



Fully approved in Accordance with
Solas Chapter XII Regulation 12
IACS unified requirement UR S24
IMO DE 46/18/1 & DE 46/18/2

Hydrostatic sensor based Water Ingress Monitoring and Alarm system

Key features

Simple Retrofit & Operation

Hydrostatic sensors insensitive to product type

Only one sensor required for each hold

Constant self-checking of sensors and 'live zero' alarm signal confirms operational health.

Simple menu driven/push button operation with functional checks available at any time (with holds empty or filled.)

PSM have drawn upon almost 30 years of experience in supplying monitoring and alarm systems in shipboard liquid levels to provide a robust, reliable, simple to install and operate solution, for this critical application.

PSM Series 260 marine sensors proven in many thousands of shipboard applications, and are Type Approved by all leading classification societies. The 4-20 mA 2 wire output provides 4mA when the hold is empty, thus providing the reassurance of a constant 'sensor live' indication, a feature not available to simple switch devices. The sensor monitors for the presence of any water ingress and the system may be set to trigger the "pre" and "main" alarm conditions at any level. Default system settings are 500 mm & 2000 mm in accordance with the Regulation guidelines.

Installation

The system is designed for simplicity of installation.

The water detecting sensor may be installed in a variety of ways, either within the hold, or in the lower stool / void. PSM can provide typical installation drawings for guidance.

The sensor is provided with a suitable length of heavy duty cable which terminates in an amplifier module. The amplifier module is enclosed in a steel housing which is suitable for direct deck mounting and purpose designed to interface with deck penetrations also of PSM supply.

System cabling is simple, needing only a 2 core cable run from each amplifier module back to the central monitor. To simplify cabling further, PSM can supply a Marshalling enclosure which takes all cabling from the deck and allows a single Multi-core to be run to the Bridge.

Alarm function may be tested at any time using the test handle built into each deck housing. There is no need to access the hold or any need for external water or air services.

Although the sensors are approved for use without the need for additional filtering PSM offer a simple to mount / demount & clean filter as an option to significantly reduce the need for routine maintenance.



Operation

Simplicity of operation is a key feature. The user is guided by a full menu structure and all messages and prompts are provided in plain English on a backlit LCD display. Dedicated function buttons provide immediate 'shortcuts' to system tests, and dedicated visual annunciations provide immediate identification of 'all clear', "Alarm, active", "system fault", "power-fail" & "CPU fail" conditions.

Alarms

Alarm conditions also trigger internal relays which may be used to drive external remote mounted audible and visual annunciations. If required one or more repeater displays can be added for remote locations. These communicate with the primary display via a 2 wire RS485 serial link and provides an overview of the entire system status. If required, the remote display can also be used to acknowledge alarm conditions.



Compliance

In accordance with the Regulations individual sensors may be disabled if a tank is to be used for Ballast on a particular voyage. The unit will automatically switch to the ships emergency 24Vdc supply in the event of a primary power source fail, and dedicated menu routines and test mechanisms provide a complete operational health check without the need to enter the hold.

Support

PSM will be pleased to discuss your particular application requirements and provide a detailed proposal.

The system is designed for simple installation & commissioning by Shipyard personnel, but if required PSM can offer full installation & Commissioning services.

Mechanical

Central Monitor

IP65 epoxy coated mild steel
Enclosure size dependant upon the number of holds
Backlit LCD display
Rubberised membrane keypad
Supply 110/220 V ac or 24 V dc

Repeater Display

IP65 epoxy coated mild steel
Enclosure 230 x 325 x 155 mm
Dual LCD & LED display
Integrated membrane keypad
Supply 110/220 V ac or 24 V dc

Intrinsically safe Sensor

IP68 body in 316 St. Stl. with protective nose / filter and pipe guides.
Cable Hytrel LSOH marine approved
Remote amplifier module supplied in a steel enclosure with sensor test mechanism and suitable for mounting on deck or in keel duct.
DC Supply provided by central monitor.

