

Cargo Tank LEVEL MASTER System for Tank Level Gauging & Temperature Monitoring

In accordance to Marine Classification Society and U.S.C.G 46 CFR 39.20-3 Requirements

Features

- High Reliability with robust design using magnetic reed switches. Proven track record of 20 years.
- Simple design & construction for level gauging, temperature, pressure and overflow Alarms in cargo tank.
- Easy installation with minimum space requirement and cost.
- User-friendly SMART Type Touch Screen LCD display unit with multi-window display.
- Modbus Protocol / Outputs with RS485
- Easy and safe maintenance on deck without necessity to open or gas-free cargo tanks.
- Intrinsically safe design with safety barrier to EEx ia IIC in accordance to IEC standard.
- ClassNK and C.C.S Type Approved.



Principle of Operation

CTLM Series

Cargo Tank LEVEL MASTER (CTLM) System is designed using the proven magnetic reed switch principle. Each monitoring loop consists of the Level Master Detector Unit, Control Board and Indicator Unit.

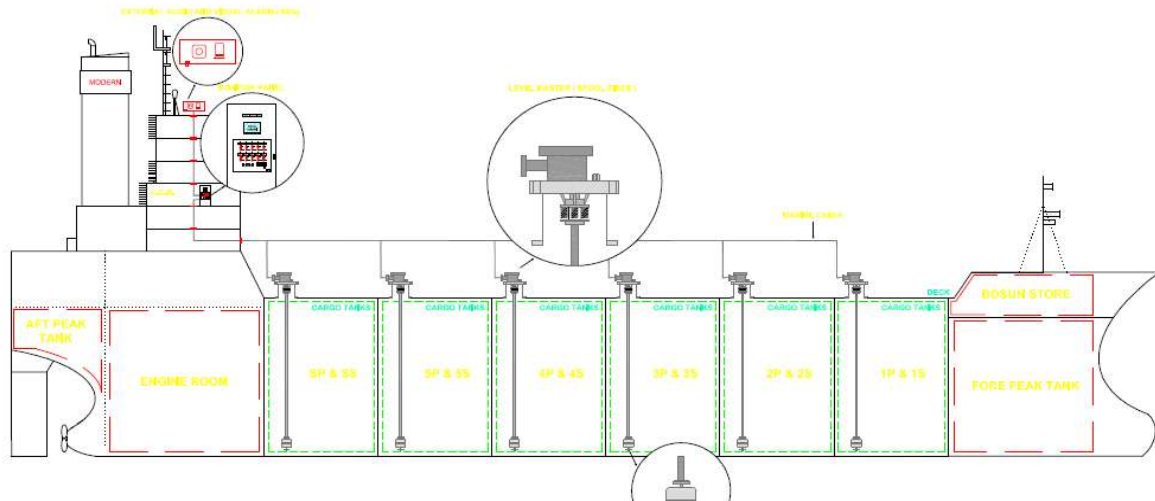
Detector Unit

Consist of magnetic float, guide pipe and terminal box. Level measurement is achieved when the magnetic float rises and falls along the guide pipe according to the change in liquid level in the cargo tank. Sensor inside the guide pipe are energized and transmit a signal to the control board, thereby showing actual tank level on the indicator unit in the Cargo Control Room.

Application

CTLM Series is developed to comply with Classification & USCG 46 CFR 39.20-3 requirement for Cargo Level Tank Gauging and Temperature Monitoring. The sensors are designed to withstand the extreme environment conditions on a ship's deck and in cargo tanks. Suitable for marine and offshore installations in chemical parcel tanker, chemical/product tanker, oil tanker, crude oil carrier, FSO, FPSO etc.

TECHNICAL SPECIFICATION



Model	: CTLM
Principle	: Magnetic float with reed switch
Measuring Range	: 20 meters
Accuracy	: Within ± 10 mm
Specific Gravity	: 0.5 and above (liquid)
Display	: SMART Touch Screen LCD display unit : Digital readout and bar graph for level indication : Digital readout for temperature indication : Digital readout for pressure indication
Alarm Level	: High level alarm, high temperature alarm
Alarm output	: External relay contact
Enclosure	: IP56 (level switch)
Operating conditions	: -5°C to 55°C (Monitor Panel) : -40°C to 125°C (Level sensor) : -55°C to 150°C (Temperature sensor)
Independent Overfill Alarm	: 98% Volume (Optional)
Pressure measurement	: $-200\text{cmH}_2\text{O}$ to $+400\text{cmH}_2\text{O}$ (Optional)
Power Source	: AC220V or AC110V
Safety Approval	: Intrinsic Safety to EEx ia IIC
Connection size	: JIS 5K 200A (tank), JIS 5K 40A (cable)
Material in Process	: Stainless Steel SS 316 (Level Detector)
Class Approval	: ClassNK and C.C.S. Type Approval

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