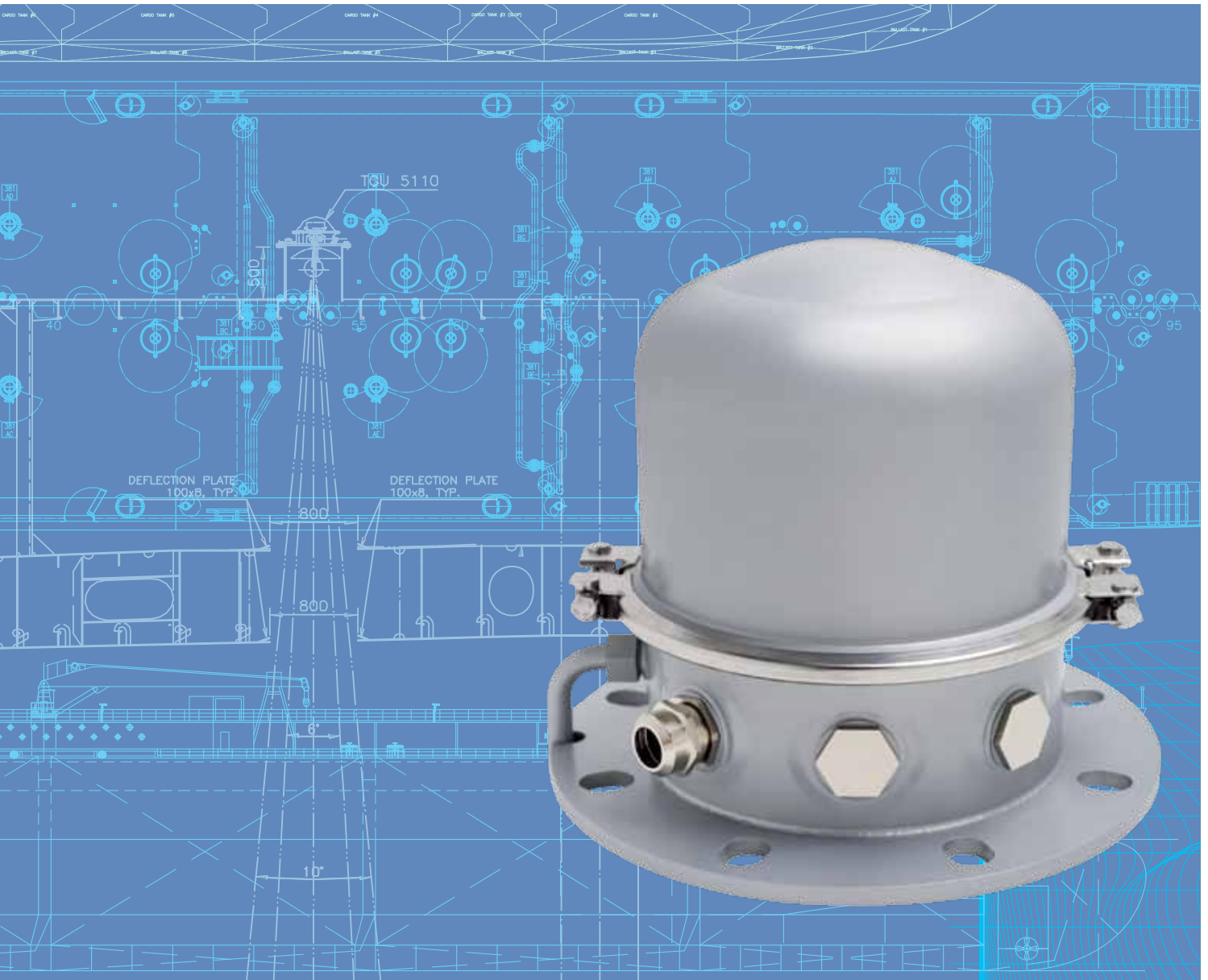


# Rosemount Cargo Monitoring System

Flexible and scalable with no compromise on reliability





# Rosemount CMS – tailored to your needs

Our aim is the same as our customers. For long term profitable ship operation we focus on loading and offloading efficiency, safety, low maintenance and support. Furthermore, we provide cargo monitoring systems that are easy to install and integrate and we provide support from design through to installation.

Our CMS is designed to be flexible and scalable for the demands and requirements of all types of tankers and cargoes, with no compromise on reliability.



If you are a ship-owner or ship-operator, your everyday concern is safety and a streamlined ship operation in order to get maximum return on your investment

Optimizing the number of loads your ship can take, and reducing maintenance is of key importance, as is a ship standard that meets safety requirements and is recognized by vetting inspectors globally.

