



Instrumentation for the Marine Industry

Durable, Corrosive-Resistant Process Instrumentation



The marine market is exceptionally diverse ranging from the military to holiday cruises, container shipping and smaller pleasure craft. The common denominator between them is the commercial need to keep the internal engineering and processes working at their optimum, ensuring their primary function, be that delivery, leisure or security can be maintained without interference.

This highly diverse industry spans naval vessels, commercial shipping and leisure craft. Across all vessel types, reliable operation of onboard systems is critical to ensuring performance, safety and efficiency.

Process instrumentation is just one of the ways of supporting this dynamic industry by keeping vessels running to their optimum, or alerting engineers when action is required. A range of level switches, ultrasonic submersible transmitters, sensors and programmable displays can easily be configured to ensure the integrity of the engine, internal systems and boiler room.

Our products are designed to be low maintenance, operating reliably while providing effective alerting when required. Where possible we have engineered as much complexity out of the product to make it more robust and practical. It takes a high level of knowledge to reduce the complexity of a product or system, but this is where we excel. We make it simple with durability, reliability and quality all built in.

Collaboration with Us

Accurate measurement and control of pressure, flow, level and temperature are essential to maintaining safe and efficient vessel operation.

With over 100 years of engineering expertise, Delta Mobrey designs and manufactures robust process instrumentation built to perform in demanding marine environments. Our solutions support reliable monitoring and control of critical systems, helping operators maintain performance, protect assets and meet regulatory requirements.

Sample of Products

Here are some sample products dedicated to the marine market, their uses aboard vessels can be tailored to meet the layout of the ship and work with the other systems onboard.

Magnetic Float Switches:

Our Magnetic float switches are used for level detection of liquids in all types of tanks, and are ideal for high or low liquid alarm and pump control duties and interface detection, making them well-suited to marine applications. They are rugged and reliable even within hazardous environments and are unaffected by changes in process temperature, dielectric, or vapors. They also feature a magnetically coupled float and switch without glands or linkages which makes this float switch watertight.



Submersible Hydrostatic Level Transmitters:

The 9700 Series range of tank mounted transmitters provide you with precise and reliable level measurement solutions when in-tank foaming, vapor layers, and temperature gradients prevent use of other instrumentation. These transmitters are designed to perform in the extreme conditions of industrial and marine applications.

Available in submersible and externally mounted (floodable) versions, each transmitter gives you high performance and good long term stability, and is virtually maintenance free.



MCU200 Controller and 442SD

Our MCU200 controller series. When used together with the 402SD or 442SD ultrasonic gap sensors, the system will detect oil in water or water in oil. This is the ideal solution for contamination detection in boiler feed-water, engine coolant or bilge water.

The MCU controller and gap sensor when used together provide an ultrasonic point level liquid switch. Typical applications include interface detection for immiscible liquids and contamination detection, such as oil in water or water in oil for industries like marine.



Ultrasonic Level Switch 003

Ultrasonic liquid level integral sensor is manufactured in Polyphenylene Sulphide (PPS) for corrosion resistance in most liquids. The 003 range of sensors can be mounted in any position in a tank.

Comprising of a one piece moulded body with an integral pcb, the 003 switch is factory sealed and supplied with a 3m flying lead for customer connection. Designed for high or low level alarm duties to give a voltage free changeover contact or dual solid state transistor output for alarm signalling or as part of a pump control system.



Application examples for Process Instrumentation

Process instrumentation equipment can be utilised in multiple ways onboard a vessel. Below are just a couple of examples where our product ranges have worked well for the marine industry.

Oil-in-water detection

Our Ultrasonic Sensors are an electronic system for protecting marine boilers, by ensuring the boiler feed-water is not contaminated with oil. This type of contamination frequently occurs as condensing steam runs through the ship's systems before being returned to the boiler. The 442SD sensors are installed across the feed-water pipelines, while our 402SD sensors are designed for installation within vessels (tanks) connected to the feed-water tanks. The sensors detect the presence of the oil and signal an alarm via the MCU200 Controller, which notify crew members, prompting investigation.

