dust Ignition Proof<br>Non-Incendive<br>Intrinsically Safe   | Class I, Div. 1, Groups A-D<br>Class II, III, Div. 1, Grps E-G<br>Class I, Div. 2, Groups A-D<br>Class I, II, III, Div. 1, Grps A-G |  | 1C                            | } b   | •  | 0.00   |      |
|   | CSA<br>Explosion Proof<br>Dust Ignition Proof<br>Intrinsically Safe   | Class I, Div. 1, Groups B-D<br>Class II, III, Div. 1, Grps E-G<br>Class I, II, III, Div. 1, Grps A-G |                               |       | 2J | •      | 0.00 |
|   |   | ATEX<br>Intrinsically Safe, Zone 0/1<br>Flame Proof Zone 1   | ExII 1 G Ex ia IIC T4, T5, T6 |       | 3S | •      | 0.00 |
| ExII 2 G Ex d IIC T5, T6<br>Enclosure IP66/67   | 3D  |  | •                             | 0.00  |    |        |      |

**Restrictions**

b Select only one option from this group. t Must also select option S2.



**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](http://www.Meriam.com).

**Communicator with 3-Year Device File Download Web Subscription**

General Service HART Communicator.....MFC4150-01 ..... \$3847.00  
Intrinsically Safe HART Communicator.....MFC4150X-01 ..... 4046.00

# SITRANS P, DS III Differential Pressure Transmitters



## 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



Visit our website for full specifications.

**Looking for a submersible transmitter for liquid level? Turn to page 215.**

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 save.

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.



**For HART® communicators and SIMATIC PDM software see pages 187 and 188.**

## 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; *Measuring cell with inert filling liquid:* -4 to 185°F; *Digital display:* -22 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):** 1 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

*Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.*

| Description  |  | Catalog Number         | Price     |
|--|--|------------------------|-----------|
| SITRANS P DS III Differential Pressure Transmitter                                   |  | 7MF4433-               | \$1427.00 |
| Fill Fluid   | Silicon Oil                              | 1                      | 0.00      |
|  | Inert Fill                               | 3                      | 102.00    |
| Pressure   | <b>Span</b>                              | <b>Static Pressure</b> |           |
|  | 0.4" to 8" H <sub>2</sub> O              | 465 PSI                | B 167.00  |
|  | 0.4" to 24" H <sub>2</sub> O             | 2320 PSI               | C 85.00   |
|  | 1.0" to 100" H <sub>2</sub> O            | 2320 PSI               | D 0.00    |
|  | 2.4" to 241" H <sub>2</sub> O            | 2320 PSI               | E 0.00    |
|  | 6.4" to 643" H <sub>2</sub> O            | 2320 PSI               | F 0.00    |
|  | 20.0" to 2000" H <sub>2</sub> O          | 2320 PSI               | G 96.00   |
|  | 4.3" to 435" PSI                         | 2320 PSI               | H 96.00   |
| Wetted Parts   | <b>Diaphragm</b>                         | <b>Meas. Cell</b>      |           |
|  | Stainless Steel                          | Stainless Steel        | A 0.00    |
|  | Hastelloy                                | Stainless Steel        | B 60.00   |
|  | Hastelloy                                | Hastelloy              | C 219.00  |
|  | Tantalum                                 | Tantalum               | E 405.00  |
|  | Monel                                    | Monel                  | H 188.00  |
| Gold   | Gold                                     | L 1052.00              |           |
| 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                      | 71.00     |
| Electronics Housing  | Diecast Aluminum, SS Flange Bolts        | 2                      | 0.00      |
|  | Stainless Steel, SS Flange Bolts         | 3                      | 1146.00   |
| Approvals  | None                                     | 1A                     | 0.00      |
|  | FM/CSA Intrinsic Safety, Explosion Proof | 1N                     | 65.00     |
| 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                      | 65.00     |
|  | Digital LCD (Set to mA)                  | 6                      | 102.00    |
|  | Digital LCD (Set as Specified)           | 7                      | 102.00    |
| <b>Accessories (For all accessories, add -Z and accessory code to model number.)</b> |  |                        |           |
| Transmitter with Carbon Steel Mounting Bracket                                       |  | A01                    | 33.00     |
| Transmitter with Stainless Steel Mounting Bracket                                    |  | A02                    | 53.00     |
| Rating Plate (Pressure Units in H <sub>2</sub> O Respective to PSI)                  |  | B21                    | 0.00      |
| Manufacturer's Test/Calibration Certificate (ISO 8402)                               |  | C11                    | 21.00     |
| Calibrated Measuring Range (Please Specify)  |  | Y01                    | 0.00      |
| Tag Number (16 Characters Maximum)   |  | Y15                    | 13.00     |
| Measuring Point Description (27 Characters Max)                                      |  | Y16                    | 13.00     |
| Set LCD (Specify Units: PSI, InH <sub>2</sub> O, FtH <sub>2</sub> O)                 |  | Y21 (units)            | 13.00     |

