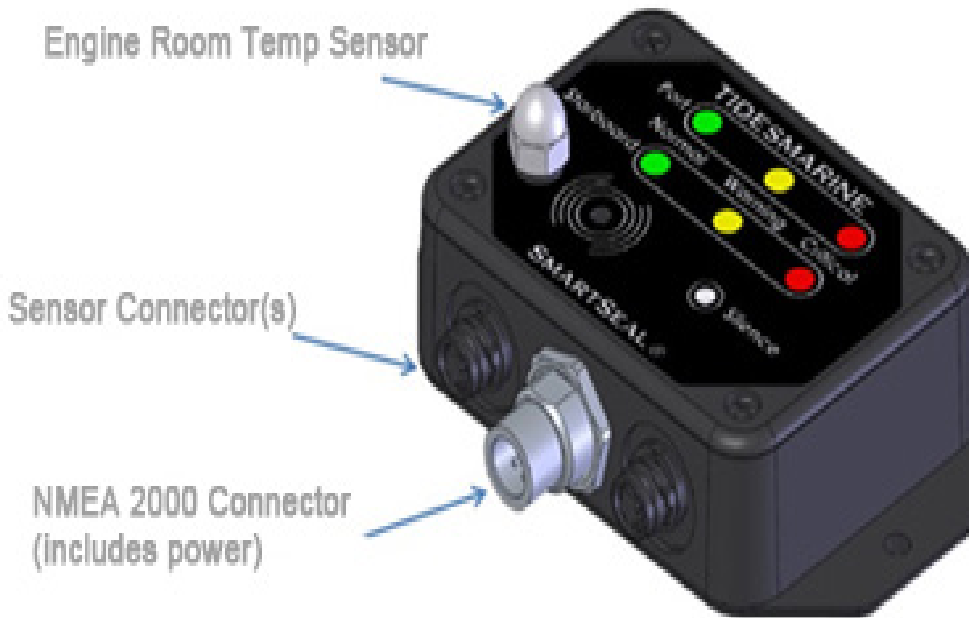# TIDESMARINE

# *NEW* SmartSeal® Temperature Sensor System

Main Unit - Bulkhead Mounted
Dual Engine Configuration Shown

Engine Room Temp Sensor

Sensor Connector(s)

NMEA 2000 Connector
(includes power)

The SmartSeal Temperature Sensor system is designed to detect and warn of various vessel conditions that may lead to shaft seal damage or failure. The system is available for use in single or twin engine vessels and consists of a main control unit and a set of peripheral units. The system employs electronic sensors (thermistors) to measure temperature. The sensors are monitored by a microprocessor that processes sensor data and reports the summarized warning and status information to receiving peripherals. These peripherals range from simple warning and status indicators on the Main and Remote units to transmission of NMEA 2000 compliant messages to the main or auxiliary vessel computer systems.

The system is comprised of a bulkhead mounted Main control unit and one or more Remote units. Remote units are available in panel or bulkhead mounting configurations. The system may be installed on vessels equipped with a NMEA 2000® network but will also operate on NON-NMEA 2000 vessels. The Main unit is installed in the vessel's engine room or compartment. An engine room temperature sensor is included with the Main control unit.

The Main and Remote units are IP66 rated (waterproof for heavy spray and brief submersion), so any unit may be mounted in damp or wet locations. The panel mounted Remote units are additionally O-ring sealed against the face of the panel they are mounted to so they may be used in locations which are exposed to rain or sea water (e.g. mounting on a flybridge).

Remote Unit - Panel Mounted
Dual Engine Configuration Shown

Remote Unit - Bulkhead Mounted
Single Engine Configuration Shown

NMEA 2000 Connectors
(also used on non-network vessels)

# TIDESMARINE

## SmartSeal Temperature Sensor Features

### General

- Shaft seal temperature monitoring for single or twin engine vessels
- Remote reporting units and Siren available as options
- Multiple Remote units may be used
- LED and audible alarm indications of Normal, Warning, and Critical Alert conditions
- NMEA 2000 certified
- Use on vessels without a NMEA 2000 network or another network with a converter (e.g. NMEA 0183)
- Engine Room temperature reporting included (NMEA 2000 network required)
- Field or Factoiry installable

### Regulatory and Ruggedness

- FCC/CE Approved
- RoHS Compliant
- Manufacturing
  - Quality System Certified to ISO 9001-2000
  - Built to IPC-A-612 Class 2
- Conformal coated
- All connectors are sealed
- Main and Remote units: IP66+ rated, Panel Remote: IP68
- 12VDC power (from NEMA 2000 network if on NMEA 2000 equipped vessel)
- Positive clamp temperature sensor (sealed thermistor type)

### Temperature Monitoring

- LED indicators for OK (green), Warning (yellow) & Critical Alert (red)
- Status messages sent over NMEA 2000 network (for Multi-function Displays)
- Messages sent to one or more Remote units
- Audible warnings and alerts (slow for Warning, rapid for Alert)
- Silence button on Main unit
- Remote units "repeat" LED indicators and audible sounds from the Main unit
- Error checking of temperature sensors with LED error indications

### NMEA 2000

- Load Equivalence Number (LEN) = 2 (1 LEN = 50 mA)
- Tides Marine Manufacturer Code - 797
- Main Control Unit Product Code - 23843
- Remote Unit Product Code - 5753
- Shaft seal temperature source - 15 (0xff) (Instances: 0 = Port/Single, 1 = Starboard)
- Periodic Data PGNs: 130312, 130316 - 1 second rate

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