

SMART SEAL OVERHEAT ALARM SYSTEM



Tides Marine's SureSeal™ dripless propeller shaft seal system is now available with temperature monitoring technology.

The SMART SEAL Overheat Alarm System

Tides Marine is pleased to announce the development of an overheat temperature warning system to work in conjunction with their Lloyd's Register certified propeller shaft seals running on commercial and pleasure craft with single or twin engine installations.

Working together with temperature measurement specialists, Pros by Ditel, this system has been designed to monitor seal head temperature using a solid state sensor, electronic control module and a remote alarm panel or warning siren.

Any increase in the normal operating temperature of the shaft seal installation will trigger an audible and visual alarm, allowing maintenance to be carried out before damage to the seal head results.



The control module accepts a 12V or 24V DC power supply and has a self-diagnostic facility on power-up to ensure that the system is functioning correctly.

SMART SEAL works with both new builds and retro-fit markets.

Smart Seal FEATURES	Smart Seal BENEFITS
Provides early warning of overheating. →	<ul style="list-style-type: none"> ⚡ SMART SEAL detects excessive increases in water temperature within the shaft seal or forward part of the stern tube. ⚡ Any interruption to the cooling water supply or the stern tube being blocked will cause the alarm to sound.
Low maintenance. →	<ul style="list-style-type: none"> ⚡ Solid state sensor with no moving parts—mounts to water injection fitting on SureSeal unit. ⚡ Control module has self-diagnostic test on power-up ⚡ 2-year warranty.
Easy to install. →	<ul style="list-style-type: none"> ⚡ Control module mounts to engine room bulkhead. ⚡ Suitable for single or twin engine installations. ⚡ Sensors pre-wired with 10 metres of heat-resistant cable, allowing convenient control panel location. ⚡ Remote panel designed for mounting at helm position.
Compatibility. →	<ul style="list-style-type: none"> ⚡ Control module has output for optional remote siren or for connection to on-board warning/alarm system. ⚡ Suitable for 12V and 24V DC operation. ⚡ Can be retro-fitted to any Tides Marine SureSeal unit already in service.
Simple operation. →	<ul style="list-style-type: none"> ⚡ Green 'OK' light to confirm that the system is functioning correctly ⚡ Control module identifies which shaft seal is starting to overheat ⚡ "RESET" button to cancel alarm events. ⚡ Memory re-activates alarm after power interruption.

SMART SEAL Overheat Alarm System includes:

- # 1 x control panel
- # 1 sensor supplied with single engine system - 2 sensors supplied with twin engine systems
- # 1 x remote panel

Operation

When connecting the module to a 12/24 volt DC supply, an automatic self-diagnostic test takes place with the green 'OK' LED being illuminated if the system is functioning correctly. If the unit detects a failure in one of the sensors, both the green LED and the faulty sensor's red LED will flash and the buzzer will sound.

Once the automatic test is complete and the green 'OK' LED remains lit, the module will start to read the temperature measured by the sensor(s). If the module detects a temperature in excess of the predetermined value (default setting 60°C), the green 'OK' LED will go out, the red LED will start to flash with the internal buzzer and the optional external siren which signals the overheat situation. The RESET button allows the operator to deactivate the acoustic and visual signals. Please note that the alarm will sound again after 15 minutes if the temperature has not lowered and the problem has not been corrected.

If the temperature continues to rise and reaches 80°C, the overheating sensor's red LED will illuminate. Also, the module's internal buzzer and external siren (where fitted) will emit a continuous audible signal.

Installation:

The module must be attached to a flat surface, in a clean, dry area of the engine room using the screws provided. The cable to the sensors comes with a standard ten metre cable.

Configuration for 1 or 2 Engines:

The module allows the operator to set the unit for either single or twin-engine installation. Before connecting the module to the power supply, use the toggle switch to indicate single or dual operation.

For single engine applications, connect the sensor to "ENG 1" (PORT).

Technical Characteristics:

Supply: **12V DC or 24V DC**

Temperature sensor: **PT1000**

Temperature activation of alarm: **60°C ± 1°C Hysteresis: 2°C**

Temperature activation of second alarm: **80°C ± 2°C**

Output optional siren: **I max = 0.3A**

Optional external siren: **V = 12V or 24V**

Output LED remote module: **I max = 0.3A**

Output to buzzer remote module: **I max = 0.3A**

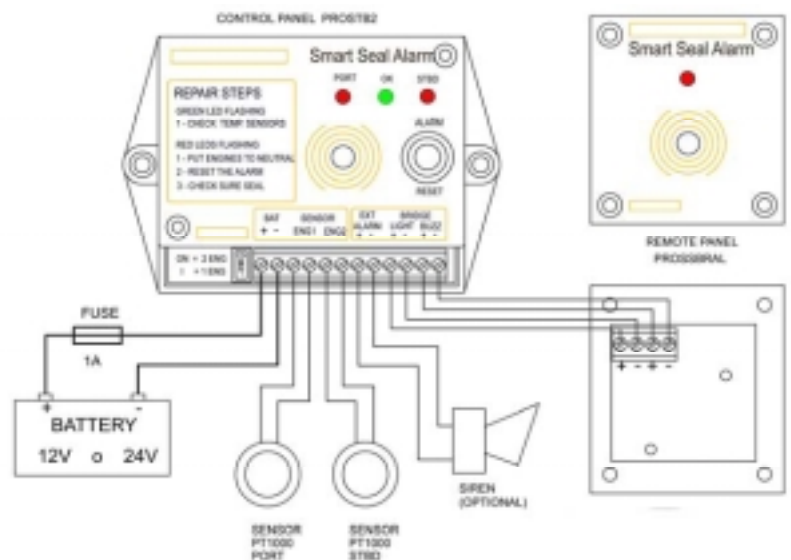
Dimensions of control panel (mm): **80 wide, 95 long, 50 deep**

Dimensions of remote panel (mm): **60 wide, 65 long, 30 deep**

Memory Events:

When the module has detected a high temperature situation in either of the SureSeals Alarm and the alarm has activated, this can only be cancelled by pressing the RESET button.

If the power supply to the unit is disconnected with the unit in alarm mode, the alarm will automatically re-activate when power is resumed. The alarm will continue until the RESET button is pressed and the problem checked.



Prevent damage to your shaft seal system before it even happens.

SMART SEAL Optional Components

Remote Panel for PROSTB2 Model PROSSBRAL



- # Aluminum face plate 60 mm x 65 mm
- # 4 screws 3.5 x 16
- # 1 red LED
- # 1 buzzer 104 dB
- # 1 connector block
- # Not waterproof

Allows a remote repetition of the acoustic signal and visual alarm (red LED), generated by the PROSTB2 module. The connection between modules can be wired with 4 x 1 mm² as per instructions (not included in kit).

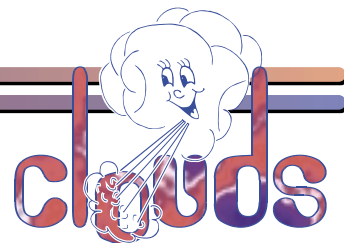
Optional Siren for PROSTB2 Model PROSSIRDC



- # 1 siren 12V/24V DC
- # 1 instruction manual
- # Not waterproof

The siren can be connected to a 12V or 24V supply and is easily connected to the main module PROSTB2 as per instructions.

SMART SEAL: The most effective way to monitor shaft seal temperature.



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