## 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

*Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.*

| Description  |  | Catalog Number | Price     |
|--|--|----------------|-----------|
| (1) SITRANS P DS III Level Transmitter   |  | 7MF4633-       | \$1509.00 |
| Pressure   | 10" to 100" H <sub>2</sub> O                 | 1DY            | 0.00      |
|  | 10" to 240" H <sub>2</sub> O                 | 1EY            | 0.00      |
|  | 20" to 640" H <sub>2</sub> O                 | 1FY            | 0.00      |
|  | 64" to 2000" H <sub>2</sub> O                | 1GY            | 96.00     |
| 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              | 1146.00   |
| Approvals  | None   | 1A             | 0.00      |
|  | FM/CSA Intrinsic Safety, Explosion Proof     | 1N             | 65.00     |
| 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   | 1              | 0.00      |
|  | Digital LCD (Set to mA)                      | 6              | 102.00    |
|  | Digital LCD (Set as Specified in Option Y21) | 7              | 102.00    |
| <b>Accessories (For all accessories, add -Z and accessory code to model number.)</b> |  |                |           |
| O-Ring PTFE (Teflon, Approved for Food)  |  | A20            | 26.00     |
| Sealing Screw, 1/2" - 18 NPT, with Vent Valve  |  | A40            | 36.00     |
| English Rating Plate   |  | B11            | 0.00      |
| Rating Plate (Pressure Units in H <sub>2</sub> O Respective to PSI)                  |  | B21            | 0.00      |
| Manufacturer's Test/Calibration Certificate (ISO 8402)                               |  | C11            | 21.00     |
| Calibrated Measuring Range (Please Specify)  |  | Y01            | 0.00      |
| Tag Number (16 Characters Maximum)   |  | Y15            | 13.00     |
| Measuring Point Description (27 Characters Max)                                      |  | Y16            | 13.00     |
| Set LCD (Specify Units: PSI, InH <sub>2</sub> O, FtH <sub>2</sub> O)                 |  | Y21 (units)    | 13.00     |
| (2) Mounting Flange for SITRANS P Level Transmitter                                  |  | 7MF4812-       | \$801.00  |
| Size   | 3", Class 150                                | 3Q ____        | 73.00     |
|  | 4", Class 150                                | 3T ____        | Call      |
| Material   | 316L Stainless Steel                         | __ A __        | 0.00      |
|  | Hastelloy C276                               | __ J __        | 205.00    |
| Tube   | No Tube, Silicone System Fill (DC200-10)     | __ __ 01       | 64.00     |
|  | 2" Tube, Silicone System Fill (DC200-10)     | __ __ 11       | 445.00    |
|  | 6" Tube, Silicone System Fill (DC200-10)     | __ __ 31       | 850.00    |



## 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](http://www.Meriam.com). See page 187.

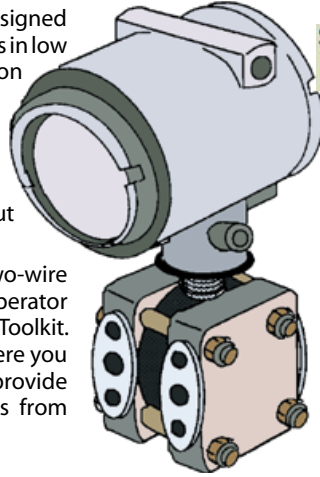
Pressure Transmitters  
Anderson Greenwood Instrument Valves  
Level Measurement Instruments  
Flow Measurement Instruments  
Solids Flow and Motion  
Actuator Motors and Pneumatic Drives

# Draft Range Differential Pressure Smart Transmitter

Honeywell's draft range transmitter is designed to measure low range differential pressures in low static applications like furnace combustion air flow, clean room air movement, air filter monitoring, and evaporators.

