

# PRIME TECHNOLOGY

## The Oceanographic Pressure Transmitter

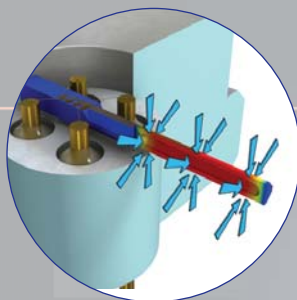
The PRECISE Digital Pressure Transmitter measures pressure with extreme accuracy and no detectable drift. With a guaranteed total error band (all possible errors) of  $< \pm 0.01\%FS$  and high resolution, PRECISE offers a level of performance unequalled by any other sensor.

### Features & Benefits

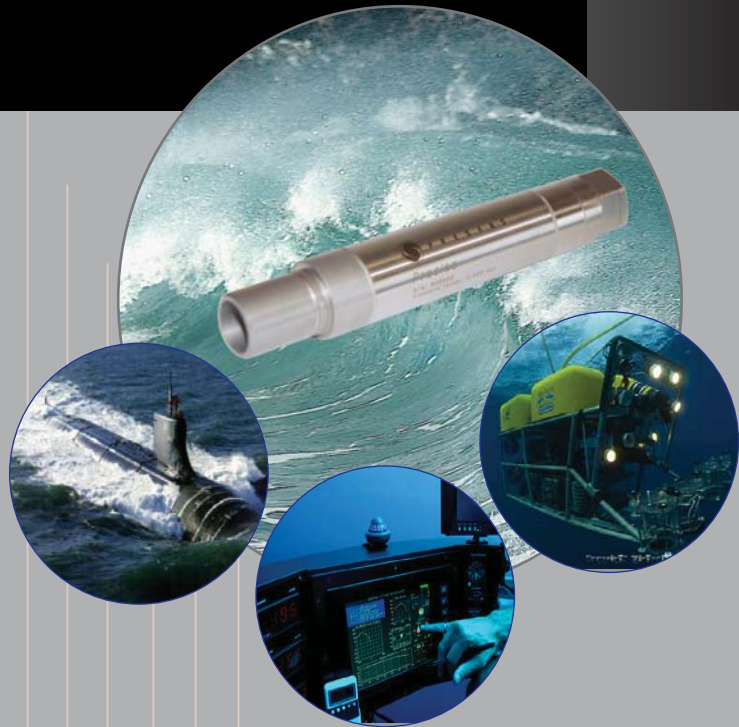
- Total accuracy  $< \pm 0.01\%FS$
- Resolution  $< 2 \text{ ppm}$
- Long-term stability  $< \pm 0.01\%FS/\text{year}$
- Adjustable sample rate 5 to 25 samples/sec
- Shock & vibration resistant
- Robust, all-welded construction
- "Switch on to full accuracy" in less than 3 seconds
- Low power consumption
- Submersible version for deep sea applications

### Sensing Technology

At the core of the PRECISE transmitter is PRESENS' patented tubular sensing element. A combination of high resolution and extreme tolerance to high pressure makes this unique MEMS sensing element ideal for a wide range of high-pressure oceanic applications.



The tubular design of the PRECISE sensor element allows it to operate in compressive stress mode, which gives high resilience to external pressure while maintaining extreme and stable accuracy in dynamic subsea environments.



### Applications

- Underwater positioning and navigation systems
- Submarines
- ROVs / AUVs
- Depth measurement
- Subsea sonar systems
- Tsunami detection
- Maritime security systems

### Quality Assurance

PRESENS quality systems satisfy the highest international standards.

ISO 9001:2000 Certified

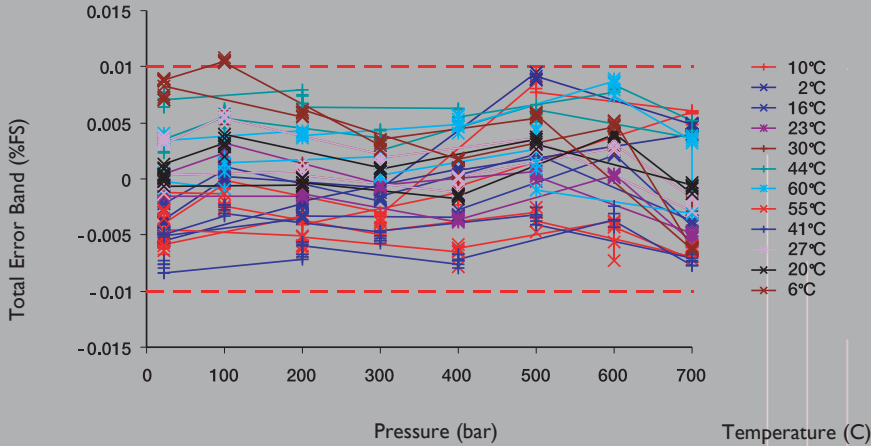


Certificate no. NO-900598



PRESENS  
Pressure Sensor Technology

## Performance



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### Calibration

- Graph shows total error band for Gold Plus Precise transmitter
- Pressure reference: DH-Budenberg 50000 II DW tester (total accuracy pressure reference  $\pm 0.005\%$  of reading)

### Total error band includes

- Thermal & mechanical hysteresis
- Repeatability
- Non-linearity
- Off-set
- Electrical noise in calibration instruments

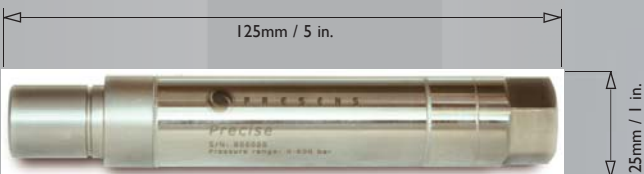
## Specifications

	Gold	Gold Plus
Accuracy class		
Total error band, pressure	$< \pm 0.02\%FS$	$< \pm 0.01\%FS$
1-year stability	$< \pm 0.01\%FS$	$< \pm 0.01\%FS$
Pressure ranges	From 0–50 bar/0-750 psi up to 0-2000 bar/0-30000 psi	From 0–200 bar/0-3000 psi up to 0-2000 bar/0-30000 psi
Resolution		$< 2\text{mbar}$ at 5 samples/sec
Over pressure		1.5 x FS to 5 x FS (pressure dependent)
Burst pressure		2 x FS (max 3000 bar)
Mode of operation		Absolute or sealed gauge
Calibrated temp range, std		+10 – +40 °C
Operating temp range		-40 – +60 °C
Output signal		Digital
Communication interface		RS485
Communication protocol		MODBUS
Power supply		9 - 36V
Sample rate		Adjustable between 5 to 25 samples/sec
Shock		1 m drop test on concrete floor
Electrical connection		Flying leads
Pressure connection		Autoclave F250C
Material, wetted parts		Inconel 625
Material, non-wetted parts		AISI316

## Options

Certification	Customer specified calibration certificate
Electrical connection	Customer specified electrical connections on request
Pressure connection	Autoclave SM250CX, 1/4" NPT, M 10x1 and others on request
Communication interface	RS485 to RS232 or RS485 to USB adaptor

## Dimensions



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