HISPEC © HI2000

High Precision Pressure Transducer

- Silicon-on-Sapphire sensor technology for outstanding performance
- Pressure ranges 0-500 mbar to 0-1500 bar (0-7.5 psi to 0-20,000 psi)
- High accuracy performance
- Titanium wetted parts for excellent chemical compatibility
- High thermal stability over wide operating temperature
- ATEX/IECEx option available (includes M1 for mining applications)

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.

Phone: 1-800-473-7313
Email: sales@sucoesi.com

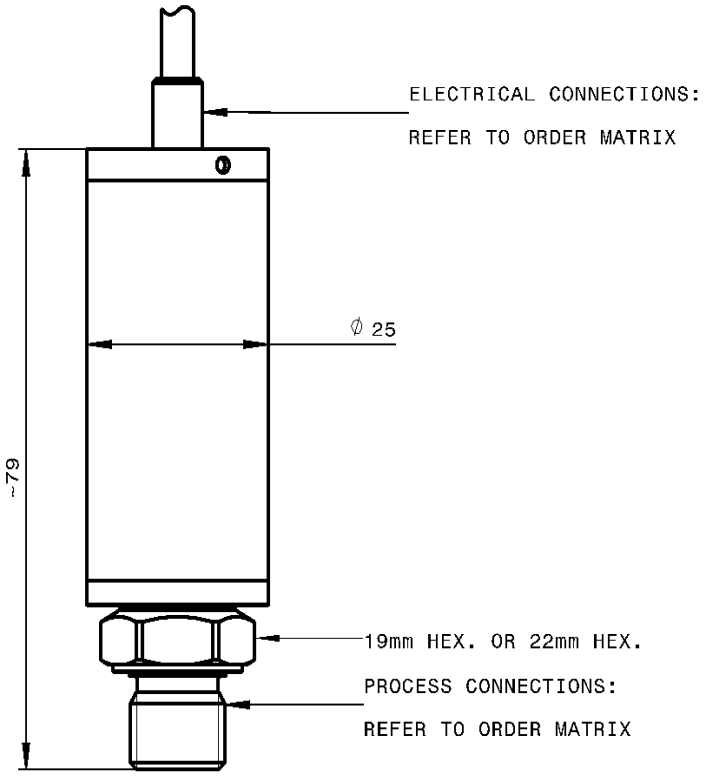
Hispec® HI2000 High Precision Pressure Transmitter

Specifications

The HISPEC HI2000 series of high precision pressure transmitters with state-of-the-art SOS sensor technology offers an operating range up to 1500 bar at an accuracy rate of < ±0.1% of span - a level that was previously unobtainable or prohibitively expensive. ATEX and IECEx approval and protection by intrinsic safety is optional and intended for installation and operation in zone 0, gas group IIC, temperature class T4 and zone 20 dust and M1 mining.

Typical applications include:
- Laboratory and Test
- Aerospace
- Oil and Gas monitoring (downhole)

Dimensions (in mm)



Electrical Connections

Cable Outlet	
Wire Colour	**Designation**
Red	+supply
Green	+output
Yellow	-output
Blue	-supply

MIL-C-26482 Outlet	
Pin	**Designation**
A	+supply
B	+output
C	-output
D	-supply
E	N/C
F	N/C

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Technical Data

Type	HI2000/HI2010	HI2xx1/HI2xx4	HI2xx2/HI2xx5
Sensor Technology:	Silicon-on-Sapphire (SOS)		
Output Signal:	10 mV/V Typical (4 wire)	0-5 V (4 or 3 wire)	0-10 V (4 or 3 wire)
Supply Voltage:	10 VDC (5-15V)	13-30 VDC	13-30 VDC
Pressure Reference:	Gauge		
Protection of Supply Voltage:	n/a	Protected against supply voltage reversal up to 50 V (amplified versions)	
Standard Pressure Ranges (bar):	**0-1.6 bar Vac (Except for HI2000 & HI2010); 0-1.6 bar (Except for HI2000 & HI2010);** 0-10 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 (Except for HI2000 & HI2010); 0-15 psi (Except for HI2000 & HI2010);** 0-150 psi; 0-300 psi; 0-1500 psi; 0-3000 psi; 0-6000 psi; 0-10000 psi; 0-15000 psi; 0-20000psi (other ranges available)		
Overpressure Safety:	4x 0.5 bar range; 2x for ranges 1 bar to 600 bar; 1.5 for 1000 bar; 1.1x for 1500 bar range		
Load Driving Capacity:	**10 mV/V:** n/a; **0-5 V:** max. load RL > 5 KΩ; **0-10 V:** max. load RL > 10 KΩ		
Accuracy NLHR:	±0.1 % of span BFSL		
Zero Offset and Span Tolerance:	±0.5 %FS at room temperature (HI2000/HI2010: ±1 mV)		
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		
ATEX/IECEx Approval Option (10 mV/V version only):	Ex II 1 G Ex ia IIC T4 Ga (zone 0) Ex II 1 D Ex ia IIIC T135 °C Da (zone 20) Ex I M 1 Ex ia I Ma (group 1 M1)	n/a	n/a
ATEX/IECEx Safety Values:	Ui = 28 V Ii = 119 mA Pi = 0.65 W Li = 0.1 µH Ci = 0 Temperature Range = -20 °C to +70 °C Max. cable length = 50 m	n/a	n/a
Electromagnetic Compatibility:	Emissions: EN61000-6-4; Immunity: EN61000-6-2; Certification: UKCA and CE Marked		
Insulation Resistance:	> 100 MΩ @ 50 VDC		
Response Time 10-90%:	1 mS		
Wetted Parts:	Titanium alloy		
Pressure Media:	All fluids compatible with Titanium alloy		
Pressure Connection:	1/4" BSP male (G1/4) or 1/4" NPT male (others options available)		
Electrical Connection:	HI200x: PTFE insulated flying lead, conductor size 7/0.1 mm. HI201x: MIL-C-26482 6 pin bayonet connector (Accessory not included: mating connector type MS3116F10-6S)		
Net Weight:	0.2 Kg		

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Order Matrix

Output	Electrical Connection	Wires	Type	Options	Pressure Range	Process Connection	Other Options
10 mV/V	Cable outlet 1m PTFE	4	HI2000				
	MIL-C-26482 6 pin bayonet	4	HI2010				
0-5 V	Cable outlet 1m PTFE	4	HI2001				
		3	HI2004				
	MIL-C-26482 6 pin bayonet	4	HI2011				
		3	HI2014				
0-10 V	Cable outlet 1m PTFE	4	HI2002				
		3	HI2005				
	MIL-C-26482 6 pin bayonet	4	HI2012				
		3	HI2015				

Options	
No special options required	-
ATEX/IECEx certified (HI2000 & HI2010 only)	EX

Pressure Range	
0-1.6 bar Vac (Amplified output only)	V1.6
0-1.6 bar (Amplified output only)	01.6
0-10 bar	0010
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	
1/4" BSP male (G1/4)	AB
1/4" NPT male	AM

Other Options	
ATEX/IECEx Certification with M12 connector	-M12

Order Number Example	HI2000EX0020AB

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.

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