STD110 measures differential pressures from 0–10" H<sub>2</sub>O to 0–0.4" H<sub>2</sub>O. And, it can be configured for linear or square root output from the same electronics module.

The STD110 operates over a standard two-wire system, and communicates between the operator and transmitter through the Honeywell MC Toolkit. Connect the handheld MC Toolkit anywhere you can access the transmitter signal lines to provide transmitter adjustments and diagnostics from remote locations, like your control room.



## Operating Conditions and Specifications

|                                    |     | Rated Condition | Operative Limits |
|------------------------------------|-----|-----------------|------------------|
| Ambient, Meter                     | °C  | -15 to 65       | -40 to 70        |
| Body Temperature                   | °F  | 5 to 150        | -40 to 158       |
| Humidity                           | %   | 0-100           | 0-100            |
| Supply Voltage and Load Resistance |     |                 | Call Lesman      |
| Overpressure                       | PSI | 50 (3.45 bar)   | 50 (3.45 bar)    |
| Static Pressure                    | PSI | 10 (0.7 bar)    | 50 (3.45 bar)    |

**Upper Range Limit (URL):** 10" H<sub>2</sub>O (25 mbar)

**Turndown Ratio:** 25:1

**Minimum Span:** 0.4" H<sub>2</sub>O (1 mBar)

**Zero Elevation/Suppression:** Minimum span within ±100% URL

**Accuracy (Reference):** (Includes combined effects of linearity, hysteresis, and repeatability; and residual error after averaging successive readings.) *Analog mode:* ±0.10% calibrated span or upper range value (URV), whichever is greater, terminal based. *Digital mode:* ±0.0875% span.

**Combined Zero and Span:** *Zero shift:* ±0.025 + 0.25(10" H<sub>2</sub>O/Span" H<sub>2</sub>O). *Span shift:* ±0.225% of span.

**Output (two-wire):** 4 to 20 mA, or digital communications mode

**Supply Voltage Effect:** 0.005% span per volt

**Damping Time Constant:** Adjustable, 0-32 seconds digital damping

**RFI Protection:** Negligible effect (20 to 1000 MHz at 30V/meter)

**Materials:** *Process interface:* Barrier diaphragms: 316L SS; *Process head:* 316 SS, carbon steel; *Head gaskets:* Teflon, Viton; *Bolting:* Carbon steel, A-286 SS (NACE) bolts with 302/304 SS (NACE) nuts; *Mounting bracket:* Carbon steel (zinc plated); *Fill fluid:* Silicone oil; *Electronic housing:* Low copper aluminum

**Process Connections:** 1/4" NPT, optional 1/2" NPT with adapter

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

**Hazardous Conditions:** Housing meets NEMA 4 (watertight) and NEMA 7 (explosion-proof); Meets standards of explosion-proof (EF) and intrinsically safe systems for North American Cl. I, Grps A, B, C, and D, Div. I (EF systems, Grps B, C, D only), CENELEC EEX, ia, IIC, T6 and BASEEFA Type N.. ATEX approvals also available.