**Right equipment – right price**  
Equally, if you are a decision-maker at a ship-yard, you need the right equipment at the right price without compromise on quality from a supplier that can deliver the most complete solution for all your tank-related functions.

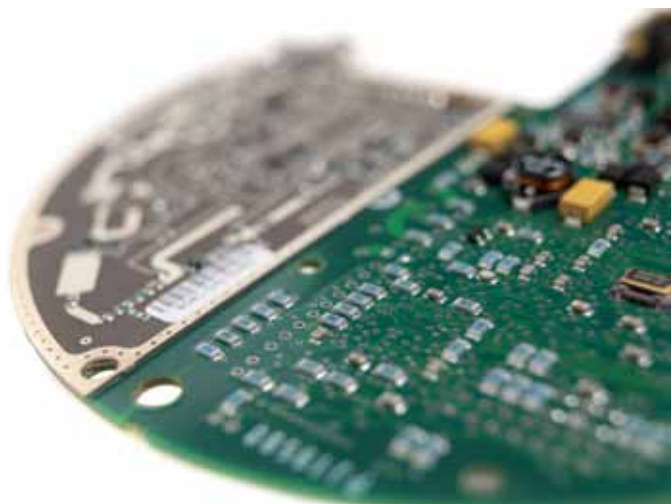
## **Confidence in daily operations**

Rosemount CMS (Cargo Monitoring System) is tailored and scalable to your specific needs. The right radar gauge in combination with the right additional functions, integrated into a reliable cargo monitoring system, will enhance safety and provide control when loading and offloading.

Rosemount CMS offers data integrity, built on reliable and accurate readings from sensors that are designed for the marine industry. Decision-makers onboard can be confident of integrity and quality in decisions based on accurate online information.

At the same time, support during design, installation and commissioning is vital.

Our organization is focused around these needs. We have local sales and project facilities plus installation and service capabilities in all major marine hubs around the world.

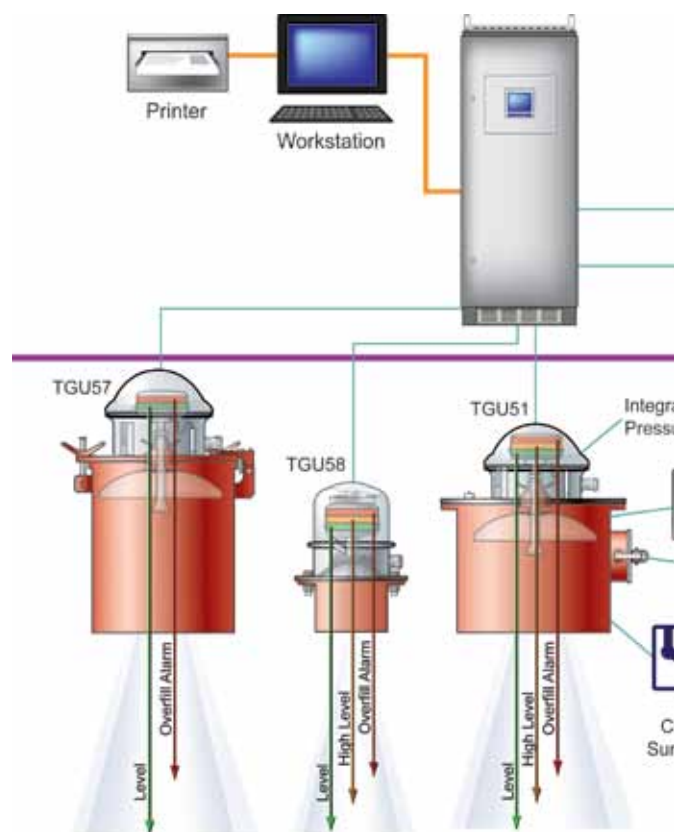




*You want a system you can rely on at any time. One that provides reliability and accuracy in all types of tank conditions and allows for maintenance with the ship in operation.*

## Rosemount CMS

- Scalable to number of tanks, with dedicated radar gauges for any type of tanker and cargo
- Flexible to specific needs such as protocols and customized user interface, tailored to ship specific loading procedure
- Integrated readings of tank level, draft, trim and list, temperature, pressure and alarm levels
- Emerson's 3-in-1 solution: Level, independent high-level and overflow alarm or redundant level measurement in a single deck penetration
- Integrates equally easily into our marine tank management solution as with any loading computer and ship automation system, as well as with ballast and service tank level gauging and tank cleaning surveillance
- Service & Communication Display to provide data logging, backup and diagnostics for fast recovery of system functionality
- Equally suitable for retrofit installations
- Onboard calibration of vapor pressure sensor



### Uptime and efficiency

Rosemount CMS integrates functions that are crucial for safe and fast loading and offloading. It provides online readings of tank levels, temperature, pressure, trim and list and alarm functionality.

