Series PT36XX

Subsea Wellbore Pressure/Temperature Sensor

PT36XX

Description

The Series PT36XX subsea wellbore pressure and temperature transducer provides long-term reliable performance in harsh subsea oil and gas exploration environments. This subsea P/T transducer is designed for working pressure to 15,000 psi and seawater depths to 17,000 ft. It has a total error band of ±1% of full scale output. Both temperature and pressure sensors are located at the flush-end of the wellbore probe. This design feature improves dynamic response and also alleviates clogging. The PT36XX is constructed with no external load-bearing welds thus increasing both service life and field serviceability. This wellbore sensor features true secondary containment rated to 20,000 psi. The standard unit incorporates a 3 1/16 inch API flange although customers can specify flange size. Probe lengths are available in lengths of 3" to 24". Both probe lengths and electrical terminations are customer specified. A selection of electrical outputs is available; 4-20 mA , 0-5 Vdc, 0-10 Vdc as well as digital outputs including RS232, RS485, and CANbus. The PT36XX is field proven with years of reliable use. Each transducer is shipped with a multi-point calibration record traceable to NIST as standard. Material traceability is also available.

Standard Features

- **Pressure and Temperature Measurements**
- **Secondary Containment Rated to 20,000 psi**
- **3 1/16" API Flange Interface**
- **Working Pressures to 15,000 psi**
- **Designed For Depths to 17,000 ft. of Seawater**
- **Inconel**
- **4-20 mA Output**
- **High Frequency Response**
- **Field Serviceable Design**

Optional Features

- **Customer Specified Probe Lengths**
- **Customer Specified Electrical Terminations**
- **Customer specified API Flange Sizes**
- **Digital outputs (RS232, RS485, CANbus, MODbus)**

Available PT36XX Sensor Types

- **Pressure and Temperature**
- **Pressure Only**
- **Temperature Only**
- **Dual Redundant Pressure**
- **Depth Compensated**

Your Application-Solution Source℠

Series PT36XX
Specifications

Baseline Configuration Specs Represented.
Modifications Encouraged - See Below
Custom Designs Available

Performance

PRESSURE

Accuracy
Total Error Band of ± 1% of FSO by BFSL. (Combined linearity, hysteresis, repeatability, thermal zero, and thermal span)

Resolution
Analog: Infinite
Digital: 0.025% FSO

Long Term Stability
< 0.02% FS/Year

TEMPERATURE

Thermal Accuracy
±1.2°F or ±1% FSO, whichever is greater (standard).
±0.5°F or ±0.5% FSO for temperature range of 0°F-160°F (optional).

Mechanical Characteristics

Standard Pressure Ranges
0-5000, 7500, 10000, 15000 psig (Optional ranges available)

Pressure Sensor Proof Pressure
1.5 X FSO pressure.

Pressure Sensor Burst Pressure
≥ 2 X FSO pressure.

Secondary Containment
Rated to 20,000 psi.

Construction
API flange and Electronics Housing:
One-piece Inconel.
Probe:
Inconel bolted to API flange.
Sensor Assembly:
Inconel bolted to wellbore probe.

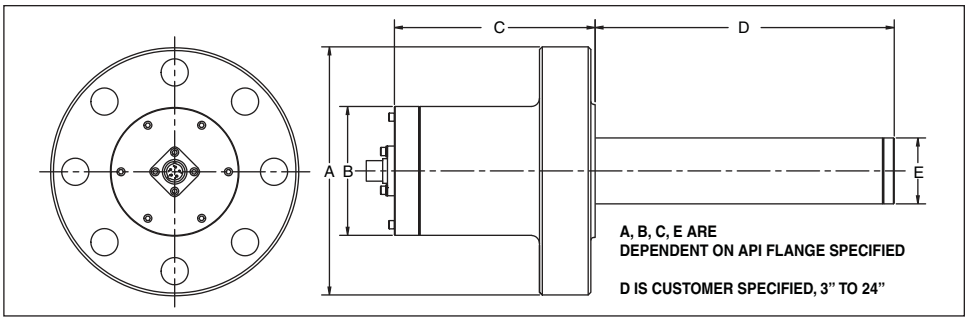
Note: There are NO EB welds used in the construction..

Operating Media
Wellbore: Inconel.
Seawater: Inconel and 316 stainless steel.

Mechanical Interface
3 1/16" API flange (standard).
Customer specified API flange sizes (optional).

Probe Lengths
3 inches to 24 inches.

Dimensions (inches)



Electrical Characteristics

ANALOG OUTPUTS

Excitation
4-20mA Current Loop:
9-36 Vdc for 2-wire.
9-36 Vdc for 3-wire.
Isolated Voltage Output (0-5 Vdc, 0-10 Vdc):
14-32 Vdc (standard).
8-18 Vdc (No charge option).
Non-Isolated Voltage Output:
8-40 Vdc for 1-5 Vdc, 3-wire (standard).
8-40 Vdc for 1-6 Vdc, 3-wire (No charge option).
8-40 Vdc for 0-5 Vdc, 4-wire (No charge option).

DUAL ANALOG OUTPUTS

Available for dual redundant requirements. Utilizes two sensor bridges and two sets of internal electronics. (Outputs and excitations same as above.)

DIGITAL OUTPUTS

Excitation
RS-232, RS-485
8-30 Vdc.
CANbus
4-18 Vdc (standard).
14-32 Vdc (optional).

Programming
PC.

COMMON

Insulation Resistance
> 100 megohms at 500 Vdc at 70°F.

Electrical Termination
Customer specified.

Electrical Characteristics (cont.)

Electrical Protection
- EMI Protected.
- Surge Protection to 500 Vdc.
- Reverse polarity protected.
- Short circuit protected.

Environmental Characteristics

Electronics
Analog: -40°F to +185°F.
Digital: -40°F to +185°F.

Pressure Sensor
Operating temperature range:
32°F to +300°F (standard).

Temperature Sensor
Operating range:
32°F to +300°F (standard).

Certifications/Compliances

ABS Certificate of Design Assessment
Compliant with API-6A, API-16A, API-16D
NACE MR0175
ASME B&DV Code Section VIII, Div 2

MODEL IDENTIFICATION

P	T	3	6	X	X
	SERIES			ANALOG OUTPUT	DIGITAL OUTPUT
				0 = Volts	0 = None
				5 = 4-20mA 2-wire Loop (not available with digital output)	1 = RS-485 2 = RS-232 4 = CANbus
				1 = None	

CE
0539

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.
WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.

Find For More Information at: stellartech.com

Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

ISO 9001:2000

237 Commerce Drive • Amherst, NY 14228 • USA
Tel: 716.250.1900 • ***Fax:*** 716.250.1909
Email: info@stellartech.com

STELLAR TECHNOLOGY INCORPORATED

Datasheet P/N: 235511B