

SMS Gateway™

Connecting sensors to the cloud



Technical Data Sheet

The SMS Gateway™ is used for configuration and management of the Smart Monitoring Sensors (SMS). It can also be used as a combined hub for collecting sensor data and as a vessel MRU. The unit allows for offshore configuration of all SMS sensors and for transferring data from SMS sensors to DataReservoir.io™. It can act as a data hub for collecting data from multiple data sources that are to interface with DataReservoir.io™.

Time series data (1-10Hz) for storage, distribution and analysis are delivered via DataReservoir.io™, allowing for safe and seamless data access and sharing. Having immediate access to time series data, whether collected in the field or just simulation results, will give collaborating teams an important edge in this data driven era of engineering. SMS sensors are “plug and play” with SMS Gateway™ and can be set up with existing personnel on the FPSO or platform.

UPS Specification

Two battery-backup (UPS) devices are provided inside the cabinet to allow continuous operation across short power outages (typical < 1 hour).

Input 12V DC

Output 12V DC

Switching downtime for the output < 50ms

Li-Ion polymer battery 18Wh capacity

Operating temperature 0°C to 40°C

Storage temperature -20°C to 45°C

Processor

Type AMD A10 Micro-6700T SoC

Score 64-bit Quad Core

Networking

LAN 22x GbE LAN ports (RJ-45) - LAN1: Intel I211

GbE controller - LAN2: Intel I211 GbE controller

Wireless WLAN 802.11ac (2.4/5GHz dual band Intel 7260HMW)

Ports

USB 22x USB 3.0 - 4x USB 2.0

Serial 1x Serial communication port - COM1: RS232 via mini serial connector

SD Micro-SD slot support SD/SDHC cards - transfer rates up to 25 MB/s

Cabinet Specification

Wall mountable IP67

Dimensions 30x30x13 cm

Weight 3.1 kg

Connectors LAN (RJ-45 Ethernet)

Power input PSU 12V DC 5A (External Power Supply Unit 100-240VAC with IEC-plug is provided)

Operation Conditions

Input voltage Unregulated 10 - 15VDC input

Power consumption 4.5W - 10.5W

Operating temperature 0°C - 70°C

Relative Humidity 10% to 90% (operation) - 5% to 95% (storage)

MTTF > 100,000 hours

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.

Acceleration Sensor

Range +/-2g (optional +/-4, 8 or 16)
Noise level, Ax, Ay 0.00052g rms @ 5Hz bandwidth
Noise level, Az (vertical) 0.00087g rms @ 5Hz bandwidth

Gyroscope Sensor

Range +/- 250°/s
Noise level, Gx, Gy, Gz 0.012°/s rms @ 5Hz bandwidth



Used as Pitch and Roll Inclinometer

Angular orientation range +/- 90°
Calibrated range +/- 5°
Frequency range 0Hz (stationary) to 0.5Hz
Pitch and Roll noise level 0.012° rms (fs=10Hz)
Resolution (1) 0.024° (fs=10Hz)
Static accuracy (2) 0.072°

1) Resolution is defined as 2σ where σ is the standard deviation or rms value of the sensor noise level (which depends on the bandwidth).
2) Accuracy is defined as $2\sigma + \epsilon$ where σ is defined in 1) and ϵ is the total error over the entire angle- and temperature range.



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.

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. 4Subsea is headquartered in Asker, Norway with additional offices in Bergen, Kristiansand, Stavanger, Macaé, and Rio de Janeiro, and with local presence in Aberdeen and Perth. More info at www.4subsea.com.

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