SMS Pressure™

Wireless pressure or pressure differential monitoring

Technical Data Sheet

SMS Pressure™ is an autonomous subsea sensor and data logger for monitoring of pressure or pressure differentials. The sensor housing is pressure rated to 3000 meter water depth, while the pressure rating of the sensor unit can go up to 1000 bar. SMS Pressure™ has extremely low power consumption and can log pressure at up to 5 Hz sampling frequency for more than 360 days. The sensor can be combined with SMS Gyro™ in the same housing.

Wireless Configuration and Data Transfer

The sensor can be configured via the SMS Magic Hand™ optical modem during mobilisation. Raw data and statistical data can easily be transferred to a topside computer during a logging campaign by letting an ROV hold the SMS Magic Hand™ modem in front of a sensor.

Retrofit Solution

There is easy installation by ROV and easy retrieval of sensors to topside if service and/or memory card download is necessary.

Sensors in Network

Two or more sensors can be connected by cable on the proprietary RS485-based SenseBus, facilitating synchronised data sampling and logging. One sensor is configured as BusMaster, and a topside computer can via a ROV-carried SMS Magic Hand™ download data, reconfigure the sensor, or upgrade firmware. Any sensor on the bus can be reached from one single access point, the BusMaster.

Sensor Quality

Sensor accuracy is 0.25% of full scale, including linearity, hysteresis, and repeatability. Each pressure transducer is subjected to comprehensive tests as to its pressure response and temperature characteristic, and is delivered with an individual calibration certificate stating the characteristics as well as the results of all tests which were performed.

Differential Pressure Sensor

Full Scale (FS) Range 5, 10, or 20 bar
Line Pressure (both ports) <200 bar
Accuracy 0.25% FS (typical), 0.5% (max)
Material Stainless steel 316L

Absolute Pressure Sensor

Full Scale (FS) Range 50, 100, 200, 400, 600, or 1000 bar
Accuracy 0.25% FS (typical), 0.5% (max)
Material Stainless steel 316L

4Subsea helps operators reduce cost of operations and maximise life of assets using autonomous sensors in combination with data analytics and specialist engineering competence. Products in the Smart Monitoring Sensors (SMS) range are SMS Gyro™, SMS Vibration™, SMS Strain™, SMS Magic Hand™, SMS Gateway™, SMS Pressure™, and SMS Satellite™. Technology applications include monitoring of wellhead integrity, risers, mooring lines, subsea spools and manifolds, as well as monitoring of pipelines and subsea structures.
Optical Communication Port
- Use Configuration, setup, data transfer via ROV
- Optical modem SMS Magic Hand™
- Range 0.5m to 1.0m in water (6m in air)
- Baud rate 115200
- Mode of operation Half duplex
- Wavelength 890 nm
- Eye safety Class 1 (IEC60825-1), i.e. eye-safe under all operating conditions

Topside Communication Port (optional)
- Use Configuration, setup, data transfer (via hot stab)
- Type RS485, half duplex (two signal wires)
- Baud rate Max 115200
- Power input +5.0V to +26V

LED Indicator
- Type Red LED heartbeat indicator

Environmental
- Operating temperature 0° C to 30° C
- Storage temperature -5° C to 50° C
- Pressure rating 3000m water depth

SenseBus Communication Port
- Use Communication with other sensors & modules Type RS485, half duplex (two signal wires)
- Baud rate 115200
- Power input +3.6V

Housing
- Material Stainless steel 316L
- Length 393 mm
- Diameter 114 mm (top section)
- Weight in air 9.4 kg (with two batteries)
- Weight in water 7.4 kg (with two batteries)
- Sealing 2 x O-rings (axial)
- Optical window Polycarbonate
- Safety No risk of building up dangerous pressure

Battery Operation
- Stand batteries 2 x double D-cell 3.6V Lithium - can operate with one battery
- Battery capacity 68000mAh (nominal at 25° C and 10mA)
- Battery capacity 52000mAh (nominal at 0° C and 10mA)
- Current consumption < 6mA
- Typical service life 12 months (2° C)
- Optional battery pack 6 x double D-cell

SMS Pressure™
- A funnel-shaped receptacle allows for precise and repeated placement by ROV.

4Subsea is a leading provider of technology and services that help operators maintain production from subsea oil and gas fields and offshore wind farms. By combining expert engineering competence, practical experience and a digital service, we ensure the integrity of assets all the way from reservoir to deck.

We deliver solutions on a unique digital platform, aiming to be in the forefront of digitising oil, gas and offshore wind operations worldwide. The company was established in 2007, and clients include all the major oil and gas operators as well as the large suppliers of subsea equipment.

Click here to view a short video of our solutions and offerings.

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