

DSP193 Pressure Transducer

INTRODUCTION

The P193 pressure sensor is a low cost pressure capsule available in standard ranges from 100mbar to 600 bar. All ranges are available in gauge or absolute format. It is ideal for continuous use in applications where the pressure medium is wet and corrosive and long term stability is of prime importance.

DESCRIPTION

The type P193 pressure sensor is manufactured from high purity alumina ceramic. This material possesses superb chemical and abrasion resistance, making it unrivalled for use with virtually any pressure medium.

The diaphragm of the sensing element has a four-active-arm strain gauge bridge fused to its inner face. This direct fusion ensures excellent long term stability and repeatability, which, coupled with the matched bridge network, provides excellent linear thermal characteristics.



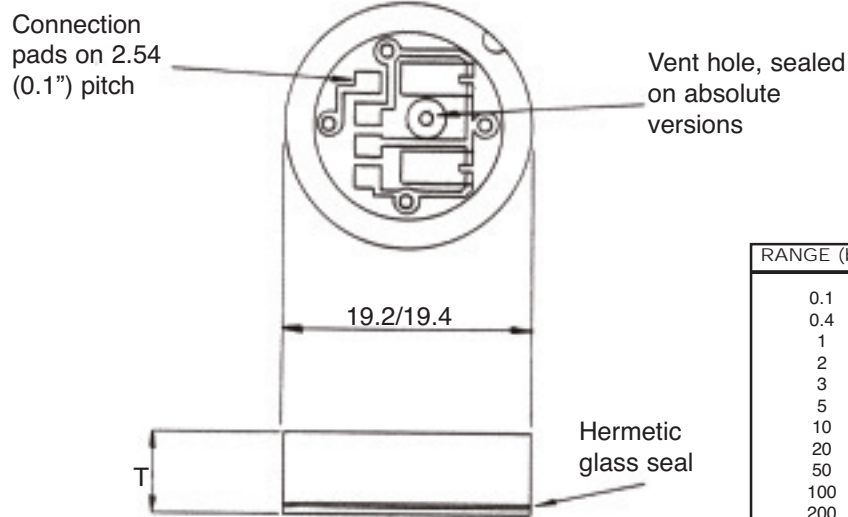
SPECIFICATION

| | |
|---|--|
| Range (bar) | 0-100mbar to 0-600 bar |
| Span | 1.0 - 5.0 mV/V Dependent on Range |
| Non Linearity | $< \pm 0.25\%$ of span (best fit straight line) |
| Thermal Zero Shift | $< \pm 0.04\%$ / °C / span (typical) |
| Thermal Span Shift | $< -0.04\%$ / °C (typical) |
| Output Tolerance | $\pm 30\%$ |
| Zero Output | $< \pm 0.2\text{mV/V}$ |
| Supply Voltage | 1-30Vdc regulated |
| Operating Temperature Range | -25 to +125°C |
| Safe Over-range Without Calibration Change | 1.5 x Minimum |
| Burst Pressure | 3 x Range Minimum |
| Bridge Resistance | 10kΩ $\pm 30\%$ |

FEATURES

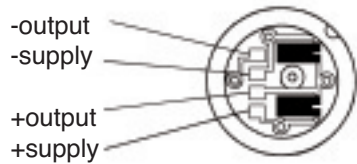
- Superb Chemical and Corrosion Resistance
- High Output
- High Bridge Resistance (10kΩ)
- Excellent Linearity
- Low Cost
- Low Supply Current
- High Electrical Isolation
- Excellent Long Term Stability
- Small Size
- Bridge Balanced at Zero Applied Pressure

DIMENSIONAL DETAILS

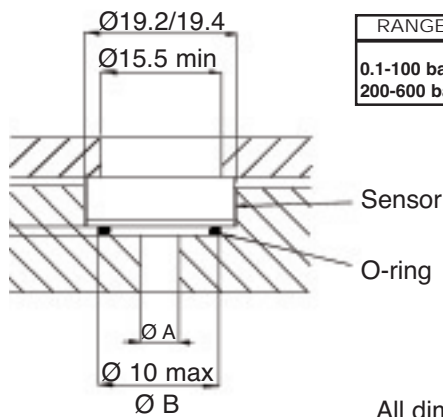


| RANGE (bar) | T (mm, nominal) |
|-------------|-----------------|
| 0.1 | 6.2 |
| 0.4 | 6.2 |
| 1 | 6.2 |
| 2 | 6.3 |
| 3 | 6.35 |
| 5 | 6.4 |
| 10 | 6.5 |
| 20 | 6.6 |
| 50 | 6.8 |
| 100 | 7.3 |
| 200 | 7.8 |
| 400 | 8.6 |
| 600 | 9.5 |

INSTALLATION DETAILS



O-RING DETAILS



| RANGE | SIZE | A | B |
|-------------|--------|-----------|-------------|
| 0.1-100 bar | 12 x 2 | 1.35/1.45 | 16.1/15.95 |
| 200-600 bar | 7 x 2 | 1.40/1.50 | 11.20/11.10 |

All dimensions in mm

APPLICATIONS

Water level / pressure
Data logging
Chemical processing
Soil mechanics
Load measurement
Automotive

Printing
Medical engineering
Air compressors
Gas flow
Pneumatic controls
Central heating

Hydraulic machinery
Air conditioning
Tank contents
Crop spraying
Paper processing