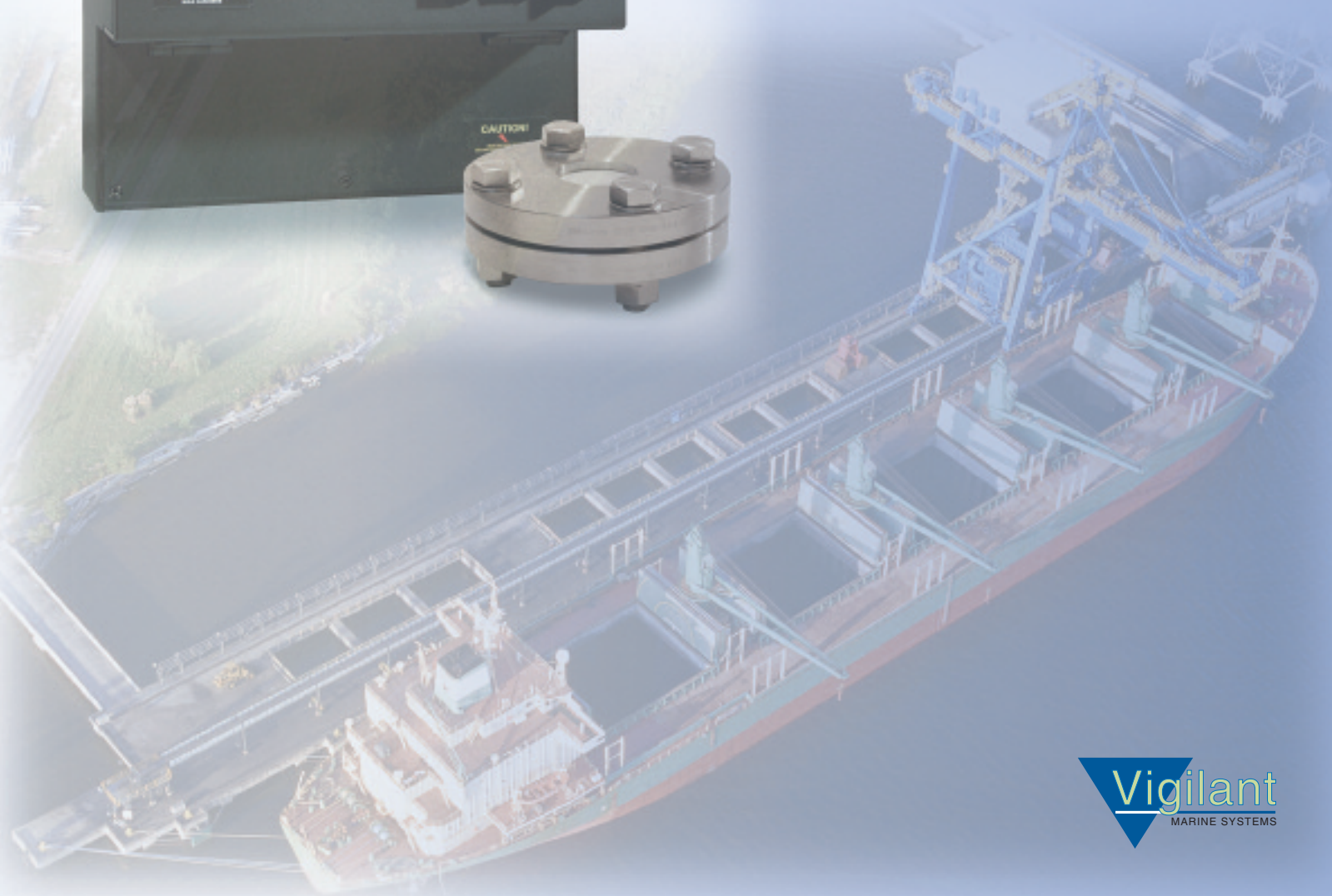


Water Ingress Detection for Bulk Carriers

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Hold Status



Water Ingress Detection for Bulk Carriers

Hold Status

HOLD STATUS is a permanent system that monitors all required spaces on a Bulk Carrier for water ingress. The system is designed to be fully compliant with the new SOLAS regulations, and to meet the IACS and IMO performance standards.

THE SENSOR:

DIRECT CONTACT sensor using patented burst capacitive charge-transfer technology. The sensor uses an electrical sense field to measure the dielectric properties of the material around it. This technology is very reliable in that the sensor will work in all bulk products, regardless of its dust or absorbent properties. It will even work correctly when buried in 1/4" metal nuts.