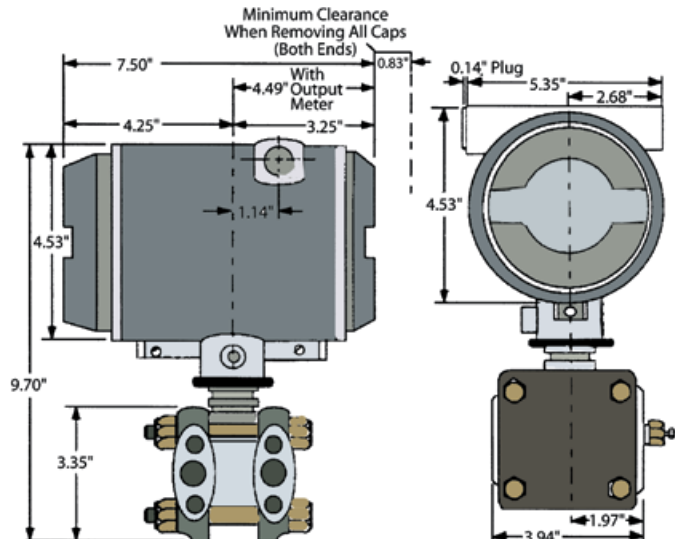
## Model Selection Guide

| Description   |                         |  | Catalog Number | Availability | Price     |
|---|-------------------------|--|----------------|--------------|-----------|
| 0-0.4" to 0-10" H <sub>2</sub> O Draft Pressure Transmitter |                         |  | STD110         | •            | \$1866.00 |
| Materials   | Process Head            | Drains, Valves, Plugs & Barrier Diaphragms | A __           | •            | 0.00      |
|   | Carbon Steel            | 316 SS                                     |                |              |           |
| Fill Fluid  | Silicone                |  | _ 1 _          | •            | 0.00      |
| Process Head  | 1/4" NPT                |  | _ _ A          | •            | 0.00      |
|   | 1/2" NPT with Adapter   |  | _ _ H          | •            | 0.00      |
| No Selection  |                         |  | 00000          | •            | 0.00      |
| Analog Communications Only                                  |                         |  | AN             | b            | • 0.00    |
| DE Protocol Communications                                  |                         |  | DE             |              | • 53.00   |
| HART® 5.x Protocol Compatible Electronics                   |                         |  | HC             |              | • 44.00   |
| Analog Meter (0-100 Even 0-10 Square Root) Smart Meter      |                         |  | ME             | b            | • 169.00  |
|   |                         |  | SM             |              | • 169.00  |
| SIL2 TUV- Certified Transmitter (Requires HC/LP)            |                         |  | SL             | •            | 0.00      |
| Write Protection (Delivered in Enabled Position)            |                         |  | WP             | •            | 19.00     |
| Lightning Protection  |                         |  | LP             | •            | 63.00     |
| Custom Calibration and I.D. in Memory                       |                         |  | CC             | •            | 30.00     |
| Transmitter Configuration                                   |                         |  | TC             | •            | 19.00     |
| Wired-on Stainless Steel Tag                                |                         |  | TG             | •            | 10.00     |
| NACE A286 SS Bolts, 304SS Nuts                              |                         |  | CR             | •            | 86.00     |
| 1/2" NPT 316SS Adapter Flange, CS Bolts                     |                         |  | S2             | b            | • 24.00   |
| 1/2" NPT 316SS Adapter Flange, 316SS Bolts                  |                         |  | S3             |              | • 24.00   |
| Viton Process Head Gasket (Teflon Standard)                 |                         |  | VT             |              | • 0.00    |
| Carbon Steel Mounting Bracket                               |                         |  | MB             | •            | 19.00     |
| Calibration Test Report, Cert of Conformance                |                         |  | F1             | •            | 18.00     |
| 1 Year Additional Warranty                                  |                         |  | W1             | b            | • 19.00   |
| 2 Year Additional Warranty                                  |                         |  | W2             |              | • 35.00   |
| Approval Type   | Location/Classification |  | Cat. No.       | Avail.       | Price     |
| FM  | Explosion Pr.           | Cl I, Div 1, Gr A-D                        | 1C             | •            | 0.00      |
|   | Dust Ignition Pr.       | Cl II, III, Div 1, Gr E-G                  |                |              |           |
|   | Non-Incendive           | Cl I, Div 2, Gr A-D                        |                |              |           |
|   | Intrinsically Safe      | Cl I, II, III, Div 1, Gr A-G               |                |              |           |
| CSA   | Explosion Pr.           | Cl I, Div 1, Gr B-D                        | 2J             | •            | 0.00      |
|   | Dust Ignition Pr.       | Cl II, III, Div 1, Gr E-G                  |                |              |           |
|   | Intrinsically Safe      | Cl I, II, III, Div 1, Gr A-G               |                |              |           |

Also available with ATEX approvals. Call for details.

**Restrictions:** b Select only one option from this group.

## Dimensions



Pressure Transmitters

Anderson Greenwood Instrument Valves

Level Measurement Instruments

Flow Measurement Instruments

Solids Flow and Motion

Actuator Motors and Pneumatic Drives

# Honeywell Programming Tools for Smart Transmitters

## 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 manufacturer'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.rac 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



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

**New!**

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

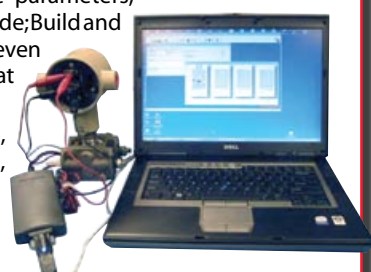
**Memory Requirements:** Approx. 51MB (includes all HART registered DDs). MC Toolkit software, including SDC 625 and HART DD files, are loaded on flash memory card. Flash memory card in the MCT202 is not removable.

