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HISPEC® HI6000 High Temperature Pressure Transmitter

- High ambient temperatures up to 150°C
- Silicon-on-Sapphire sensor technology for outstanding performance
- Pressure ranges up to 1,500 bar
- Titanium wetted parts for excellent chemical compatibility
- High thermal stability over wide temperature range
- High accuracy version available
- Compact design



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

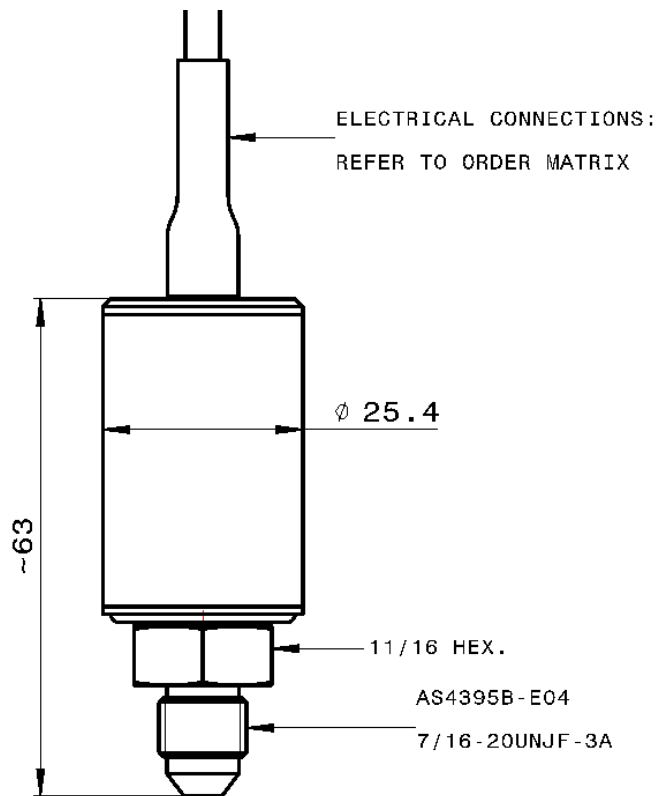
The **HISPEC® HI6000** High Temperature Pressure Transducer performs at constant media and ambient temperatures of up to 135°C and for limited periods up to 150°C. Constructed from Titanium Alloy the unit offers a pressure range of up to 1,500 bar, as well as excellent chemical compatibility and a proven reliability within high temperature environments.

The unique Silicon-on-Sapphire sensor technology provides outstanding performance and gives excellent stability over a wide temperature range. With a compensated temperature range from -25°C to +135°C, a range of outputs and pressure ranges are available as well as a high accuracy option, it is our most flexible high temperature product.

Typical applications include:

- Automotive
- Industrial
- Aviation
- Aerospace

Dimensions (in mm)



Electrical Connection

Pin No.	4-20 mA	VDC	
	2 wire	4 wire	3 wire
1	+supply	+Supply	+Supply
2	4-20mA signal	+Output	+Output
3	N/C	-Output	N/C
4	N/C	-Supply	-Supply

Technical Data

Type	HI6**0	HI6**1	HI6**2	HI6**3
Sensor Technology:	Silicon-on-Sapphire (SOS)			
Output Signal:	0.5-4.5 V ratiometric (4 wire)	0-5 V (4 or 3 wire)	0-10 V (4 or 3 wire)	4-20 mA (2 wire)
Supply Voltage:	4.8 - 5.5 VDC	10-32 VDC	12-32 VDC	10-36 VDC
Pressure Reference:	Gauge			
Protection of Supply Voltage:	Reverse polarity, overvoltage up to 36VDC			
Standard Pressure Ranges (bar):	0-2.5 bar; 0-6 bar; 0-10 bar; 0-16 bar; 0-25 bar; 0-100 bar; 0-250 bar; 0-400 bar; 0-600 bar; 0-1000 bar; 0-1500 bar (other ranges available)			
Standard Pressure Ranges (psi):	0-30 in Hg; 0-7.5 psi; 0-15 psi; 0-30 psi; 0-100 psi; 0-150 psi; 0-200 psi; 0-300 psi; 0-1500 psi; 0-3000 psi; 0-6000 psi; 0-8700 psi; 0-15000 psi; 0-20000 psi (other ranges available)			
Overpressure Safety:	2x for ranges 2.5 bar to 600 bar; 1.5x for 1000 bar range; 1.1x for 1500 bar range			
Load Driving Capacity:	≥ 4.5k	≥ 5k	≥ 10k	RL < [UB - 10 V] / 20 mA (e.g. with supply voltage (UB) of 36 V, max. load (RL) is 1300 Ω)
Accuracy NLHR:	≤ ±0.25 % of span BFSL (Optional higher accuracy version of ≤ ±0.1 % of span BFSL available*)			
Zero Offset and Span Tolerance:	±0.02 V at room temperature			
Operating Temperatures:	Operating Ambient Temperature: -40°C to +135°C, up to +150°C for 10 minutes on rare occasions. Compensated temperature range -25 to 135°C Operating Media Temperature: -40 °C to 135 °C (-40 °F to +275 °F)			
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104 °F) Recommended Best Practice			
Temperature Effects:	Cumulative error < ±0.5%FS (TEB)			
Electromagnetic Compatibility:	EN61000-6-2; EN61000-4-2: Electrostatic discharge: contact ±4kV, air ± 8kV; EN61000-4-4: Fast Transients ± 4kV signal port; EN61000-4-5: Surges ±0.5kV Line to Line; EN 61000-4-6: Disturbances 10V eff 0.15MHz - 80MHz. Certification: UKCA and CE marked			
Insulation Resistance:	> 100 MΩ @ 50 VDC			
Response Time 10-90%:	1 mS			
Wetted Parts:	Titanium alloy measurement cell and wetted parts			
Pressure Media:	All fluids compatible with Titanium alloy			
Pressure Connection:	AS4395B-E04 (7/16-20 UNJF- 3A) other options available			
Electrical Connection:	MIL-DTL-D38999 SERIES III; shell size 9, 6 pin, pattern 35 or PTFE insulated flying lead, conductor size (other options available)			7/0.1 mm
Net Weight:	0.1 Kg			

Order Matrix

Output	Electrical Connection	Wires	Type	Pressure Range	Process Connection
0.5-4.5 V ratiometric	Cable outlet 1m screened IP67 protection	3	HI6000	V001	FN
	D38999 6 pin connector	3	HI6010		
0-5 V	Cable outlet 1m screened IP67 protection	4	HI6001		
	D38999 6 pin connector	4	HI6011		
	Cable outlet 1m screened IP67 protection	3	HI6301		
	D38999 6 pin connector	3	HI6311		
0-10 V	Cable outlet 1m screened IP67 protection	4	HI6002		
	D38999 6 pin connector	4	HI6012		
	Cable outlet 1m screened IP67 protection	3	HI6302		
	D38999 6 pin connector	3	HI6312		
4-20 mA	Cable outlet 1m screened IP67 protection	2	HI6003		
	D38999 6 pin connector	2	HI6013		
Pressure Range in barg					
0-2.5 bar				02.5	
0-6 bar				0006	
0-10 bar				0010	
0-16 bar				0016	
0-25 bar				0025	
0-100 bar				0100	
0-250 bar				0250	
0-400 bar				0400	
0-600 bar				0600	
0-1000 bar				1000	
0-1500 bar				1500	
Process Connection					
AS4395B-E04 (7/16-20 UNJF- 3A)					FN

Order Number Example

HI6003-1500FN

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.