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CARGO TANK MONITORING SYSTEM WITH LOCAL AND REMOTE INDICATOR
(TLP-100S, TLP-100B, TLP-100MUX, TLP-100D, TLP-100M, SIL-100TLP)

HANLA IMS

Cargo Tank Measuring System - 08 | 09

Cargo Tank Measuring System

GENERAL

The TLP-100, LIQUID LEVEL is the newest version of magnetic float level gauge for marine tankers which has been developed based on the long time field experience. The detection of float position is conducted by Hall IC elements to eliminate problem of contact fusing and/or accuracy failure caused by existing reed switch system.

By this remarkable sensing system, long time stability and maintenance free operation have been achieved.
The measurement is free from the conductivity and/or dielectric constant of the cargo liquids.

Thus TLP-100 is widely suitable for measurement and control of cargo liquid levels at crude oil carriers, coaster tankers, product carriers chemical carrier, etc.
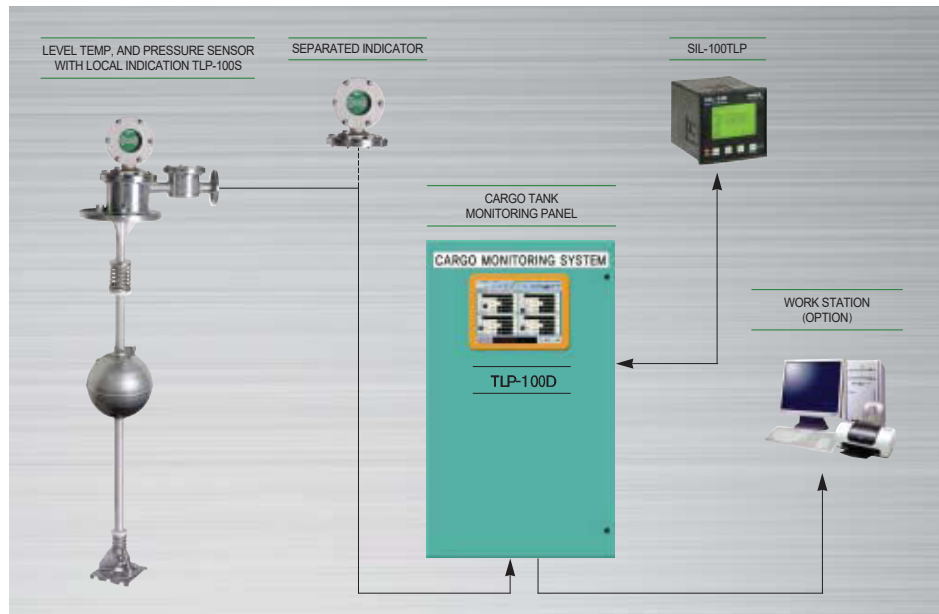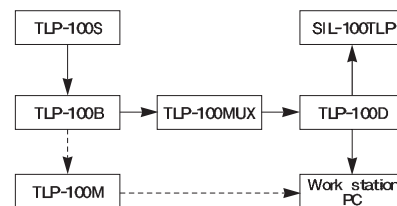
SYSTEM CONSTRUCTION

System \ Model	CARGO MONITORING SYSTEM (TLP-100)
DESCRIPTION	INTRINSICALLY SAFE LEVEL TEMP, AND PRESSURE MONITORING SYSTEM
LEVEL SENSOR	LOCAL GAUGE TLP-100S
SAFETY BARRIER	TLP-100B
MAIN CONTROL PANEL	• MULTI-TANK MONITOR TLP-100D (TOUCH SCREEN COMPUTER) • TLP-100MUX

FEATURES

• Compact and cost saving design.
• Hall IC Elements, pure electric position detection:
  - Grade up from existing reed switch system.
  - Highly reliable and stable for long time operation.
  - Highly precision for operation.
• 3 Point of temp. measurement and transmission.
• Separatable LCD indicator.
  - LCD indicator may be separated from the sensor.
• 2 Core cable data transmission and easy wiring:
  - Liquid level and maximum 3point temp. data are sent to CCR by serial BCD signal through 2 core cable only including power supply to the deck.
• Full line up of CCR indication system
  - Full line up from individual indicator to computer based system is ready to meet for requirements.

BLOCK DIAGRAM

APPLICATION

This system is for monitoring for level, alarm and temperature of the liquid in cargo tanks.

LOCAL GAUGE : TLP-100S

SPECIFICATION

• **Detection unit :** Level : by magnetic float and Hall IC element
  Temp : by PT-100RTD
  Pressure : ceramic sensor
• **Accuracy :** Level : every 10mm (standard)
  : every 5mm (option)
  Temp : ±1.0℃
• **Measuring range :** Level : max. 20M
  Temp : -25℃ ~ +125℃
  Pressure : 900 ~ 1300mBar
• **Indication :** By selector type LCD 6 digit indication
  1) Level : 5mm unit (0~ 20.000 M)
  2) Temp. (U : Upper) ℃ or °F unit
  (M : Middle) ℃ or °F unit
  (L : Lower) ℃ or °F unit
• **Output :** Digital serial code pulse (2 wire system including power supply, exclusive receiving unit is required)
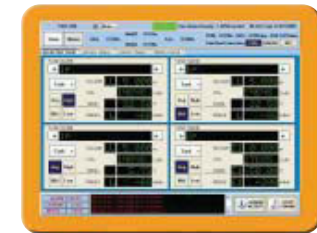
INDICATOR : SIL-100TLP

SPECIFICATION

• **Indication :** Individual tank LCD indicator
• Tank selector and temp. element selector keys are provided.
• **Level :** 0 ~ 20.000M a
  (ullage or sounding selectable)
• **Level status :** 2 digits
• **Alarm setting and monitoring :**
  1) 4 level alarms(HH, H, L, LL) for 24 tanks
  2) 2 temp. alarms(H, L) for each element of tanks (U, M, L)
  3) 4 Pressure alarm(HH, H, L, LL) for 24 tanks
• **Input :** RS485 port for indicator
  (MODBUS PROTOCOL)
• **Common or Individual Indicator**

MULTI-TANK MONITOR : TLP-100D

The cargo monitoring panel will be designed and arranged for level alarm, high temp. alarm, and temp. level measurement based on the number of tanks and tank location etc..

The cargo tank monitoring panel gives audible and visible alarm as well as cargo tank level, temp. indication on the mimic board, and also external alarm for high an high-high level shall be provided by cargo monitoring panel.

SELECTED TANK
Easy Operation by the Touch screen.

TOTAL TANKS
Mimic diagram display Of Total tanks information.

DETAIL TANK
Calculation of Level, Pressure, Volumes and Average Temperature.

TRENDS CURVE
Saving of Tank loading, Discharging information.

SPECIFICATION

• **Indication :** 10.4'' Touch screen LCD
• **Serial Port :** Two RS232 and selectable
  RS232 / 422 / 485 serial ports
• **Built-in multiplexer Board TLP-100MUX :**
  Input : 8 Port 4 ~ 20mA
  24 Tank sensor(Level,Temp.Pressure)
  Output : 13 Relay Contact
  RS485 or RS232 COMMUNICATION
  (MODBUS PROTOCOL)