MARINE TANK GAUGING SOLUTIONS
Dedicated to Safe, Secure and Profitable Operations
Honeywell Marine is part of Honeywell Process Solutions (HPS) and is specialized in the production and sale of precision level measurement systems for marine applications, a market in which it has built a substantial share.

Sales are handled and supported by a network of trained distributors and agents all around the world, together with our team of specialists based in key countries for the marine industry.

Honeywell Marine offers full tank gauging solutions for cargo, ballast and service tanks for all types of ships. This includes monitoring of temperature, inert gas, water ingress, dangerous gases, water bottom, pressure. Honeywell Marine’s range of Automated Level Gauging products ensure continuous and precise level gauging for safer and more secure marine operations, particularly during loading and discharging. Honeywell Marine provides solutions for large and small projects alike. From a single-point tank gauge to a full automation system managing several thousand I/O, it has the capacity and knowledge to deal with needs of any size.

Honeywell combines the high standards and global perspective of a world-class company while maintaining a presence close to users. Customers can improve productivity, safety, lower operating costs, capitalize on key business opportunities, improve asset utilization and boost profitability.

Honeywell Marine Offers Comprehensive Tank Gauging Solutions for Cargo, Ballast and Service Tanks for Every Type of Vessel

- Tankers, FPSO, OSV
  Honeywell Marine’s fluid monitoring and control solution includes its Cargo Tank Gauging and Monitoring System, a complete turnkey solution for liquid cargo gauging. It is a single-source, integrated system measuring level, temperature, and inert gas pressure for ballast, cargo and service tanks. Honeywell further helps users comply with regulatory requirements, improve safety and reduce maintenance with its solutions for gas detection and overfill prevention.

- Bulk Carriers
  Complete turnkey solutions for bulker and dry cargo vessels with level gauging systems for monitoring the level of liquids in ballast or service tanks to ensure ship stability, environmental protection and fuel consumption reduction. A separate alarm system for detection of water in all cargo hold, using positive safety sensors without moving parts, provides regulatory compliance and crew safety.

- Inland Waterway Vessels
  Complete turnkey solutions for handling and monitoring of fluids onboard inland waterway vessels. The system includes level, temperature, water interface monitoring, as well as independent high level, overfill, gas and fire alarms. The system has a small footprint, low power consumption allowing to be operated on battery. Provision for manual gauging, liquid and gas sampling, make a perfectly integrated solution.

- Passenger Ships, Navy and Containers
  Sensors and systems are a common requirement in Ballast and Service tank gauging and fluid control. Honeywell has been supplying vessels with electro-pneumatic and hydrostatic systems for many years. The combination of electronics with such sturdy components leads to extremely reliable solutions that are used for ballast tanks, fresh water tanks, and all other service tanks such as fuel and oil tanks.
Honeywell Marine Offers Experience, Industry Expertise and First-Class Support with Solutions Ranging from Standalone Sensors to Completely Integrated Systems for the Entire Range of Vessel and Tanks

**Cargo Tank High Level Alarm and Overflow Protection**
The CARLA System is a fully autonomous solution, which meets the standards for protection against accidental cargo tank overflow. Its primary advantage is use of the Honeywell Lidec L91 (single-probe) or L92 (dual-probe) as two independent level alarms.

**Ballast and Service Tank Gauging**
Common standard in Ballast and Service tank gauging and fluid control. Several technologies to solve all applications: Electropneumatic, Pressure, Capacitive, Guided Wave Radars. Extremely reliable solutions that are used to ensure ship stability, environmental protection, fuel consumption reduction.

**Water Ingress Detection System Alarm in Cargo Holds, Ballast and Dry Spaces**
This fully autonomous system meets the standards for protection against water ingress in dry cargo vessel. Its main advantage is the use of Lidec L20-70DW as independent water detector which is self controlled permanently even inside surrounding cargos as cement or any powdery substance.

**Tank Level Gauging Solution**
A single-source, integrated system measuring level, temperature, and inert gas for cargo tanks and level for ballast and service tanks.

**Eight In. One Solution for Small Vessel**
Provides all the measurements and alarms necessary for regulatory compliance of liquid cargo tanks aboard inland, river tankers and barges. The instruments are all located on a single 8 inch flange. Measurements include level gauging, temperature, water interface, inert gas pressure, high and overfill alarms. A 2’’ Vapor-lock valve provides access for manual gauging, liquid and gas sampling.
Forty Years of Experience in the Marine Market

Honeywell is a major international supplier to the marine, offshore and inland waterway markets. From a single sensor to a complete automation system, we offer the most reliable technology for each specific application.

With Tough Applications We Always Succeed

Hazardous areas, vibrations, dirt, salt, water, heat and cold, corrosive fluids and gases, are our day-to-day business. Experience unrivaled reliability with Honeywell Marine equipments and systems.
Honeywell Marine Offers Comprehensive Systems and Solutions

Our Products and Solutions Designed to Stand Up to the Most Difficult Environments

**LIDEC**
Liquid Level Switch designed for maritime applications; an effective solution for detecting the level of liquids. Equipped with one or two modular probes, it is a fully static device using propagation of a surface wave which avoids any mechanical moving parts. The detector is insensitive to vibration, shock and electrical disturbances.

