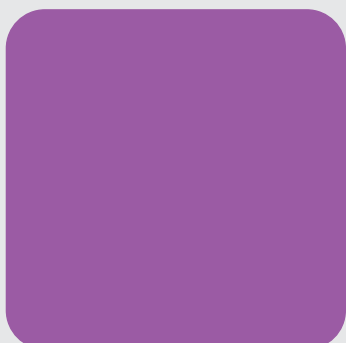


Roxar subsea FSM

Field Signature Method

Data Sheet



Non-intrusive subsea corrosion monitoring system

The Roxar subsea FSM is a unique non-intrusive system for monitoring changes in pipe wall over a relatively large area of subsea pipe. By inducing an electrical current into strategically located pipe sections, the subsea FSM monitors changes in the electrical field pattern and indicates early warning at the slightest initial signs of metal loss. Subsea FSM is well suited for monitoring internal general corrosion, corrosion of welds and localized corrosion – contributing greatly to extended service life of subsea pipelines.



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Specifications

Interface Details - Mechanical

Connection type to pipe:

- Welded or Flanged (supplied by customer as a free-issued spool)

Connector type:

- Bulkhead Ocean Design Nautilus Plug 4-way ROV Ti. OD P/N: 1030719 (others on request)

RIU material:

- Titanium Gr. 5

NRIU material:

- Titanium Gr. 5

Protection frame material:

- Carbon Steel St. 52-3
- Coating NORSOK M-501 System #7
- Color RAL 1004 Goldgelb
- Max. impact load: ROV of 8200 lbs. collision at 3 knots
- Cathodic protection design life 25 years

Coating and thermal insulation:

- NORSOK M-501 System #9
- High Temp max. 140°C / 284°F: Vulcanized Rubber, Trelleborg 73961
- Temp max. 95°C / 203°F: Vulcanized Rubber Trelleborg 73165

Sensor weight:

- Pipeline weight + approx. 900kg / 2,000 lbs*

Interface Details - Electrical

Power supply:

- 24VDC (18 to 36 VDC) or 230VAC (85 to 265 VAC)

Current consumption:

- Measuring: 15 - 30W**
- Standby: <4W
- Idle: <1W

Interface Details - Logic

Communication protocol:

- Roxar CorrOcean Native Protocol (Ref. 18296-16959-I-SW-0023)

Communication to subsea control system:

- RS 485

Specifications

Number of Measuring Electrodes on pipe:

- 182

Design water depth:

- 3,000 meters / 10,000 feet

Design life:

- 25 years

Pressure rating:

- Same as subsea pipeline

Temperature rating:

- -10°C to +140°C / 14°F to 284°F for FSM
- Spool and spool-mounted equipment using high-temperature rubber (standard rubber) max. 95°C / 203°F
- -10°C to +70°C / 14°F to 158°F for FSM RIU and NRIU

Accuracy / Sensitivity:

- 1/1000 (1 ppt) of pipe wall thickness for general corrosion

* Additional weight is relative to pipeline size and length and in addition insulation requirements. These factors will affect the thickness of the coating (Vulcanized Rubber) used for Coating and Thermal Insulation.

** Maximum power consumption is dependent on size of pipe (8" - 42") and pin spacing.

Roxar subsea FSM



www.roxar.com

For further information
please contact your
regional office or
email: info@roxar.com
or visit www.roxar.com.

Scandinavia
CIS
Europe/Africa
America

Tel: +47 51 81 88 00
Tel: +7 495 504 3405
Tel: +44 1224 411 200
Tel: +1 713 334 2222

Middle East
Asia Pacific
Australia

Tel: +973 17 517 111
Tel: +603 2162 4450
Tel: +61 8 9315 9500



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