PTX 400 series

Druck Subsea Wellhead Pressure/Temperature Transmitters

The PTX 400 series of pressure, temperature and combined pressure/temperature transmitters has been specifically designed for long term use in subsea locations. It enables accurate process measurements to be made directly on subsea wellheads and production manifolds. The sensor design is based on API performance requirement PRI and product specification level PSL3.

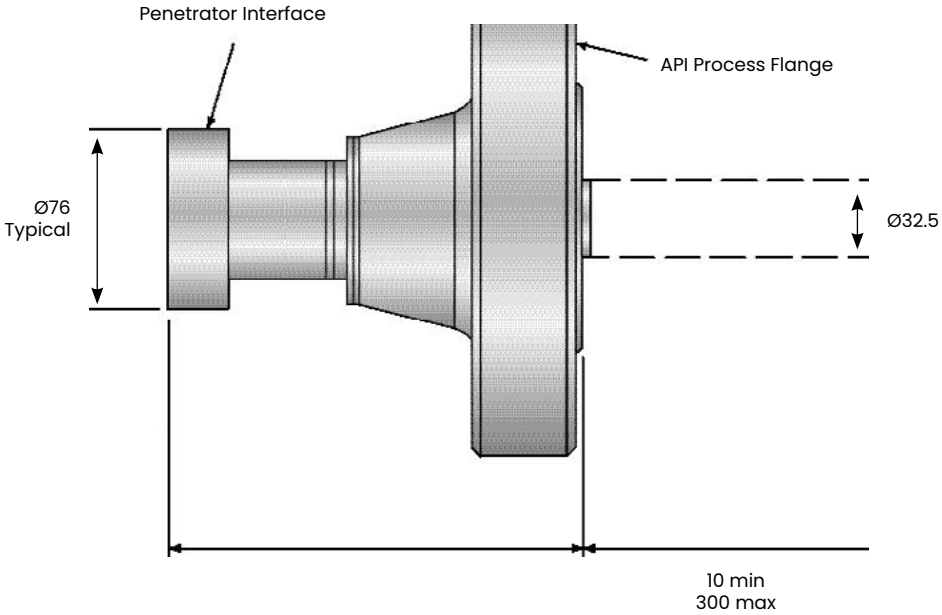
The PTX 400 utilizes micromachined piezo resistive silicon pressure measuring technology continually developed and proven for 30 years. In addition, for the TTX and PTTX variants, precision temperature measurement capability over a wide operating range is provided by a fully integrated high performance platinum resistance type sensor.

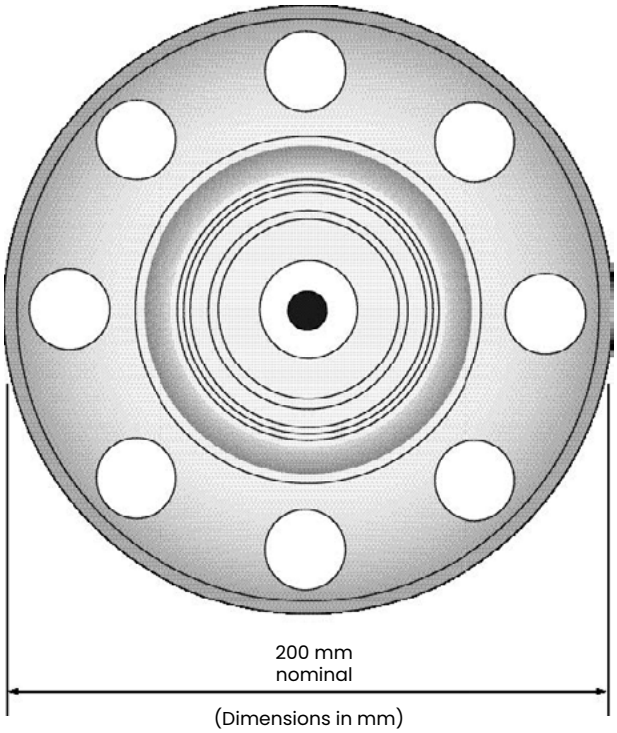
Pressure ranges are available to 690 bar as standard with proof pressure at 1.5 x full scale range and secondary pressure containment in excess of 1035 bar. All units in the 400 series are suitable for continuous use in excess of 25 years, when immersed in saltwater depths of up to 3000 meters.