It's in the workstation that it becomes apparent what integration means for daily onboard operation. Data is processed and transferred for presentation in a conveniently accessible view, tailored to your loading procedures.

Rosemount CMS is a vital part of our total offering and integrates equally easily into our marine tank management solution as with any loading calculator and ship automation system.

Onboard verification of values, gauge diagnostics and maintenance

performed while the ship is in operation, keeps costs to a minimum. Furthermore, through remote service capabilities, you can be confident that the system is up and running.

### Parabolic antenna evolution

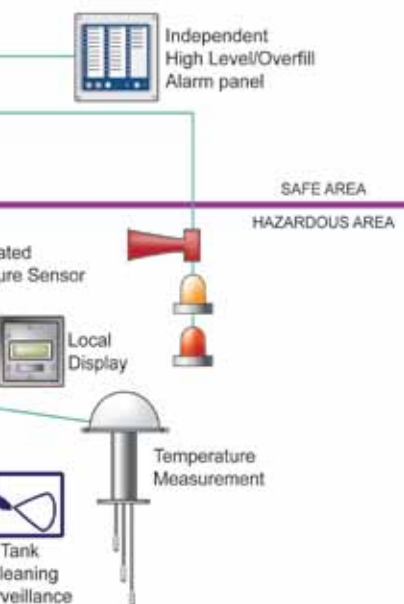
To provide reliable measurement and data integrity for efficient cargo monitoring, requires expert knowledge about how to transform the radar technology into solutions that can handle the challenges you meet in your daily operation: interfering echoes, condensation, high-power cleaning machines, aggressive cargoes and waves in the tank. And not least, to provide solutions that meet customers' demands on easy maintenance and optimized life-cycle cost.

As experts on FMCW technology we know the importance of capturing all relevant signal reflections from the liquid surface. The signal handling sorts out and prioritizes the information, in order to track and maintain the measurement signal.

The antenna design is another important contributor. Since the mid 1970s we have gained experience and been evaluating different antenna designs. We call it our antenna evolution. Over the years, the parabolic antenna with dual mirror principle has proven to be the best solution to provide a robust and durable measurement for demanding applications and it's implemented in all our parabolic antenna gauges.







### Rosemount TankRadar 51

*10 GHz high gain antenna with unmatched ratio between received and transmitted power*

*Suitable for heavy crude oil and aggressive cargoes*

*For tankers of the size up to and including VLCC/ULCC and FPSO*

*More than 4,000 Rosemount TankRadar references*

### Rosemount TankRadar 58

*26 GHz high gain antenna with maintained ratio between received and transmitted power*

*Small and lightweight*

*Seamless, in-flange integrated antenna*

*For tankers of the size up to and including Aframax*

## Industry leading safety, quality and support

Safety, quality and support. These are not just words to us. They are important values that we build our organization and business around.

We have developed and implemented processes within the organization to improve and track our performance in the areas of safety, quality and support.

As an example, all our products are certified, meeting requirements from all major classification societies. The interaction with classification societies is part of our daily activity to ensure we meet the highest standards on safety and performance.

We meet the expectations of our customers worldwide by constantly delivering competent, efficient and reliable service of the highest possible standard. When you partner with us, you can expect the best industry knowledge, global reach, financial stability and unsurpassed quality.



# Expertise within Marine Tank Management

Emerson Process Management (emersonprocess.com), an Emerson business, is a leader in helping businesses automate their production, processing and distribution in the chemical, oil and gas, refining, pulp and paper, power, water and wastewater treatment, mining and metals, food and beverage, life sciences and other industries. The company combines superior products and technology with industry-specific engineering, consulting, project management and maintenance services.

Emerson's Marine Tank Management offers a complete solution for integrated control and monitoring, including alarm monitoring on any type of ship and offshore unit. The operator can be confident of integrity and quality in decisions with the full overview provided in a

user-friendly interface. The result is safe operation and better throughput, based on robust, reliable and timely data.

Our brands include Damcos for Valve Remote Control, LevelDatic and MAS2600 for Ballast & Service Tank Level Gauging and Rosemount Marine for Cargo Monitoring. We have served marine customers for more than 40 years and our solutions represent the foremost thinking within marine tank management. What really sets us apart is our dedication to the marine sector and engineering excellence. This is reflected in all aspects of our offering, from design and production, through to application know-how and global after-sales support.

For additional information please contact:

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