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HISPEC® HI3000

High Precision TEDS Pressure Transmitter

- High accuracy and performance
- Silicone-on-Sapphire sensor technology for outstanding stability
- Pressure ranges to 1,500 bar (ranges to 20,000 psi)
- 10mV/V output
- TEDS Ready, on-board 20Kbit



The advanced sensor design consists of a piezoresistive silicon strain gauge circuit, which is epitaxially grown onto the surface of a sapphire diaphragm to form a single crystalline structure. The sapphire sensor element is then molecularly bonded to a titanium alloy sub-diaphragm.

This enables the sensor to endure higher over-pressures and provides superb corrosion resistance. The sensor exhibits virtually no hysteresis and excellent long-term stability over wide temperature ranges.

Specifications

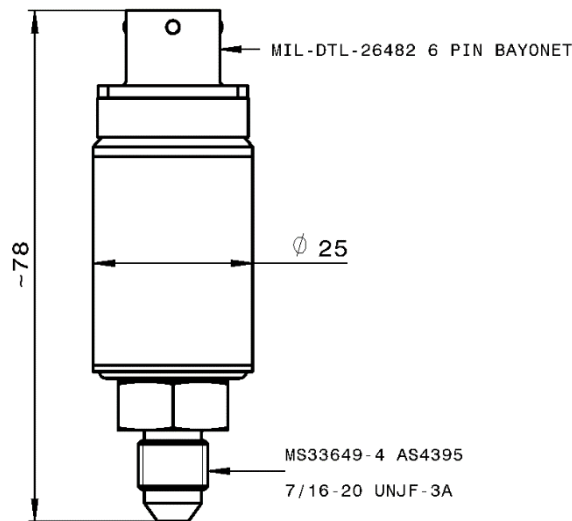
The Transducer Electronic Data Sheet (TEDS) feature permits on-board storage of data in accordance with the IEEE 1451.4 standard for smart transducers. IEEE 1451.4 defines the method of encoding TEDS information for a broad range of sensor types and applications.

The HI3000 TEDS Ready pressure transducer is equipped with a data ready EEPROM onto which critical information can be uploaded. The information required by an instrument or measurement system can be stored on-board the transducer. Data needed to identify, characterise, interface and properly use the signal from an analog sensor is therefore stored within the device for convenient access.

Typical applications include:

- Aerospace

Dimensions (in mm)



Electrical Connections

MIL-DTL-26482	
Pin	Designation
A	+excitation
B	+signal
C	-signal
D	-excitation
E	TEDS+
F	TEDS-

Technical Data

Type	HI3000
Sensor Technology:	Silicon-on-Sapphire (SOS)
Output Signal:	10 mV/V Typical
Supply Voltage:	0-10 VDC (5-15V)
Pressure Reference:	Gauge
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V (amplified versions)
Standard Pressure Ranges (bar):	0-10 bar; 0-16 bar; 0-25 bar; 0-40 bar; 0-60 bar; 0-100 bar; 0-160 bar; 0-250 bar; 0-400 bar; 0-600 bar; 0-1000 bar; 0-1500bar (other ranges available)
Standard Pressure Ranges (psi):	0-150 psi; 0-300 psi; 0-1500 psi; 0-3000 psi; 0-6000 psi; 0-10000 psi; 0-15000 psi; 0-20000 psi (other ranges available)
Overpressure Safety:	1.5x for ranges 0 to 41 bar; 1.1x for ranges 62 to 103 bar; 1.5 x for ranges 138 to 690 bar
Load Driving Capacity:	N/A
Accuracy NLHR:	±0.15 % of span BFSL
Zero Offset and Span Tolerance:	<±1 mV/V; Span Tolerance: 10 mV/V
Operating Temperatures:	Ambient: -40 °C to +85 °C (-40 °F to +185 °F) Media: -50 °C to +125 °C (-58 °F to +257 °F)
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104°F) Recommended Best Practice
Temperature Effects:	±1.0 %FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients ±0.005 %FS/ °C
Electromagnetic Compatibility:	Emissions: EN61000-6-4; Immunity: EN61000-6-2; Certification: UKCA/CE Marked
Insulation Resistance:	> 100 MΩ @ 50 VDC
Response Time 10-90%:	<1ms
Wetted Parts:	Titanium alloy
Pressure Media:	All fluids compatible with Titanium alloy
Pressure Connection:	MS33649-4 AS4395 (7/16-20 UNJF-3A) Other options available
Electrical Connection:	MIL-DTL-26482, size 10-6P, Nickel plated
Net. Weight:	0.2 Kg

Order Matrix

Output	Electrical Connection	Pins	Type	Options	Pressure Range	Process Connection
10 mV/V	MIL-DTL-26482 6 Pin bayonet	6	HI3010			
Options						
No special options required						
Pressure Range						
0-10 bar						
0-16 bar						
0-25 bar						
0-40 bar						
0-60 bar						
0-100 bar						
0-160 bar						
0-250 bar						
0-400 bar						
0-600 bar						
0-1000 bar						
0-1500 bar						
Process Connection						
MS33649-4 AS4395 (7/16-20 UNJF-3A)						

Order Number Example

HI3010-0690FN

For options not listed please contact the sales team

DISCLAIMER : ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment, traceable to national measurement standards.