Grey and Black Water

All vessels need to control, manage, and dispose of their grey and black water. There are differing marine regulations about where this can happen and to what density of fluid can be disposed of at sea and which need to be handled by specialised services in port. Our MCU200 and gap sensors can measure the amount of solids within the grey and black water to see if it is suitable for disposal at sea. Gravity allows a number of the solids to sink towards the bottom of the on-board tanks, process instrumentation measures the solids content of the water to ensure nothing can be released from the grey and black water holding tanks that could cause harm to marine life.

Dirty Ballast Water

With increasing focus on the impact of climate change, effective oil/water interface detectors are required for accurate determination of the oil/water ratio in tanks where separation of oil and water is carried out prior to discharging directly into the sea. Interface detectors are used to examine the ballast water before the discharge, to ensure the height of the interface is safe enough to avoid oil being discharged during this process. Our 402SD sensors are used in these applications with a MCU200 Controller to detect this interface.

Ballast Exchange

Ballast tanks need to be emptied and filled depending upon their location, the amount of cargo and the amount of fuel on board, by the control and level of water we can increase or decrease the amount of ballast as needed. Therefore, the level of ballast water needs to be measured and monitored to ensure it is at the levels needed to assist the vessel's required function. Our range of 9700 tank mounted or submersible transmitters, are designed to provide precise and reliable level measurement of in-tank liquids. These perform in extreme conditions, offering high performance with long term stability and are virtually maintenance free. Providing the data needed to ensure the correct levels are maintained for good ballast exchange.

Approvals

These are the current approvals for our marine products. Understanding your requirements is very important to us. As a global company we need to attain global recognition and approvals of our products, so that you are certain they are right for your business.

We continue to monitor and work with industry bodies to understand what we need to attain to work on differing areas of the world.



ABS - Certifies individual materials, components, products and systems used on the vessels through a technical evaluation and survey of manufacturing compliance.



Bureau Veritas - enables companies to demonstrate continuous improvement and maintain the relevant standards.



CSA Certification - A hazardous area product approval for US and Canadian locations.



DNV - Ensures that ships or their components comply with a number of standards, also known as class rules.



UKCA - Conformity with applicable requirements for products sold within Great Britain.



Lloyd's Register - Global professional services company specialising in engineering and technology for the maritime industry.

We offer a range of process instrumentation equipment to the marine industry. Our standard products can be purchased directly or if you need something more specific to work within your onboard systems, we will work with you to develop the exact tool you need.



The marine market is exceptionally diverse, ranging from military vessels to holiday cruises, container shipping and more. The common denominator between them is the need to keep the internal engineering and processes working to their optimum and reduce the risk of pollutants and contamination

This is where our process instrumentation can assist the marine industry. With a proud history spanning over 100 years, we design and manufacture quality process instrumentation to ensure that any gases or fluids essential to the smooth running of engineering systems or living quarters of marine vessels work within defined and acceptable parameters.

Trusted Quality. Reliable Dependence

Quality and reliability have always formed the cornerstone of our success, we are recognised by industry with international approvals covering every aspect of our manufacturing, test and product portfolio.

Certifications span all areas of hazardous and regulated environments, and include: ATEX, IECEx, EXd, EXia, NEMA, SIL, IS, PED, NEC 500 and 505, with new certifications being gained.

Proven Value

Performance and value are the reasons why so many customers return and continue to place their trust in us and our products. With continual investment in innovative manufacturing solutions, customers can be confident we can deliver the highest value solutions, without ever compromising on quality.

Bespoke Solutions

We're proud to be able to provide custom engineered solutions to meet your exact requirements.

The complexity of special engineering can vary from a simple change in process connection, or to a completely redesigned product to meet specific operational /performance criteria; available as one-offs through to large volume requirements.

Global Presence

To ensure our customers have immediate and continuous access to our staff and support, we have several strategically placed offices around the globe. For more information, please visit the Contact Us page on our website - www.delta-mobrey.com



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