



Overview

The Scanmatic Subsea Proximity Sensors offers a wireless way of monitoring the position of dynamic subsea infrastructures.

The proximity switches contains identical independent inductive sensing elements for continuous detection of the presence of metal. By use of metal end flags, or more elaborate code plates, the system provides positioning information and alarm handling for the mooring link, chain stopper arm or any other dynamically moving subsea element being monitored.

The sensing elements are protected inside a pressure-proof subsea enclosure of stainless steel. The enclosure is filled with a polyurethane casting material in order to provide a galvanic barrier between the sensing elements and the housing material, prevent water intrusion and to protect the sensing elements against impact and vibrations.

The sensors are insensitive to dirt, vibration and are typically depth rated to 100m. With contactless detection, no physical actuating force is required for operation. There is no contact bounce, no sensor wear, no maintenance and the service life is independent of the switching frequency.

Applications

- Mooring Line Integrity Monitoring
 - Early warning of mooring line failure
 - Increased situational awareness
- Relative position monitoring

Features:

- Robust inductive sensors
- 15 mm sensing distance
- Sealed subsea housing
- Galvanic separation of sensing elements
- Custom engineering and adaptation
- Optional data acquisition and system integration



Code plate and sensor on mooring link

Specifications of proximity sensors

The proximity sensor solutions are typically custom made to meet customer demands and special project requirements. Two delivered examples are presented here.

Inclinometer SM2890	
Description	Intrinsically safe subsea inclinometer with three identical inductive sensing elements. Operates in conjunction with coded plate on movable part (e.g. mooring line) for readout of relative angles. Sensing distance: 15 mm (coded plate in carbon steel).
Material	Stainless steel (SS316L). Titanium optional.
Chassis connection	Flying lead or chassis connector
Dimensions	Length: Ø300 mm (Without cable and connector) Height: 100 mm Width: Ø300 mm Weight: 24 kg
Environmental	Operating temperature range: -10° C to +40° C Depth rating: 10 bar
Electrical	Operating voltage: 5 ... 15 VDC Power consumption: < 100 mW Signal interface: NAMUR EN 60947-5-6, 2 wire DC
Basic accuracy	+/- 1 degree relative angle

Proximity sensor SM2885	
Description	Intrinsically safe subsea proximity sensor with two identical inductive sensing elements. Operates in conjunction with steel flags for registering extremal position of movable part (e.g. mooring line chain stopper). Sensing distance: 15 mm (flags in carbon steel).
Material	Stainless steel (SS316L). Titanium optional.
Chassis connection	Diver wet mateable Teledyne ODI connector
Dimensions	Length: Ø300/330 mm (wo/w chassis connector) Height: 256 mm Width: Ø300 mm Weight: 43 kg
Environmental	Operating temperature range: -10° C to +40° C Depth rating: 10 bar
Electrical	Operating voltage: 5 ... 15 VDC Power consumption: < 60 mW Signal interface: NAMUR EN 60947-5-6, 2 wire DC