**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

## 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 | \$2740.00 |
| Configuration Toolkit, 20-Ft Cable    | SCT101-012-44-XXXX | 2770.00   |
| SCT3000 Cable Kit, Installation Guide | 50033453-501       | 130.00    |

### Model Selection Guide

| Description                                   | Catalog Number                             | Price      |
|---|--|------------|
| MC Toolkit Rugged Communications Configurator | MCT202-                                    | \$6080.00  |
| Approvals                                     | None                                       | ZZ 0.00    |
|   | FM, Class 1, Div 1 Intrinsically Safe      | XF 1110.00 |
|   | FM, Class 1, Div 2 Non-Incendive           | YF 555.00  |
|   | ATEX Zone 1, Div 1 IS, Dust-Ignition-Proof | XA 1110.00 |
|   | ATEX, Zone 2, Div 2, Type N                | YA 555.00  |
| Universal Power Adapter, Printed User Manual  | 00-UM                                      | 15.00      |

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



## MFC4150 HART® Handheld Communicator

- Smaller and faster than the competitor's unit, with eight times the storage capacity
- Just 15 seconds from power-up to use!
- Powered by six AA Alkaline batteries; 28-hour battery life, up to 60 hours without backlight
- CE-approved general purpose and ATEX/UL-approved intrinsically safe models
- Document and store up to 200 different configurations; Clone, upload, and download configurations; Offline mode for editing and reviewing configurations
- Alphanumeric keypad with menu shortcuts for frequently used commands, dedicated text edit keys, HART menu Home key and left-side thumb keys for easy one-handed navigation
- Update firmware and device files for up to 420 HART devices from Meriam's website

All communicator kits include: CE or ATEX approved HART communicator, HART lead kit, one 6-pack AA Alkaline batteries, communication/AC adapter dongle, RS-232 serial cable, universal power adapter, protective boot, soft carrying case, adjustable shoulder strap, user manual, software CD with Meriam DPC manager utility for downloading and installing firmware and device file updates. (Only -01 models include the subscription to the DOF download site at [www.Meriam.com](http://www.Meriam.com).)

