

Cargo Tank Measuring System

GENERAL

Universal Level Switch UTS™ has extended operating temperature range from -200°C to +450°C and is designed for level detection in cargo holds, wells & service tanks in sea and river ships, oil tankers, chemical tankers, gas carriers, offshore drilling platforms. Ultrasonic Tank Switch UTS™ is made of stainless steel and is used for level detection of liquids in vessel tanks, storage tanks, bilge water tanks, cofferdams as well as for control of water ingress to vessel's compartments.

TLA™ - Tank Level Alarm is used for detection of high (95%) and high-high (98%) levels in tanks. TLA™ is installed on the deck of tankers, gas carriers, floating storages, FSO, FPSO, onshore storage tanks for oil, petroleum products and liquefied gases.

Built on the same patented acoustic wave technology as UTS™, TLA™ features high level of accuracy, reliability and customizability.

UTS™ Features:

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- Any type of liquid
- Only steel rod inside the tank (electronics and connections outside)
- Fully welded construction
- No moving parts
- Extended temperature range
- No maintenance required
- Automatic self test
- No calibration needed
- Explosion proof
- Pre-adjustable alarm points
- No sensitivity to foam
- More than 300 possible variations

TLA™ Features:

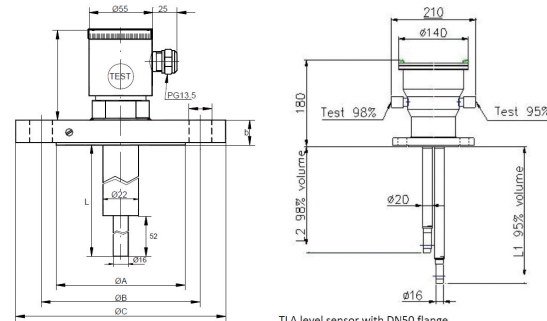
- Works with any type of liquid and liquefied gas
- Easy installation
- No maintenance
- No moving parts
- No electronics inside the tank
- No sensitivity to vapor, moisture and foam
- Automatic self test
- Lengths on request
- Only steel rod inside the tank (electronics and connections outside)

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- Channel number : 16 contacts.
- Alarm Input time delay : 0~99 sec.
- Alarm escape time delay : 0~99 sec.
- Channel outputs : NC or NO.
- Common relay output.
- Internal Buzzer.
- Buzzer Stop button.
- Flicker Stop button.
- Supply voltage : 24VDC(18~32VDC).
100~240VAC(option).
- Indication LEDs : 16×red/green, 1×yellow, 1×green
- First alarm flashing.
- Serial Communication : RS-485.
- Channel setting : by internal rotary switch.
by windows setting program.
- Power consumption : Max. 4.5 Watt at 24VDC.
- Operating temperature : -10℃ to +55℃(70℃ peak).
- Alarm module enclosure : standard DIN 144×144×86 mm.
- Type code selection : AU-160D.
 - A : Channel Output.
 - 0 : None.
 - 1 : Isolated Output.
 - B : Power.
 - 0 : 24VDC.
 - 1 : 100~240VAC
- AU-160D : High Level Alarm, Overfill Alarm application.
Inhibit buttons for each channel.
Navigation function
- Optional repeater unit : AU-160R by RS-485.

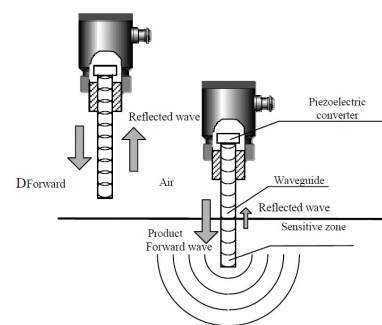
- Output signal :
 - a) Current : 14 ± 1 mA «dry/wet» and 7 ± 1 mA «wet/dry».
 - b) Solid state relay : On resistance 15ohm. Off resistance: NO 0.35Gohm, NC 0.1Gohm, current limit 200mA, max. switching voltage 200V. Isolation 3.75KV.
- Repetition of actuation level : Vertical installation: 3 mm
Horizontal installation : 1 mm
- Power supply voltage : 24V +20%/-25% direct-current
- Maximum permissible resistance in supply circuit at 24V : less than 720 Ohm
- Power consumption: less than 0,5 W
- Insulation resistance at ~500V: not less than 5 GOhm
- Ambient operating temperature: -40° to +85 ° (for IS -40° to +57°)
- Product temperature: -200° to +450 °
- Relative ambient humidity: up to 100% at 50°
- Ambient air pressure: 600 to 2500 mm of Mercury
- Reservoir pressure: -500mbar to +500mbar
- Response time: 1 min. depending on actual programming
- Protection rate: IP67
- Vibration: 4 g. for standard length 115 mm, 1-100 Hz
- Constant magnetic field: max. 400 /m
- Alternating magnetic field: 50 and 400 Hz, max. 80 /m
- MBTF: 50000 hrs
- MTTR: Less than 30 min

DIMENSION & TEST DEVICE / UTS™/TLA™



UTS level sensor with flange fixture

PRINCIPLE OF OPERATION



WIRING DIAGRAM

