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# PRESSURE TRANSDUCER

# MODEL SP 97

## PORTED SEMICONDUCTOR STRAIN GAGE PRESSURE TRANSDUCERS

**HIGH OUTPUT**

**RUGGED-IZED**

**HIGH RELIABILITY**

**NO MOVING PARTS**

**LOW COST**



Senso-Metrics SP 97 series economy pressure transducers utilize bulk type high reliability silicon semiconductor strain gages to obtain a high output signal level at a low cost. This solid state unit is specifically designed to meet the needs of industrial and commercial Original Equipment Manufacturers, as well as for general laboratory uses.

These rugged devices have no moving parts which may wear or produce errors under conditions of shock or vibration. When pressure is applied to the diaphragm the low level resulting strain is sensed by the strain gages which respond by a change in their resistance. The strain gages are bonded directly to the diaphram and connected into a bridge configuration. When a voltage is used to excite the bridge, a signal voltage across the bridge is developed which is linear and proportional to pressure. The female threaded pressure port (7/16-20) allows the use of a variety of pressure adaptors.

*SENSO-METRICS INCORPORATED*
*4584 RUNWAY STREET • SIMI VALLEY, CA 93063*
*TEL (805) 527-3640 • FAX (805) 584-2960 • TWX 910-494-1221*

# TECHNICAL SPECIFICATIONS

## ENVIRONMENTAL

Temperature Range (compensated) . . . . . 30-130°F std.
Operating With TFE Cable . . . . . -65 to 300°F
Vibration & Shock . . . . . 0.015% FS/g.

## ELECTRICAL

Input Impedance . . . . . 1500 ohms nominal
Output Impedance . . . . . 450 ohms nominal
Material . . . . . 17-4 PH CRES.

## PERFORMANCE OPTIONS

| | SP 97 AFS | SP 97 BFS | SP 97 CFS | SP 97 FFS | SP 97 KFS | SP 97 LFS |
|---|---|---|---|---|---|---|
| Excitation-Volts D.C. | 10 | 10 | 10 | 10 | 5 | 10 |
| Output in MV at F.S. | 200 ± 4 | 200 ± 4 | 200 ± 4 | 100 ± 10 | 100 ± 10 | 200 ± 2 |
| Zero Balance (±) MV | 4.0 | 4.0 | 4.0 | 5.0 | 10.0 | 2.0 |
| Static Error Band ± % F.S. BFSL | 0.5 | 0.25 | 0.13 | 0.10 | 0.25 | 0.25 |
| Thermal Zero Shift ± % F.S./°F | 0.02 | 0.02 | 0.01 | 0.005 | 0.02 | 0.01 |
| Thermal Sens. Shift ± % F.S./°F | 0.02 | 0.02 | 0.01 | 0.005 | 0.02 | 0.01 |
| Lowest Available Press. Range | 50 | 50 | 100 | 100 | 50 | 100 |