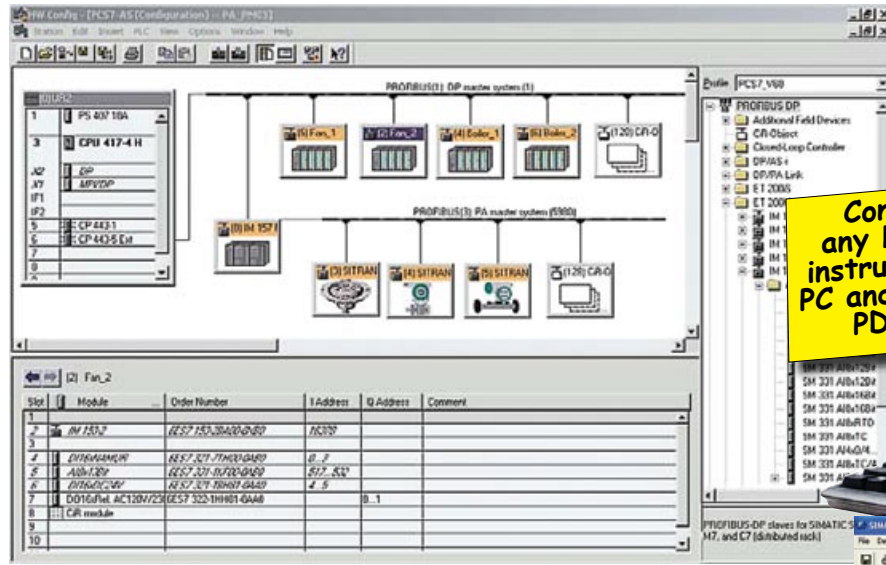


### Model Selection Guide

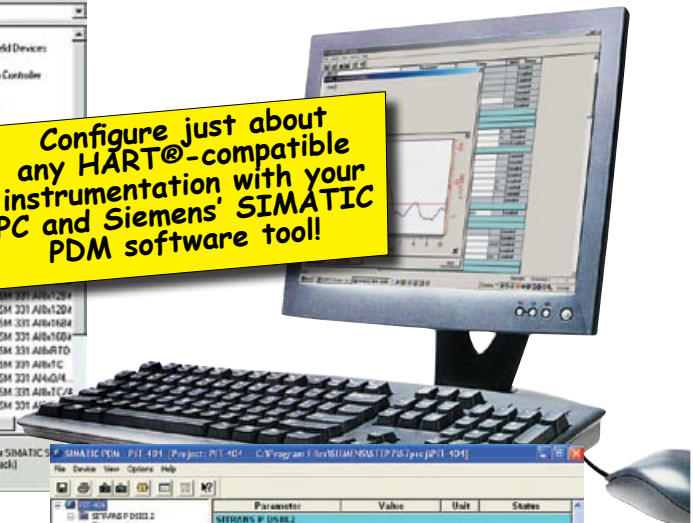
| Description  | Catalog Number | Price     |
|--|----------------|-----------|
| Communicator with 3-Year Device File Download Website Subscription |                |           |
| General Service HART Communicator                                  | MFC4150-01     | \$3847.00 |
| Intrinsically Safe HART Communicator                               | MFC4150X-01    | 4046.00   |
| Communicator, No Download Subscription                             |                |           |
| General Service HART Communicator                                  | MFC4150-00     | 3302.00   |
| Intrinsically Safe HART Communicator                               | MFC4150X-00    | 3501.00   |

# 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.

| Parameter                 | Value               | Unit | Status        |
|---------------------------|---------------------|------|---------------|
| <b>Identification</b>     |                     |      |               |
| Tag                       | PT-004              |      | Initial value |
| Device name               |                     |      | Initial value |
| Manufacturer              | Siemens             |      | Initial value |
| Model                     | STRANS P DE         |      | Initial value |
| Device order number       | 7MF4233-1F400-1A05- |      | Changed       |
| Universal Revision        | 3                   |      | Initial value |
| Device Revision           | 5                   |      | Initial value |
| Software Revision         | 1                   |      | Initial value |
| Hardware Revision         | 1                   |      | Initial value |
| Mass type                 | Absolute            |      | Initial value |
| Original Fabrication file |                     |      | Initial value |
| Fiscal assembly num       |                     |      | Initial value |
| Serial Number             |                     |      | Initial value |
| Speed                     | Medium              |      | Initial value |
| Output                    | 0.10                |      | Initial value |
| Pressure Unit             |                     |      | Initial value |
| Pressure reference        |                     |      | Initial value |
| Interfaced Party          | 00                  |      | Initial value |
| Target                    |                     |      | Initial value |
| Sensor Temperature        |                     |      | Initial value |
| Electronic Terminals      |                     |      | Initial value |
| Application               |                     |      | Initial value |



### Model Selection Guide

Issue all orders to Siemens Industry, Inc  
c/o Lesman Instrument Company.

| Description  | Catalog Number     | Price   |
|--|--------------------|---------|
| SIMATIC PDM v6.0 Software for Configuration, Commissioning, and Diagnostics of Intelligent Field Devices (Supports Profibus and HART®) |                    |         |
| SIMATIC PDM with 1 Tag   | TGX:PDM-3HX06-0YA5 | \$72.00 |
| SIMATIC PDM with 4 Tags  | TGX:PDM-3AX06-0YA5 | 575.00  |
| SIMATIC PDM with 128 Tags  | TGX:PDM-3JX06-0YA5 | 1865.00 |
| 14-Day Demo Software with 4 Tags   | 6E57658-3GX06-0YC8 | 0.00    |

**Need to add tags and expand your capabilities? Looking for license upgrade packs? Call Lesman for pricing.**

### Connection Devices

| Description  | Catalog Number            | Price                |
|--------------|---------------------------|----------------------|
| HART® Modems | Siemens RS-232 Hart Modem | 7MF4997-1DA \$439.00 |
|              | Siemens USB Hart Modem    | 7MF4997-1DB 499.00   |

Pressure Transmitters  
Anderson Greenwood Instrument Valves  
Level Measurement Instruments  
Flow Measurement Instruments  
Solids Flow and Motion  
Actuator Motors and Pneumatic Drives