



# Series 44 Intrinsically Safe Stainless Steel Media Isolated Pressure Sensor

Series  
44

## Features

- Class 1 Div 1, Groups C&D Intrinsically Safe.
- High Strength Stainless Steel Construction.
- No silicone oil, no internal o-rings, no welds.
- Wide operating temperature range.
- Ranges up to 10,000 PSI.
- Rugged design survives harsh environments.
- Compatible with wide range of gases and liquids.
- Suitable for high shock and vibration applications.

## Specifications

| Performance @ 25 °C (77 °F) |  |
|-----------------------------|--|
| Accuracy <sup>1</sup>       | <±0.25% BFSL   |
| Stability (1 year)          | ±0.25%FS, typ  |
| Proof Pressure              | 2X Rated Pressure  |
| Burst Pressure              | 5X or 20,000 PSI, whichever is less                                |
| Wetted Material             | 17-4PH S.S. (NACE compatible) (for other material consult factory) |
| Pressure Cycles             | > 100 Million  |

<sup>1</sup> Accuracy includes: Non-linearity, Hysteresis and Non-repeatability

| Physical Description  |   |
|-----------------------|---|
| Case                  | 304 Stainless Steel                                   |
| Pressure Fittings     | 1/8" MNPT, 1/4" MNPT (for others consult factory)     |
| Electrical Connection | 2 feet cable std. (for other lengths consult factory) |

| Environmental Data    |                                |
|-----------------------|--------------------------------|
| <b>Temperature</b>    |                                |
| Operating             | -40 to 85 °C (-40 to 185 ° F)  |
| Storage               | -55 to 125 °C (-65 to 250 ° F) |
| <b>Thermal Limits</b> |                                |
| Compensated Range     | 0 to 55 °C (30 to 130 ° F)     |
| TC Zero               | <±1.5% of FS (2.0% for 316 L)  |
| TC Span               | <±1.5% of FS (2.0% for 316 L)  |
| <b>Other</b>          |                                |
| Shock                 | 100G, 11msec, 1/2 sine         |
| Vibration             | 20G Peak, 20 to 2000 HZ        |
| Rating:               | IP-66                          |
| EMI/RFI Protection    | Yes                            |



| Electrical Data     |                            |                    |
|---------------------|----------------------------|--------------------|
| Excitation          | 5VDC                       | 10-28 VDC          |
| Output              | 0.5-4.5V Ratiometric       | 1-5 V & 4-20mA     |
| Input Impedance     | N/A                        | N/A                |
| Output Impedance    | 100 Ohms nom.              | 100 Ohms, nom. -   |
| Current Consumption | <10mA                      | <10mA & 25mA max   |
| Bandwith (-3dB)     | DC to 1kHz                 | DC to 1kHz & 250Hz |
| Output Noise        | <2mV RMS                   | <2mV RMS           |
| Reverse polarity    | YES                        | YES                |
| Zero Offset         | <±1% of FS                 | <±1% & 1.5% of FS  |
| Span Tolerance      | <±2% of FS                 | <±2% of FS         |
| Output Load         | 10k Ohms, min.             | 10k Ohms, min.     |
| Agency Approvals    | UL/CUL 1604 for all models |                    |

| Pressure Ranges*+ |            |            |                     |
|-------------------|------------|------------|---------------------|
| Gage psig         | Proof psig | Burst psig | Pressure Range Code |
| 0-25              | 50         | 250        | 00025               |
| 0-50              | 100        | 250        | 00050               |
| 0-100             | 200        | 500        | 00100               |
| 0-200             | 400        | 1,000      | 00200               |
| 0-500             | 1,000      | 2,500      | 00500               |
| 0-1,000           | 2,000      | 5,000      | 01000               |
| 0-2,500           | 5,000      | 12,500     | 02500               |
| 0-5,000           | 10,000     | 20,000     | 05000               |
| 0-7,500           | 15,000     | 20,000     | 07500               |
| 0-10,000          | 20,000     | 20,000     | 10000               |

\* Typical Ranges. All ranges between 0-25psi and 0-10,000psi are available. Please consult factory.

+ Vacuum calibration available. Please consult factory. Specifications are subject to change without notice.

## Ordering Information

Construct a product code using the chart below. (Consult factory for other options)

# 44-A-00500-B-3-L-0-000

| Series Type              | Process Connection   | Pressure Range   | Pressure Unit   | Outputs   | Electrical Interface   | Wetted Material                                    | Options  |
|--------------------------|--|--|---|---|--|--|--|
| 44<br>Intrinsically Safe | X= Special<br>A= 1/4" MNPT<br>B= 1/8" MNPT<br>F= 7/16"-20 UNF Male<br>E= 1/2" MNPT<br>J= 1/4" FNPT<br>H= 1/8" FNPT<br>C= 1/4" BSPP Male<br>D= 1/8" BSPP Male | XXXXX= Special<br><br>Insert Pressure Range from Chart<br><br>Vacuum=V0000<br>-14.7psig/-1.01bar | X= Special<br>B= BAR<br>K= kg/cm <sup>2</sup><br>P= PSI | X= Special<br>1= 10mV/V<br>2= 0.5-4.5V ratiometric<br>3= 1-5V/DC<br>4= 4-20mA 2 wire<br>6= 1-6V | X= Special<br>A= 2Ft. Cable<br>B= 4Ft. Cable<br>C= 6Ft. Cable<br>D= 10Ft. Cable<br>E= Mini DIN 43650<br>F= Packard Metripack | X= Special<br>0= 17-4 PH<br>1= 316 L<br>2= Inconel | XXX= Special<br>000= No Options<br>A10= ±0.10 Accuracy<br>A25= ±0.25 Accuracy<br>C01 Calibration 1-9<br>C10 Calibration 10-49<br>C50 Calibration 50-up |

## Dimensional Information

Class I, Div. 1, Groups C, D  
Hazardous Location

Figure 1: Wiring diagram for 4-wire, mV output

The transducers listed below are designed for installation in a Class I, Division 1, Groups C and D, Division 1 hazardous location when connected to Associated Apparatus as described in note 1.

Entity Parameters  
 $V_{max} = 28Vdc$   
 $I_{max} = 175mA$   
 $C1 = 0.44\mu f$   
 $L1 = 0$

Imax is the total current available from the Associated Apparatus under any condition.

Notes:  
 1. Associated Apparatus shall provide intrinsically safe connections which meet the following parameters.  
 $V_{oc} \text{ or } Vt \leq V_{max}$      $C_a \geq C1 + C_{leads}$   
 $I_{sc} \text{ or } It \leq I_{max}$      $L_a \geq L1 + L_{leads}$   
 2. Control Room apparatus shall not generate in excess of 250V (Umax).  
 3. Installation should be in accordance with Article 504 in the National Electrical Code, ANSI/NFPA 70.

Hazardous Location

Figure 2: Wiring diagram for 2-wire, 4-20mA output

| Output | Pin 3     | Pin 2     | Pin 1  |
|--------|-----------|-----------|--------|
| 1-5V   | +V Supply | -V Supply | Output |
| 4-20mA | +V Supply | -V Supply | N/C    |

Connector Pin-out

Hazardous Location

Figure 3: Wiring diagram for 3-wire, Voltage output

4-20mA LOAD LINE CURVE