**Pneumatic Level Transmitters**
The CT080 and CT180 pressure level indicators provide readings of the level and/or volume of the liquids contained in the tanks of a ship. They are based on hydrostatic pressure measurement and can be mounted on a console or a wall panel.

**Electro-Pneumatic Transmitters**
CT801: Remote level measurements based on the bubbler-type principle providing 4-20 mA analog output. The transmitter’s proven reliability has made it the marine industry standard for equipment in this category, with more than 2,000 vessels already equipped. Different types are available depending on the type of installation, connection or area of installation.

**GASBAL™**
Detects and analyzes gas concentration in closed spaces such as ballast tanks, void or dry spaces. The system scrolls each input and activates an alarm if dangerous gases are present.

**Radar Gauge**
The EM540 Radar is an 8-inch smart radar level solution specifically designed for tanker level measurements involving chemicals, hydrocarbons, bitumen, etc. It transmits all data (level, pressure, temperature) to the central monitoring system. The proprietary flat antenna “Planar” reduces product build-up and makes the cleaning procedure quick and easy.

**Inert Gas Pressure & Temperature**
The T901 P is a simple, integrated solution for continuous measurement of the temperature of the cargo (3 probes max.) and the pressure of inert gas in tanks. Comes in several types according to the application.

**Pressure and Level Sensors**
The PL3700X is a family of pressure sensors which fulfill many of the pressure and level sensing needs aboard a ship. They come in a variety of sensing ranges, materials, adaptation types and fittings. The PL3700 can be immersed inside tank using adapted bracket or beside mounted using a flange.

**Capacitive Level Sensors**
OptiLevel is the best choice on small tanks for barge, seagoing and inland waterway vessels. Based on capacitive sensing technology, it delivers cargo level, oil water interface level and temperature measurement in one self-contained sensor, without moving parts.
Cargo Line Pressure Sensor
The PL3700-MAN is a rugged sensor measuring the pressure on cargo lines on tankers and FPSO. Mounted on deck, it is insensitive to temperature variations and corrosion, and extremely well protected against overpressure shocks.

Deck Indicator
The intrinsically safe LOG3840 is a local indicator designed for deck installation. Connected between the TA3840S safety unit and the radar EMx40, it calculates and displays locally on the LCD screen the liquid level, temperature, and inert gas pressure.

Atmospheric Pressure Sensor
The PL 3700 ATM provides reliable measurement of atmospheric pressure to the cargo gauging system, thus allowing precise and reliable measurement of level in the tanks equipped with pressure sensors of the PL3700 series.

Electropneumatic Cabinet
The TN3801 is ideally suited for service tanks, ballasts and drafts. It can include up to 24 channels of pneumatically independent modules. Modules are built-in with an automatic non-return valve. Within the TN3801, a microcontroller carries out data processing, digital conversion and management of two redundant RS485/422 communication ports.

Inclinometer
Inc 3840 for trim and list, a very precise capacitive sensor for measuring inclination with a high long-term stability. The output signal is directly proportional to the inclination angle.

Communication & Safety Units
The TA3840C Communication Unit is intended for use with monitoring and loading systems. The TA3840C calculates and displays parameters such as cargo level, temperature and IG pressure. The unit can be installed in a 19-inch rack and includes a supply board, central unit board for data processing, function keyboard, and display unit with LCD screen for measurement and alarm data, up to four communication ports, and up to 96 analog inputs.

Safety Unit
The TA3840S Safety Unit houses the radar power supplies and communicates with the TA3840C. Up to 16 radars can be connected to one unit, with a maximum of 4 units and 64 radars.

CargoBoss Software
User-friendly software that can be run on a PC. CargoBoss captures critical data related to liquid cargo, ballast and service tanks such as data for level, pressure, temperature, ullage, corrected volume, mass and ballast level in real time from the TA3840 communication rack. It also aggregates other information such as trim, heel and GPS data. CargoBoss then provides an accurate view of this data using an intuitive human-machine interface (HMI) and communicates it via RS-485 Modbus to the load computer and the ship system. An optional GSM modem allows communication of all this data, including GPS position, tank levels and other parameters, to a remote FTP location for use by the owner, oil company or charterer.
Global Service and Support

Equipment breakdown on a ship can prove costly. Honeywell offers unmatched support and a range of services to help ship owners and operators optimize their equipment usage and run their operations smoothly, while complying with all pertinent regulations.

Since 1983 Honeywell has maintained complete traceability of all its installations and interventions by ship. This allows immediate identification of the equipment type, configuration and related parts to address user needs in minimal time. The combination of Honeywell's global network of technicians, remote parts warehouses and certified service stations further ensures a speedy response. In addition, safe remote access services help escalate issues, if required. Service support is provided for legacy products until the equipment becomes obsolete, at which stage a replacement is proposed. Honeywell also provides training to users’ in-house technicians and service station staff. Training is provided by experienced trainers at the user premises for hands-on practice. Wherever your operations are located around the world, you can count on the service station closest to your place. We combine the high standards and global perspective of a world-class company while maintaining a presence close to you.
For more information
To learn more about Honeywell’s Marine Tank Gauging Solutions, visit www.honeywellprocess.com or contact your Honeywell account manager.

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