

HIGH PRESSURE DIFFERENTIAL

Our high pressure differential is the Swiss-army knife of the TAVIS design portfolio. Lightweight and versatile, it weighs under 6 ounces and can be configured for both absolute and differential pressure measurements with MEOPs between 1 and 200 PSI. High and low ports allow customers to measure differential pressure or the low port can be vented to measure gage pressure to trap a reference pressure. Options of Inconel™ or stainless steel gages provide customers with the flexibility to measure a wide array of media. Implementations of our high pressure differential are diverse, but common utilization includes both commercial and military aviation, as well as tactical projectile applications.

- *Working media can be applied to both pressure ports*
- *Highly Configurable Pressure Ranges*
- *Bidirectional range capable*
- *Lightweight - Small Profile*
- *Designed for large temperature ranges*
- *All Welded Construction*
- *Long Term Stability*



TAVIS has provided tailored solutions to our customers since day one. The sample product shown on this data sheet is meant to showcase our engineering and manufacturing capabilities. TAVIS can engineer and manufacture a product that will meet your unique application requirements. From radiation to low pressure, TAVIS transducers will remain stable, even in high vibration and high shock conditions. Contact us today to see how we can best handle your pressure.

SEE SPECS ON NEXT PAGE

HIGH PRESSURE DIFFERENTIAL TAVIS

GENERAL SPECIFICATIONS

Pressure Range	Configurable, from 0-1 PSID through 0-200 PSIA
Proof Pressure	200% of MEOP or 20 PSIA, whichever is greater
Burst Pressure	200% of MEOP or 20 PSIA, whichever is greater
Weight	Less than 6 OZ (170 Grams)
Sensor Type	Variable Reluctance
EEE Reliability Level	NASA-EEE-INST-002 Level 2

OPTIONS

- Higher proof pressure configurations available. Consult TAVIS Engineering for more info.
- Bidirectional differential measurement designs available
- Level 1 EEE option available

PERFORMANCE DETAIL

Static Accuracy

Static Error Band¹ $\pm 0.5\%$ F.S. max.
Hysteresis $\pm 0.1\%$ F.S. nom.
Repeatability $\pm 0.1\%$ F.S. nom.

Thermal Error²

$\pm 2.0\%$ F.S. max.

Frequency Response³

Flat $\pm 5\%$ to 250 Hz

Regulation

2.5 mV/V

Resolution

Effectively Infinite

¹ Static Error Band is defined as the maximum deviation from a best fit straight line which minimizes errors due to the combined effects of non-linearity, hysteresis, resolution, and non-repeatability

² Thermal Error is defined as the maximum allowed deviation from a best fit straight line which minimizes errors due to temperature over the range of -65°F to $+165^{\circ}\text{F}$

³ Frequency Response given is for electronics only. Actual Frequency Response will depend on specified pressure range and operating media.

ELECTRICAL SPECIFICATIONS

Input Voltage	20 to 40 VDC
Input Current	10 mA maximum
Output Signal	0-5 VDC
Electrical Interface	MSFC Spec 40M39569 (NB3H10-6PN)
Output Impedance	100 Ω Maximum
Output Noise	10 mV P-P Maximum
Insulation Resistance	100 Meg Ohm @ 50 VDC
Isolation Resistance	100 Meg Ohm @ 50 VDC

OPTIONS

- Different Output Signal configurations available (4-20 mA, 0.5-4.5 VDC, etc.)
- Different connector styles such as MIL-DTL-38999 can be accommodated

MECHANICAL SPECIFICATIONS

Operating Media	Liquids or gases compatible with Inconel™ 718 and 17-4 Stainless Steel
Pressure Interface	1/8" AN Flared Tube Fittings per MS24385-2
Compensated Temperature Range	-65°C to $+55^{\circ}\text{C}$ -65°F to $+165^{\circ}\text{F}$
Shock	4500 G's @ 4000 Hz

OPTIONS

- Configurable for corrosive media applications. Consult TAVIS Engineering for specific use cases
- Tube Stub options available
- Larger temperature ranges are obtainable (e.g. -135°F to $+235^{\circ}\text{F}$)

OPTIONAL DESIGN FEATURES

- Different mounting feet options available
- Platinum RTD outputs: 1000 Ω and 2000 Ω
- EMI/EMC filtering
- Pigtail option available
- Outline specification drawings available upon request

PRODUCT DIMENSIONS