**PLEASE REQUEST DETAILED
INSTALLATION DRAWINGS & WIRING
SCHEMATICS FROM PSM**



advice & enquiries

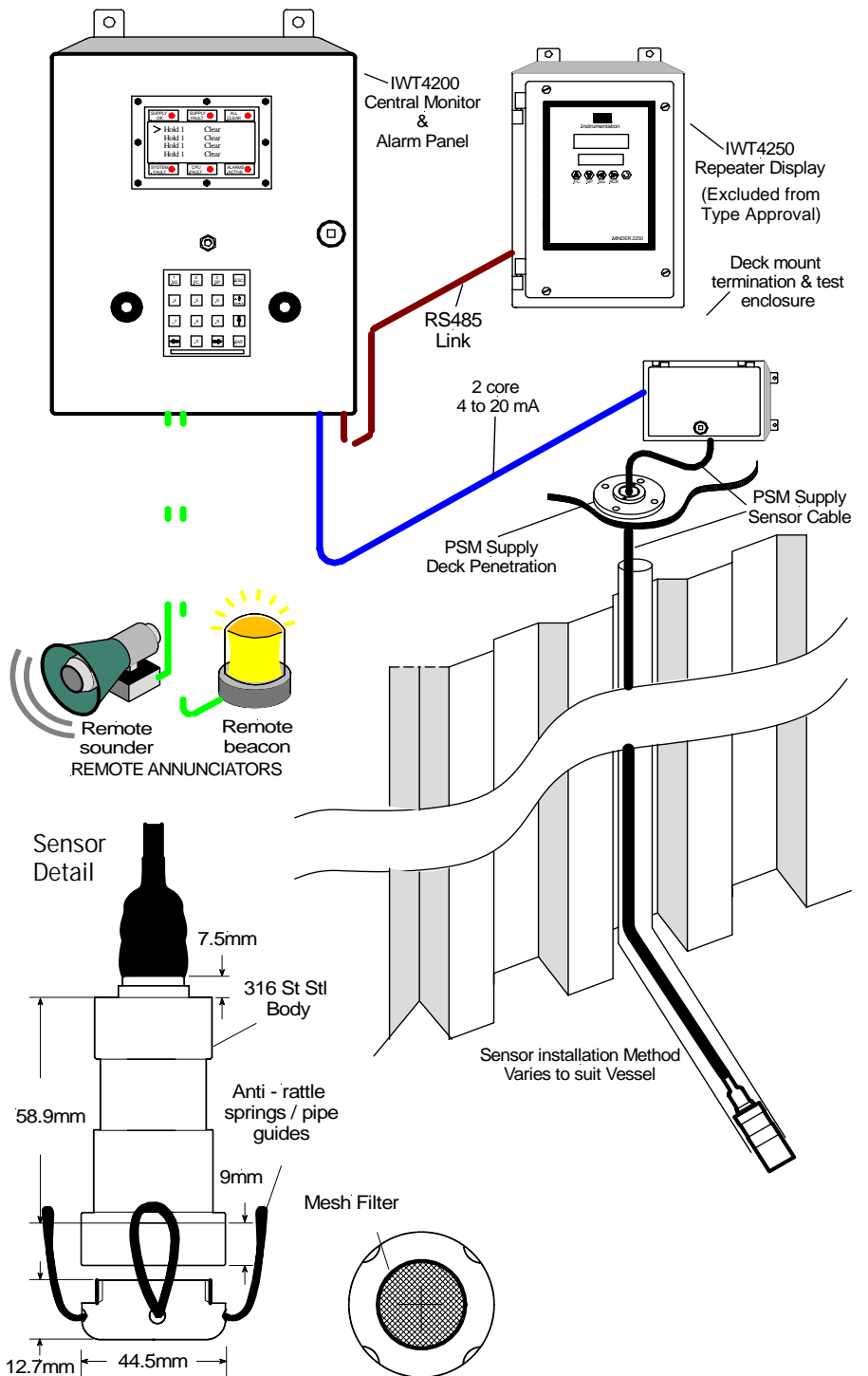
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4000 Series WATER INGRESS ALARM



Typical Schematic



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