

Roxar subsea SenCorr PTPT sensor

intrusive fully redundant pressure & temperature sensor
- 15,000 psi / 1,035 bar

Data Sheet



Subsea Redundant Pressure and Temperature (PTPT) Sensor

Roxar’s subsea SenCorr PTPT sensors are based on piezoresistive measurement technology, which allows them to maintain accuracy and stability in fluctuating temperature- and high-pressure conditions. Two independent silicon piezoresistive sensors measure both pressure and temperature from the same measurement bridge, giving complete temperature compensation of the pressure reading and eliminating inaccuracies that may occur due to temperature gradients. The silicon sensors are placed in two high pressure oil-filled cavities using two separation diaphragms.

Pressure & Temperature measurement options

Roxar’s subsea SenCorr Pressure & Temperature sensors are available in a PT version (Pressure/Temperature), a PTPT version (fully redundant Pressure/Temperature) or in combination with our CMPT (Corrosion), SEPT (Sand Erosion) or Force (flow momentum) sensors.

Pressure & Temperature sensors available in 10,000 and 15,000 psi versions.



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Interface Details - Mechanical

Connection type to pipe:

- Integral flange API 6A 6BX 2 1/16" 15,000 psi, PSL3, PR1, Incoloy 925 (UNS N09925)
- Ring gasket BX 152
Temperature range: KX
Material class: HH

Connector type:

- Duplex (UNS S31803) top cover with interface to Tronic, ODI or Omnitec Anguila interface.

PT body material:

- Inconel 625 (UNS NO6625)

PT element housing and diaphragm:

- Inconel 625 (UNS NO6625)

Sensor weight:

- Approximate 30 kg

Interface Details - Electrical

Power supply:

- 24 VDC (18 to 32 VDC)

Current consumption:

- Maximum 100 mA at 24V (50 mA per sensor)

Communication protocol:

- ModBus, ProfiBus, CanBus, Roxar Corrocean Native Protocol

Interface Details - Logic

Communication protocol:

- ModBus, ProfiBus, CanBus, Roxar Corrocean Native Protocol

Communication to Subsea Control System:

- RS485

Specifications

Design water depth:

- 3,000 meters / 10,000 feet

Design life:

- 25 years

Maximum shock:

- 10 g, 11 ms half sine (all 6 axis)

Maximum vibration level:

- Frequency range 5-150 Hz, 5-25 Hz:
±2mm, 25-150 Hz: 5g

Pressure Rating

Operating pressure range - Full Scale Range (FSR):

- 0-1,035 bar / 0-15,000 psi

Maximum test pressure:

- 1,552 bar / 22,500 psi

Pressure accuracies:

- ±0.02%, ±0.05% or ±0.1% of FSR within calibrated temperature range
- ±1 bar from -40°C to 0°C / -40°F to 32°F

Pressure annual drift:

- <0.02% of FSR/year

Pressure resolution:

- 0.001 bar

Pressure repeatability:

- ±0.004% of FSR

Response time pressure:

- Standard: 1 second
- Best: 0.5 second

Temperature Rating

Operating temperature range:

- Standard: -40°C to +125°C / -40°F to +257°F
- Optional: -60°C, +135°C / -76°F, +275°F

Calibrated temperature range:

- Standard: 0°C to +125°C / 32°F to +257°F
- Optional: 0°C to +135°C / 32°F to +275°F

Temperature accuracies:

- ±0.3°C or ±0.5°C / ±0.54°F or ±0.9°F within calibrated temperature range
- ±1°C from -40°C to 0°C / -40°F to 32°F

Temperature annual drift:

- <0.1% of FSR/year

Temperature resolution:

- 0.001°C

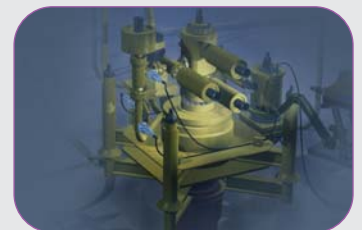
Temperature repeatability:

- ±0.1°C

Response time temperature:

- Standard: 1 second
- Best: 0.5 second

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