

Installation

The installation of the Rosemount TankRadar® OFC system is convenient and straightforward. The Overfill Alarm Tank Gauge (OTG) is placed on deck according to requirements stated in the Installation Manual. The main requirement for the still pipe is that it must be smooth and without disturbances in the alarm area.

The Overfill Alarm Cabinet (OCA) can be placed anywhere in safe area indoor onboard. The Overfill Alarm Panel (OPA) can be placed directly on the OCA or on the bridge, in the cargo control room or other safe indoor location.

Service and Maintenance

The Rosemount TankRadar® OFC system requires no extra maintenance except from normal care and preservation. The Tank Gauge Electronics (TGE) can be changed during operation by crew onboard. Instruction about replacing units and maintenance are found in the Operating manual.

The contents, descriptions and specifications within this document is subject to change without prior notice. Rosemount Tank Radar accepts no responsibility for any errors that may appear in this document.

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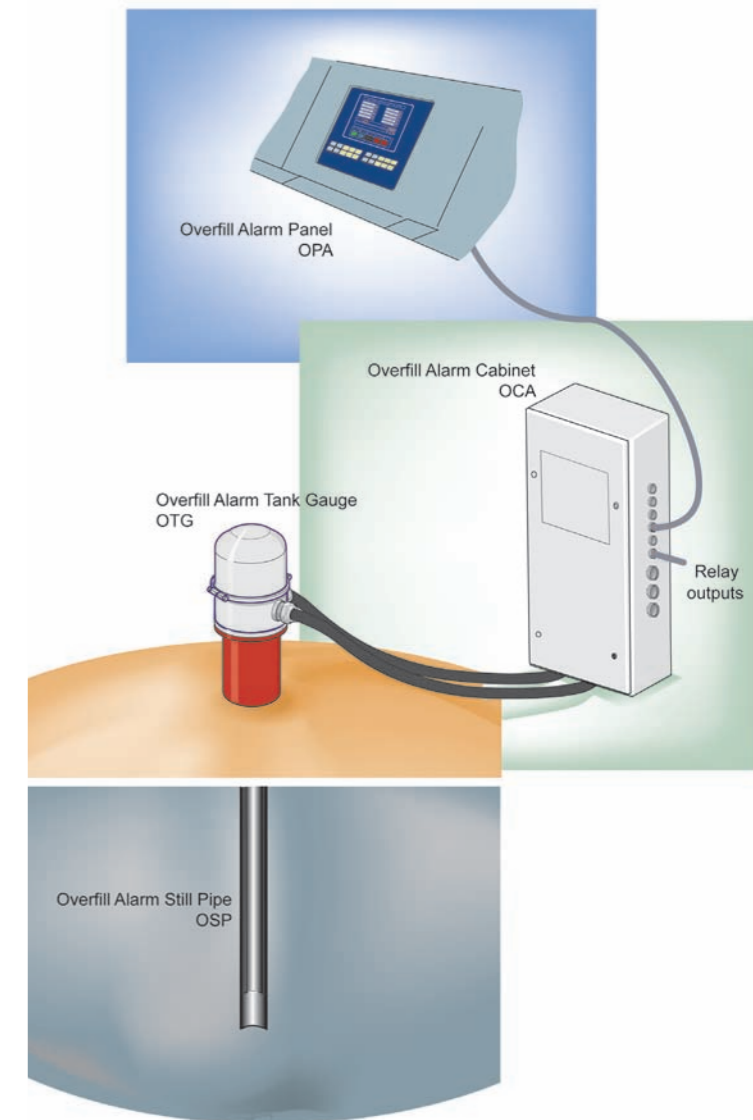
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High Level and Overfill Alarm for LNG

Rosemount TankRadar® OFC

The Rosemount TankRadar® OFC for the carriers of Liquefied Natural Gas (LNG) is a radar based alarm system designed by Emerson Process Management Marine Solutions.