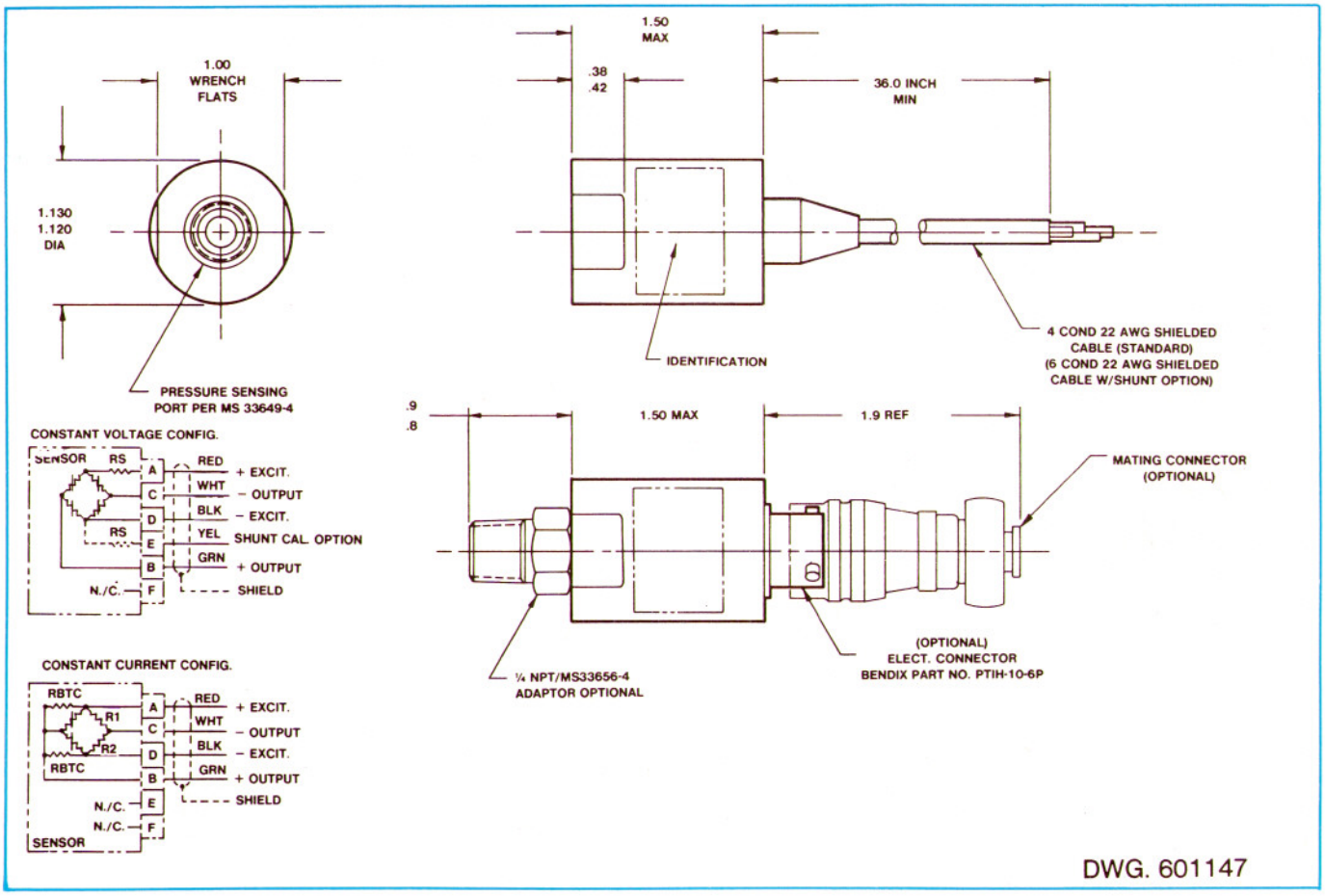
## MECHANICAL

Resolution . . . . . Infinite
Operating Life . . . . . Undamaged by $1x10^7$ full range cycles
Weight . . . . . Approximately 6 oz. less cable
Over Pressure . . . . . x2 (on 17-4 PH CRES)
Burst Pressure . . . . . x5 (on 17-4 PH CRES)

| STANDARD PRESSURE RANGES (PSI) | | | | |
|---|---|---|---|---|
| 0-50 | 0-200 | 0-500 | 0-2000 | 0-5000 |
| 0-100 | 0-300 | 0-1000 | 0-3000 | 0-10,000 |

OTHER MATERIALS, NON-STANDARD PRESSURE RANGES AND CONSTANT CURRENT EXCITATION IS AVAILABLE ON ALL PERFORMANCE OPTIONS.
FOR TECHNICAL AND ORDERING INFORMATION CONSULT FACTORY.

## SP97 SERIES OUTLINE AND SCHEMATIC




DWG. 601147


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