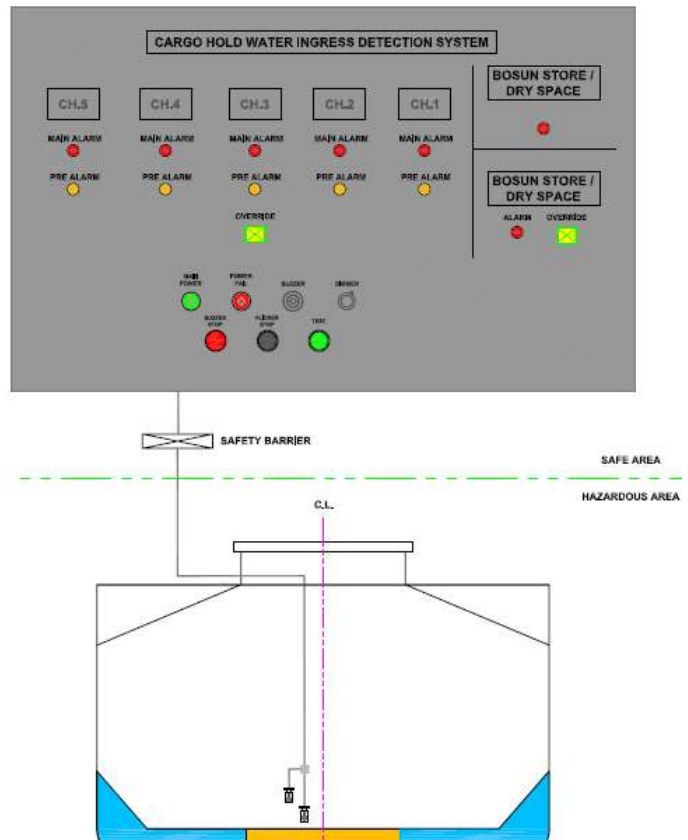


Cargo Hold Water Ingress Detection & Alarm System

In accordance to SOLAS Chapter XII, Regulation 12 and IMP Resolution MSC 145(77) adopted on 5th June 2003 IACS UR S24, SC 180 and Performance Standard DE46

Features

- High Reliability with enclosure to IP68 in accordance to IEC 60529 requirement.
- Corrosion-resistant sensor and rigid Protection Chamber/Filter in cargo hold or adjacent space.
- Alarm Override function with Automatic cancellation and reactivation of alarm upon de-ballasting of WBT.
- Continuous monitoring system with fault alarm for “Open Circuit”, “Short Circuit” & “Power Fail”.
- Manual function test in-situ
- Intrinsically Safe design to EEx ia IIC requirement & Type tested in accordance to IEC 60092-504 and IEC 50529.
- Type Approved by ClassNK, CCS & Class approved by all major societies.



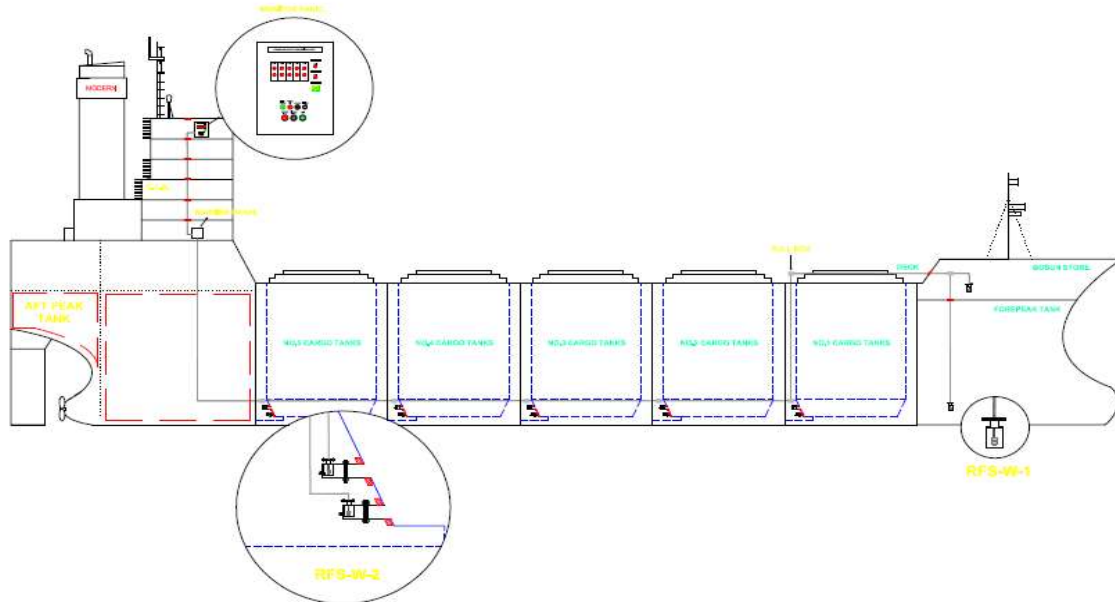
Principle of Operation

CHWD Series – Cargo Hold Ingress Detection & Alarm System is designed using the proven magnetic float switch principle. Each system consists of the RFS float switch and alarming panel. Reed switches inside the stem are activated by the permanent magnet fixed inside the float which rises and falls with the changes of liquid level. Once the reed switches are activated, it sends an alarm signal to the indicating unit in the cargo control room / navigational bridge.

Application

CHWD Series is developed to comply with IMO regulations for bulk carrier in accordance to IMO Resolution MSC 145(77) and SOLAS Chapter XII, Regulation 12. The sensors are designed and type tested to IEC 60092-504 to withstand the extreme environmental conditions in cargo hold and ballast tanks to Performance Standard DE 46, IACS UR S24 and SC 180 requirements.

TECHNICAL SPECIFICATION



Model	: CHWD
Principle	: Magnetic float with reed switch
Accuracy	: Within $\pm 5\text{mm}$
Alarm Display	: Pre-Alarm (Amber), Main-Alarm (Red) and Buzzer
Alarm Level	: 0.5m (Pre-Alarm) & 0.15D or Max. 2m (Main-Alarm)
Alarm Function	: When liquid level exceeds the alarm level, Pre-Alarm or Main-Alarm lamp, common relay and buzzer will come on.
Fault Alarm	: "Open Circuit" or "Short Circuit"
Alarm Override	: By PLC program with automatic cancellation and reactivation on de-ballasting of WBT
Other Alarm	: Power Fail Alarm
Alarm Output	: External relay contact
Enclosure	: IP68 to IEC 60529 (Level Switch)
Operating Conditions	: $+5^\circ\text{C}$ to 55°C (Monitor Panel) -25°C to $+70^\circ\text{C}$ (Level Switch)
Power Source	: AC220V / AC110V or DC24V
Safety Approval	: Intrinsic Safety to BASEEA
Connection Size	: 2 x JIS 5K 25A (Flange)
Mat'l in Process	: Stainless Steel SS 304 (Level Switch & Chamber)
Type Approval	: ClassNK and CCS Type Approved
Class Approval	: A.B.S and other major classification societies

<p>Manufacturer :</p> <p>MODERN Automation & Engineering Pte Ltd Blk 4026, #01-263 Ang Mo Kio Industrial Park 1 Singapore 569637. Tel : +65 6451 6313 Fax : +65 6451 5501 E-mail : sales@modernautomation.com.sg Website : www.modernautomation.com.sg</p>	<p>Distributed by :</p>
---	-------------------------