The Rosemount TankRadar® OFC system is a continuous, at all time supervising alarm system with a defined alarm area zone where alarm points easily are set at delivery. The system is designed as a two-in-one solution with the High Level and Overfill Alarm functionally separated and independent from each other. These two channels that are mounted in the same intrinsically safe Overfill Tank Gauge are separately communicating data with the Overfill Alarm Cabinet. The alarm handling is monitored from the Overfill Alarm Panel installed in the cabinet or remotely placed in a console on bridge or control room.

The system can be selected as either a High Level or an Overfill Alarm system as well as the above described integrated High Level and Overfill Alarm system. The functionality and technique used is the same in the two cases though the one system solution only uses one channel per gauge and common still pipe. Level limits for alarms are configured to comply with customer requirements. The limits can be decided and set as late as the commissioning of the system.

The Rosemount TankRadar® OFC is designed to supervise up to six LNG cargo tanks.

Design and Advantages

The Rosemount TankRadar® OFC is built on the intelligent designed radar gauge with software that independently processes measured data and maintains accurate and precise alarm monitoring throughout the whole system. Supported by the cabinet and alarm panel the system offers a safe independent full controlled 2-in-1 monitored High Level and Overfill Alarm system.



Automated Self-Testing

The automated self-testing function includes the continuously monitoring of the measuring quality in still pipe and the self-checking modules that supervises the functionality and communication within the Rosemount TankRadar® OFC system.

Built-in Level Simulating Alarm Test

Included in the system is also a test mode (Alarm Test) that simulates a raising level into the alarm area hence triggering the alarm to demonstrate the functionality of the system. This test mode will incorporate the complete chain of the Rosemount TankRadar® OFC system sending signals from the gauge via the cabinet to be indicated on the alarm panel as a real alarm event.

Safety Approvals

The Rosemount Radar Gauges and all other optional equipment, supplied by Emerson Process Management Marine Solutions, placed in hazardous areas, are intrinsically safe and meets the requirements of all the major classification societies and applicable EU Directives. The system is type tested to the relevant sections of IACS Unified requirement E10 together with the relevant sections of ISO 60945.



The OTG, Overfill Tank Gauge



The OCA, Overfill Alarm Cabinet



The OPA, Overfill Alarm Panel



Alarm Monitoring

All the alarm handling and monitoring is conducted from the Overfill Alarm Panel (OPA).

The panel displays the High Level and Overfill alarms independently from each other. External audible and visible alarms annunciators, such as horns and lights can be included in the system. These alarms are accepted and silenced from the Overfill Alarm Panel (OPA). Alarms are indicated with flashing red or yellow lights. The Rosemount TankRadar® OFC system has red lights for overfill alarms, loop failure, system/power failure and yellow for high level alarms. A single system, Overfill or High Level system, always has red lights to indicate alarms.

The following Main Functions are included in the system:

Level Alarms

High Level and Overfill Alarms are announced and monitored from the OPA. The level alarm indicators are placed at the top of the panel with legible labels for each tank and alarm limit. The alarms can be silenced and accepted from the panel.

At Sea Function

An At Sea button at the bottom of the OPA can be used to block High Level alarms at sea going. Overfill alarms are then indicated when alarm limit is reached and persistent over a time period of 45 seconds. All other alarms, such as system failure, are announced immediately if failure should occur.

Override Function

Inhibits any external level alarm relay outputs for the specific channel, i.e. level alarms on horns, lights and devices that are connected to the system via output relays will not be announced for the corresponding tank. The alarms on the OPA will still be active.



Alarm Hold

The alarm hold function is used to prevent recurring level alarms. Once Alarm Hold is pressed the same alarm will not be repeated when silenced and accepted.

Alarm Test

The OPA has a test button for each alarm channel to ensure proper function of the alarm handling in the complete system. This test mode will simulate a raising level into the alarm area and trigger the alarms at set alarm limit.

Lamp Test

The OPA has a Lamp Test button to ensure proper function of the visible and audible alarms. Pressing this button will turn all the LEDs and the buzzer on. The test mode is disengaged when the button is released.