Features

- Standard pressure ranges up to 690 bar, temperature measurement -40 to 150°C
- External pressure to 3000 mH2O
- Better than 0.1% accuracy
- High reliability and excellent long term stability
- All welded construction, high containment
- Customized designs available

Installation drawings





(Dimensions in mm)

PTX 400 specifications

Pressure (PTX), temperature (TTX) and combined pressure/ temperature (PTTX) versions can be specified as required.

Pressure measurement

Operating pressure ranges

Any full scale range and engineering units may be specifi ed between 0 - 70 bar to 0 - 690 bar sealed gauge or absolute. Higher ranges available. Please refer to Druck.

Proof pressure

Proof pressure tested to 1.5 x F.S.

Overpressure

The operating pressure range can be exceeded by 2 x F.S. without degrading performance.

Secondary containment pressure

The transmitter will safely contain up to 1035 bar maximum without leakage of pressure media.

Pressure media

Fluids compatible with a fully welded assembly of Inconel 625.

Temperature measurement

Operating temperature ranges

Suitable for -40 to 150°C.

Transmitter supply voltage

9 to 30 VDC. The minimum supply voltage that must appear across the transmitter terminals is 9 VDC and is calculated by: VMIN = VSUP - (0.02 x RLOOP)

Supply sensitivity

50.005% F.S./Volt.

Insulation resistance

>100 MV at 500 VDC

Output current

4 to 20 mA (2-wire) proportional for specified operating pressure or temperature range. Other outputs available; please refer to Druck.

Performance

Accuracy

Combined Non-linearity, Hysteresis and repeatability:

Pressure: < 0.1% F.S. (B.S.L)

Temperature: 0.2% F.S. typical.

Zero off set and span setting

±0.5% F.S. nominal @ 23°C.

Long term stability

At standard reference conditions the calibration will not exceed 0.1% F.S. per annum.

Temperature range

Process/ambient -40 to 150°C

Compensated 0 to 100°C typical

Storage -50 to 80°C

Temperature effects

1.5% F.S. Total Error Band typical on pressure measurements.

Physical

Process connection

10000 psi API 21/16" fl ange to API 6A-6BX BX152. Others available on request.

Electrical connection

Compatible with all major proprietary types of subsea connectors. Please refer to Druck.

Weight

13.5 kg nominal.

Ingress protection

IP68, submersible to 3000m H_2O.

Safety

EMC emissions	EN50081-1
EMC Immunity	EN61000-6-2
Certifi cation	CE marked

Ordering information

Please state the following:

(1) Type number:

PTX 400 - Pressure transmitter

PTTX 400- Pressure/Temperature transmitter

TTX 400 - Temperature transmitter.

(2) Operating pressure range (Sealed gauge or absolute), for PTX/PTTX versions only.

(3) Process and electrical connections.

The PTX 400 series can be further customized to suit individual user requirements. Please refer to Druck.

Related products

Druck manufactures a comprehensive range of pressure sensors, indicators, calibrators, controllers and deadweight testers. The range of portable calibrators also covers temperature and electrical parameters.

Please refer to Druck for further information and datasheets.

Calibration standards

Instruments manufactured by Druck are calibrated against precision pressure calibration equipment which is traceable to International Standards. Continuing development sometimes necessitates specification changes without notice.

EP SRL
Via SAN Faustino 155/P
41124 MODENA

www.epsas.i
Tel. 059/357600
ep.ma@epsas,it

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