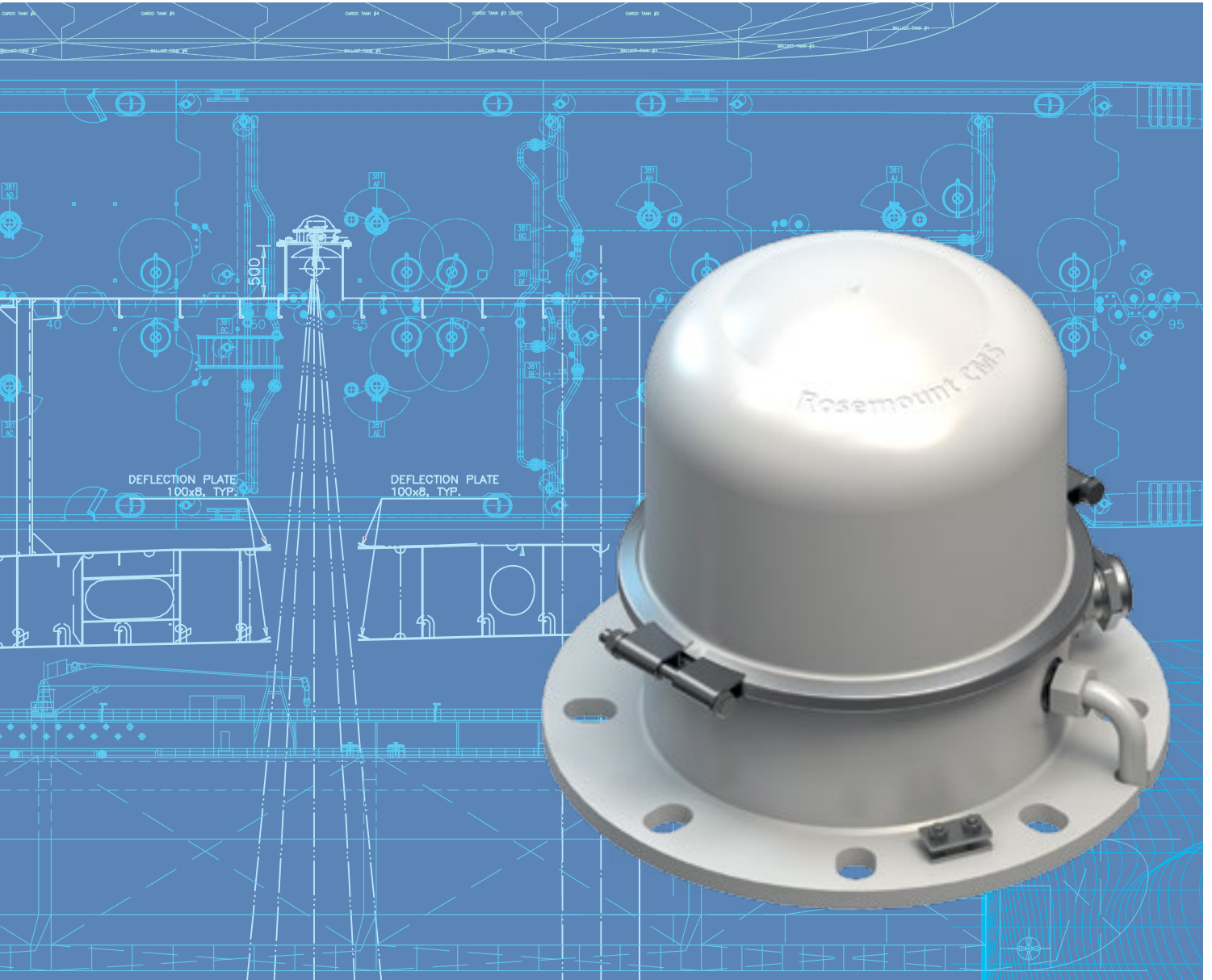


Rosemount Cargo Monitoring System

Flexible and scalable with no compromise on reliability

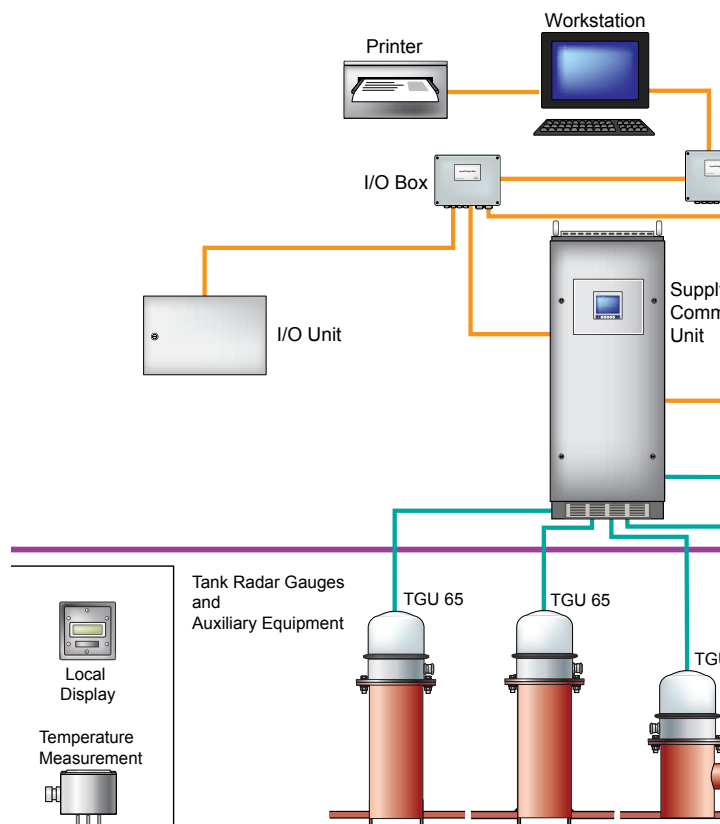




You want a system you can rely on at any time. One that provides reliability and accuracy in all types of tank conditions and allows for maintenance with the ship in operation.

Rosemount Cargo Monitoring System

- ▶ 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 Cargo Monitoring System 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 Cargo Monitoring System 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.

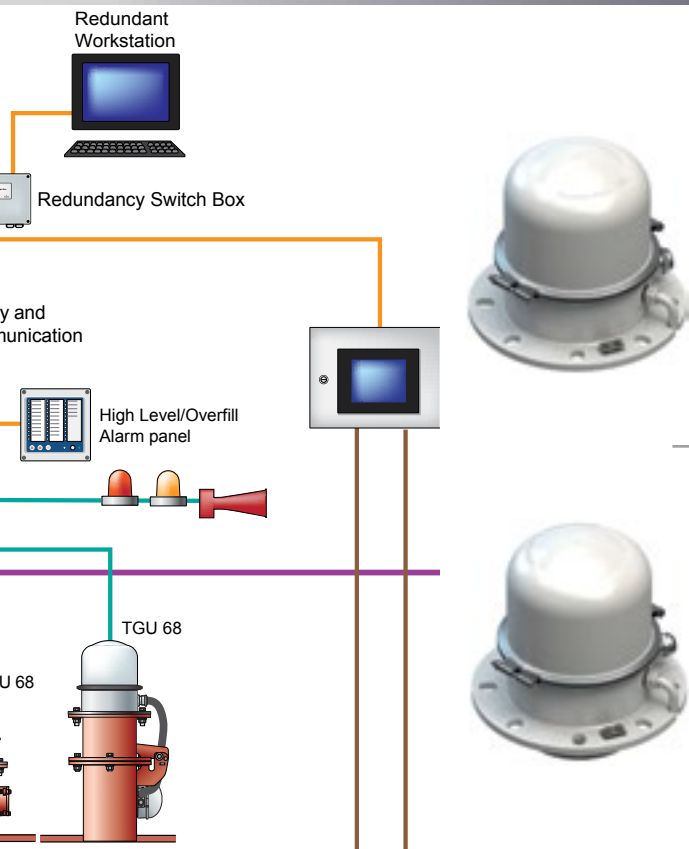
Parabolic antenna evolution

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 TGU 65 Tank Radar Gauge, Still Pipe Antenna

- Accurate and reliable measurement that keeps you operating under adverse conditions in tank and on deck
- 10 GHz FMCW tank radar gauge, with still pipe antenna and low-loss mode to withstand build up and deposits inside the pipe
- Ideal solution for measuring tank level in narrow tanks or sea water draft
- Easy to install and with light weight

Rosemount TGU 68 Tank Radar Gauge, Parabolic Antenna

- Accurate and reliable measurement that keeps you operating under adverse conditions in tank and on deck
- 26 GHz FMCW tank radar, with advanced signal processing, high bandwidth and optimized parabolic antenna
- For tankers and offshore installations with 35 m measurement range
- Easy to install and with light weight
- Also applicable for heated cargo with a hinged socket solution

