



Hipres[®] HP1400

High Pressure Transmitter
with RS-485 Interface



- Pressure ranges to 5,000 bar (72,500 psi)
- Pressure diaphragm and process connection is machined from one piece of Titanium with no seals or welds for high pressure integrity
- High resistance to overpressure and pressure transients
- Silicon-on-Sapphire (SOS) sensor technology for outstanding performance and reliability
- High accuracy option
- RS-485 communication up to 1200 m
- Selectable baud rate
- Resistant to interference from noise



Description

The HP1400 series has been developed with RS-485 interface for very high pressure applications, with operating ranges up to 5,000 bar. Providing a half-duplex digital RS-485 output signal and 0-5V analog output, the HP1400 provides high stability and repeatability. It can be configured to suit a multitude of applications and with proprietary RS-485 protocol, each sensor can be allocated a unique device address and connected in series to other sensors and devices on the same communications link.

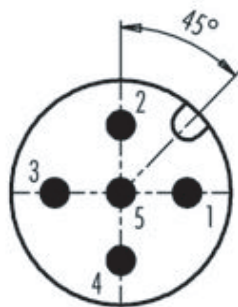
The unique Silicon-on-Sapphire sensor technology provides outstanding performance and gives excellent stability over a wide temperature

range. The wetted parts and pressure diaphragm are machined from a single piece of titanium alloy meaning no weld joints and therefore high pressure integrity and overload capability. All titanium pressure port offers unbeatable corrosion resistance. With a design to meet demanding environments, this transmitter will consistently maintain accurate performance while sustaining high durability. Using the industry standard autoclave process connection enables safe and reliable sealing to such high pressures.

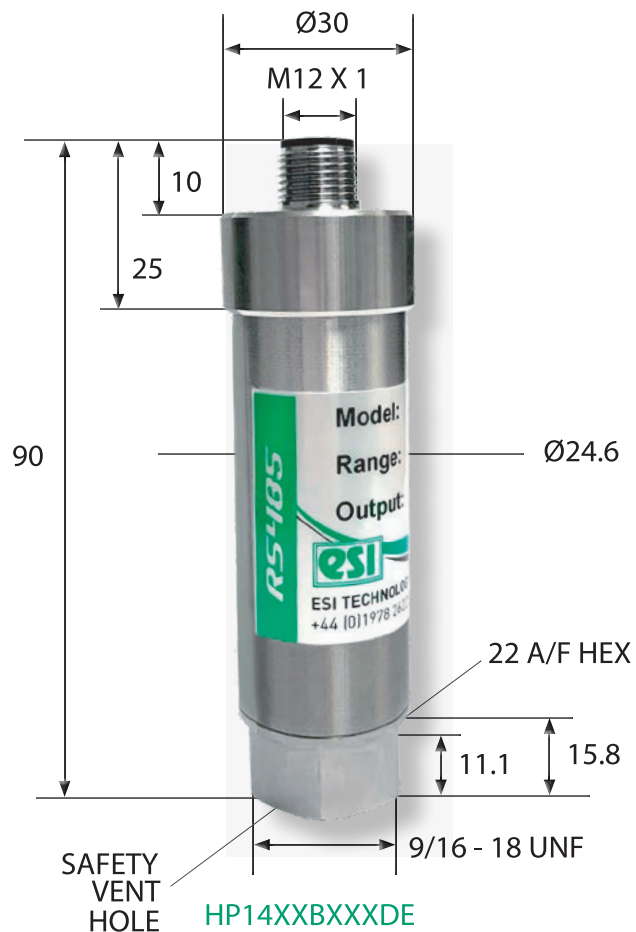
Applications include aerospace, laboratory and test, oil and gas monitoring equipment and general industrial.

Dimensions

(in mm)



Pin No	Designation
1	RS485(B)
2	RS485(A)
3	Common Ground
4	DS Power IN
5	Analog Output
Case	Case GND



Technical Data

Type:	HP1400/HP1410
Sensor Technology:	Silicon-on-Sapphire
Output Signal (Digital):	RS-485 Interface, proprietary communications protocol
Digital Signal Baud Rate:	1200, 2400, 4800, 9600, 14400, 19200, 28800, 57600
Output Signal (Analogue):	0V – 5V analog output, 16bit
Sample Rate:	5Hz (max – digital), 1kHz (max – analog)
Zero Output:	0V
Full Scale Output:	5V
Calibration Output:	Combination of digital and analog signal
Zero Adjustment Range:	User Programmable
Span Adjustment Range:	User Programmable
Supply Voltage:	6-36VDC
Pressure Reference:	Gauge
Protection of Supply Voltage:	Supply: up 36V Analog Output: -0.3V to 5.3V Digital Output: ±15KV ESD
Standard Pressure Ranges (bar):	HP1400: 0 - 600 bar; 0 - 700 bar; 0 - 1,000 bar; 0 - 1,500 bar; 0-2,000 bar. HP1410: 0 - 2,500 bar; 0 - 4,000 bar; 0 - 5,000 bar (other ranges available)
Standard Pressure Ranges (psi):	HP1400: 0-10,000 psi; 0-15,000 psi; 0-20,000 psi; 0-30,000 psi. HP1410: 0-40,000 psi; 0-60,000 psi; 0-72,000 psi (other ranges available)
Overpressure Safety:	1.5x for ranges 0 - 600 bar to 0 - 3,000 bar; 1.25x for 4,000 bar; 1.2x for 5,000 bar
Accuracy NLHR:	digital: ±0.15% of span BFSL, analog: ±0.25% of span BFSL
Zero Offset and Span Tolerance:	±0.6% FS
Operating Ambient Temperature:	-40 °C to +85 °C (-40 °F to +185 °F)
Operating Media Temperature:	-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:	±1.5 %FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients ±0.015 %FS/ °C
Electromagnetic Compatibility:	Emissions: BS EN61000-6-3+A1 Immunity: BS EN61000-6-2 Certification: CE Marked
Response time 10-90 %:	(1000/update rate) + 1ms, <17ms
Bus Addressing:	User Programmable
Wetted Parts:	Titanium alloy machined from a single piece (≥1,000 bar); Titanium alloy and SAE 316 stainless steel (<1,000 bar)
Pressure Media:	All fluids compatible with Titanium alloy (≥1,000 bar); All fluids compatible with Titanium alloy and SAE 316 stainless steel (<1,000 bar)
Pressure Connection:	F250-C Autoclave fitting; thread type 9/16-18UNF-2B female or M16 x 1.5 female cone seal
Electrical Connection:	M12, 5 pin connector, see table 1
Net. Weight (Kg):	<0.2 kg



Order Matrix

Output	Sensor Range	Wires	Type	Electrical Connection	Pressure Range	Process Connection
RS485	Model to 2000 bar	6	HP1400			
RS485	Model above 2000 bar	6	HP1410			
Electrical Connection						
M12 Connector				B		
Pressure Range in bar						
0-600 bar (0-8,700 psi)						0600
0-1,000 bar (0-15,000 psi)						1000
0-1,500 bar (0-20,000 psi)						1500
0-2,000 bar (29,000 psi)						2000
0-3,000 bar (43,500 psi)						3000
0-4,000 bar (58,000 psi)						4000
0-5,000 bar (72,500 psi)						5000
Process Connection						
Autoclave F-250-C female						DE
M16 x 1.5 female cone seal						FK
Order Number Example				HP1410B3000DE		

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.