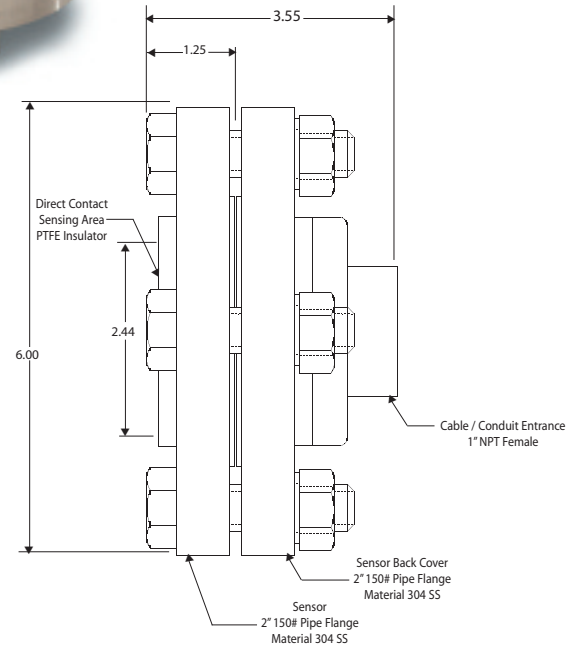
The Burst technology, with spread spectrum acquisition, eliminates nearly all the negative aspects of capacitive sensors and does not have the drawbacks of direct contact conductive sensors, which can easily give false alarms when impurities like salt or minerals track between the electrodes.

NO MOVING PARTS so no filters are needed to separate the probe from the cargo. From dry to fully saturated, the sensor is capable of detecting very small water content changes in absorbent cargo. Float type, pressure sensitive tapes or pressure sensors cannot. Ask yourself, how will such technologies operate when all water is absorbed into the cargo and there is no free water available to activate a float switch or pressure sensor?

RUGGED design using 2" 150# ANSI flanges made of 304 stainless steel.

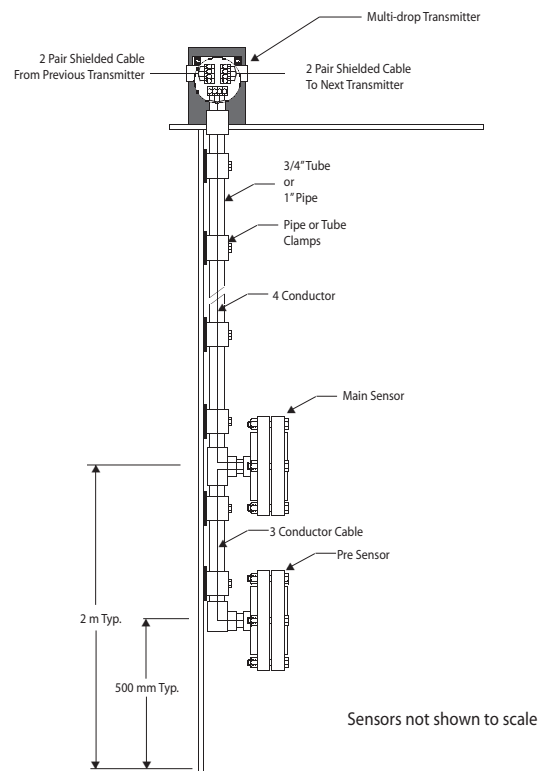
SAVE THOUSANDS on installation costs with our multi-drop transmitters. Using our multi-drop transmitters, 30 sensors, 15 locations with 2 sensors each, can be connected on a 4-wire buss. Each sensor provides an analog signal that is representative of the water content in the cargo around it. When queried, each transmitter sends the sensor data back to the alarm panel on the RS485 data buss.

SIMPLE TEST of each sensor can easily be made. Simply take a saturated sponge or rag and place it on the sensing area. It is that easy. There is no need to try and float a switch or put pressure to a transmitter to verify operation.



Recessed flange adapters available.

Suggested Installation



Water Ingress Detection for Bulk Carriers

THE PANEL:



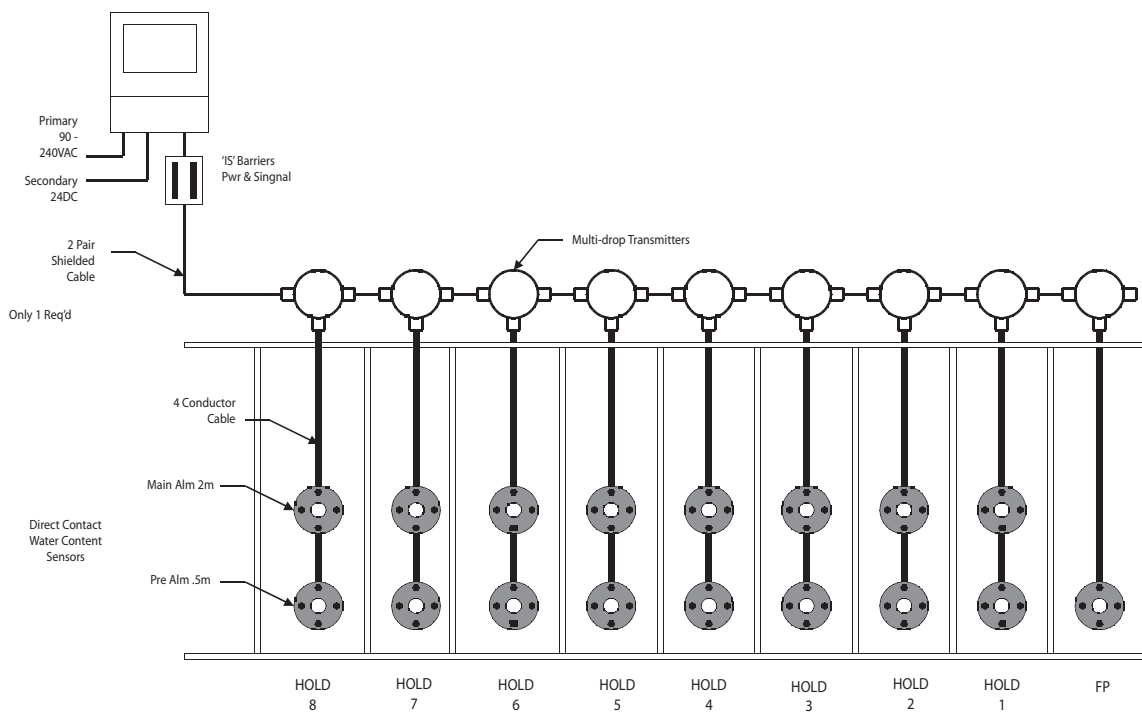
COLOR TOUCH SCREEN with VGA resolution at 7.7" displays all relevant information such as Location, Pre & Main Alarms, and By-Pass Status on a single page.

CONFIGURABLE onsite using the setup screen. Activate, name, and set time delays via the setup screen. There is no need for vessel dependant software.

WEB ENABLED option so that it can be connected to the ships computer network. Send an E-mail when an alarm occurs. View the status or control the screen as if you were standing in front of it from any authorized computer on the network. Log files are accessible and available in .CSV format so that they can be opened into Excel and saved or printed.

RELAY OUTPUT for system alarm, which will pulse for 1 second upon new alarm conditions. There are also 13 additional relays that are associated with sensor locations 1 through 13. These relays will activate and close their contact upon activation of the Main alarm associated with the location. Relays can be used to activate pumps or used for other customer defined purposes.

Basic Layout



Water Ingress Detection for Bulk Carriers

All this technology for a price that is more competitive than you might think!

Specifications

Monitor

• Power	Primary 90 – 240 VAC 2 amp Secondary 24 VDC 2.5 amp
• Operating Temperature	0 to + 50°C
• Humidity Range	10 – 90% RH (non-condensing)
• Sensor Inputs	30 (15 Locations x 2 Sensors Each)
• Alarm Points	Primary power failure Secondary power failure Pre alarm @ .5 meters Main alarm @ 2 meters Sensor by-passed Communication failure
• Alarm Delays	Adjustable between 0 – 90 seconds
• Outputs	System relay SPST 240V 2A (Pulses on new alarm 1 second) 13 Additional relays SPST 240V 2A
• Mounting	Wall mount
• Size	435 mm x 310 mm x 165 mm (H x W x D)
• Special Features:	Web enabled interface allows connection to computer network. Screen can be viewed and controlled from any authorized computer on the network. Logging functions accessible via the network. RS485 communications port. E-mails on alarm conditions

Sensor

• Measuring Principal	Burst capacitive charge-transfer conversion
• Cargo	All bulk cargoes
• Material	304 SS and Teflon
• Operating Temperature	0 – 50°C
• Humidity	0 – 100% RH
• IP Rating	IP68
• Connections	3/4" NPT Female
• Measuring Range	0 – 100% Saturation
• Output	0 – 4.0 VDC for 0 – 100% Saturation
• Safety	EX ia IIC (Pending)
• Size	150 mm Diameter x 90 mm Deep

Approvals

Pending Type Approval

Options

Recessed sensor flanges for stoop mounting.

© September 2004 All specifications subject to change without notice.



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