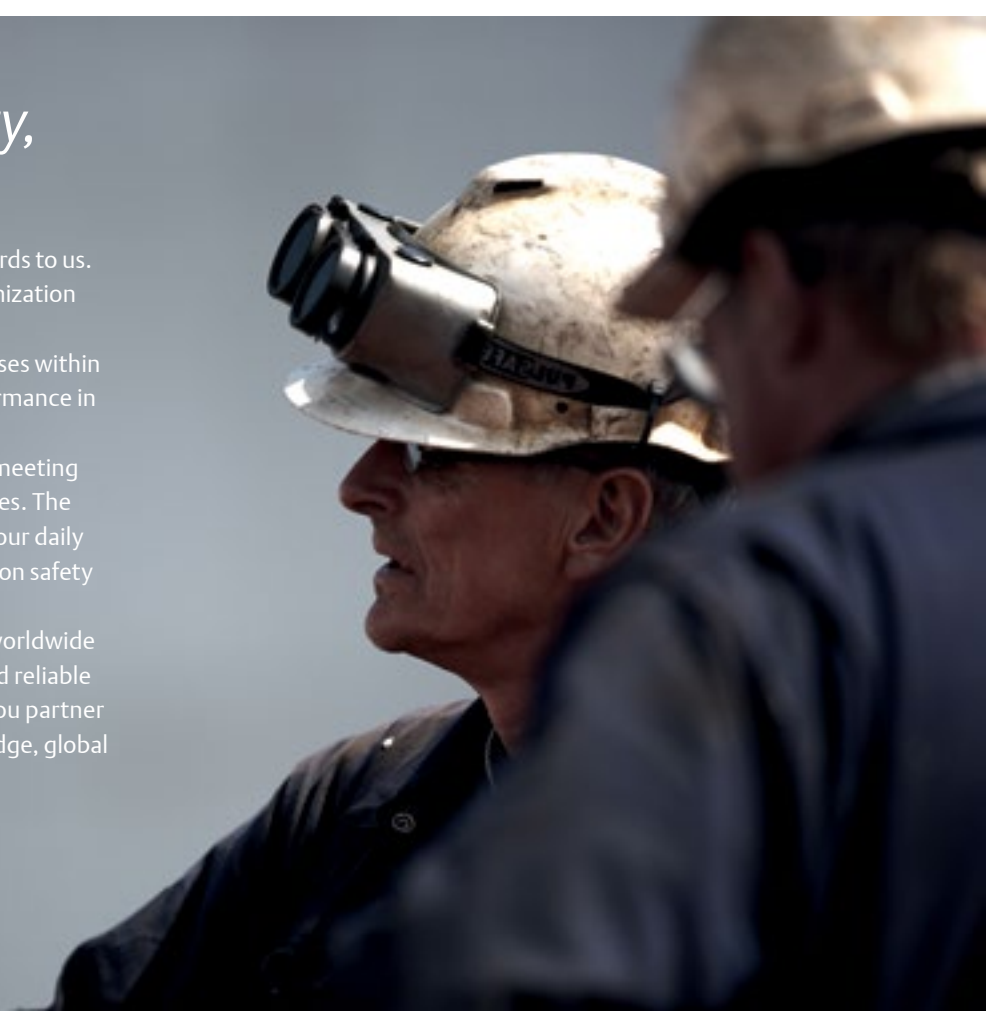
Industry leading safety, quality and support

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.

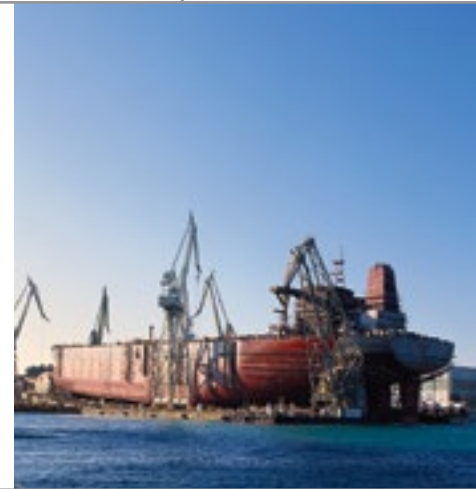




Rosemount Cargo Monitoring System – tailored to your needs

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 Cargo Monitoring System 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.

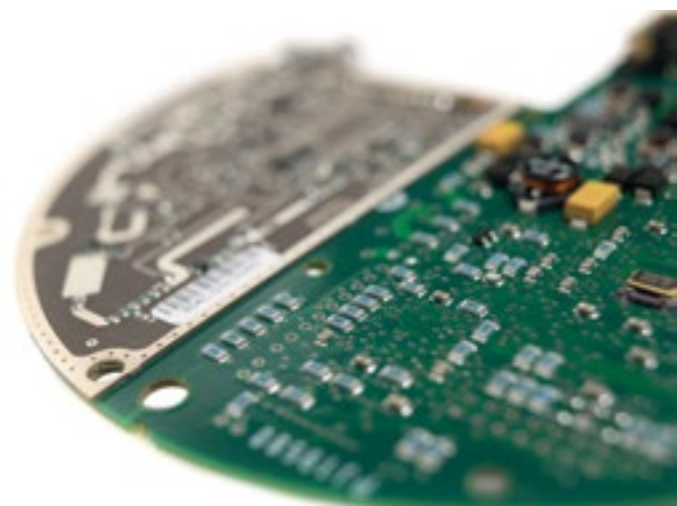
Right equipment – right price
Equally, if you are a decision maker at a ship yard, you need the right equipment at the right price without compromise on quality from a supplier that can deliver the most complete solution for all your tank-related functions.

Confidence in daily operations
Rosemount 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 Cargo Monitoring System 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.



Complete Expertise within Marine

Emerson's marine solutions are developed for harsh sea environment to ensure reliable, efficient and safe operation on board any type of ship and offshore unit.

- Integrated control and monitoring
- Cargo monitoring and tank gauging
- Valve remote control
- Fuel management

What really sets us apart is our dedication to the marine sector and engineering excellence. This is reflected in all aspects of our organization, from design and production to application know-how and global service network.

What really drives us is to provide innovative solutions for our customers to operate safely, efficiently and with peace of mind.

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www.Emerson.com/marine



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