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Portable Ultrasonic Liquid Level Indicator

# Portable Ultrasonic Liquid Level Indicator

With every product from Smagall, you can get:

- Safe and quick detection of liquid level in your tank
- Reliable performance
- 24–Hour English technical instruction
- Convenient and simple operation and maintenance.



## General Description

The portable liquid level indicator is designed to measure the presence or absence of liquid at a certain height position in a container or in pipelines. The material of measurable liquid containers can be made of various kinds of materials like metal, glass or unfoamed plastics.

Under ordinary conditions, the maximum wall thickness of measurable containers is 30mm. The product is applicable to the detection of various types of liquids (without

crystallization or other particulate matter). Due to the technique of non–contact detection this liquid level indicator is an ideal choice for the detection of dangerous toxic or corrosive liquids.

## Measurable medium

pure liquid, milky liquid, suspension liquid

## Applicable Tank

- **CO2Tank** with any of the following diameter ranges:

210mm–230mm, 265mm–285mm, 340mm–360mm and 390mm–410mm

- **Common Tank**

All tanks outside the above tank diameter ranges can be considered as common type.

vertical tank / horizontal tank / spherical tank(diameter<3M)

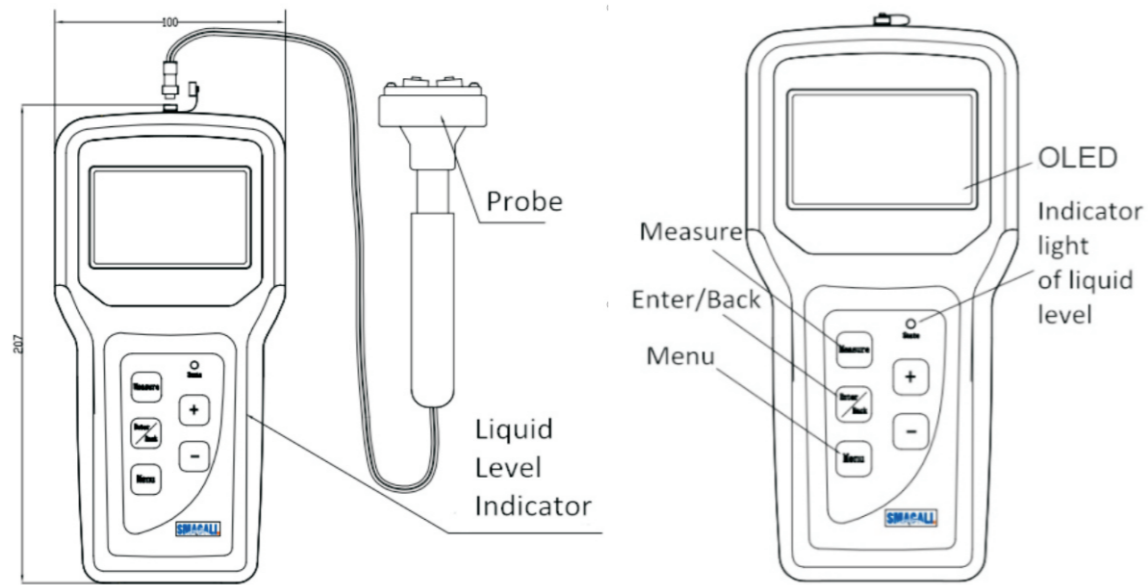
The indicator has no requirement towards medium, height and pressure.

## Features

- No contact with medium
- Suitable for toxic, corrosive, or invasive medium
- No need for drilling or welding on tank wall
- Advanced ultrasonic sensor technology
- Reliable measurement results
- Easy and convenient to operate and maintain
- Ultrasonic adaptive detection algorithm.
- High–contrast OLED color display, suitable for outdoor use under strong light



## Product Structure

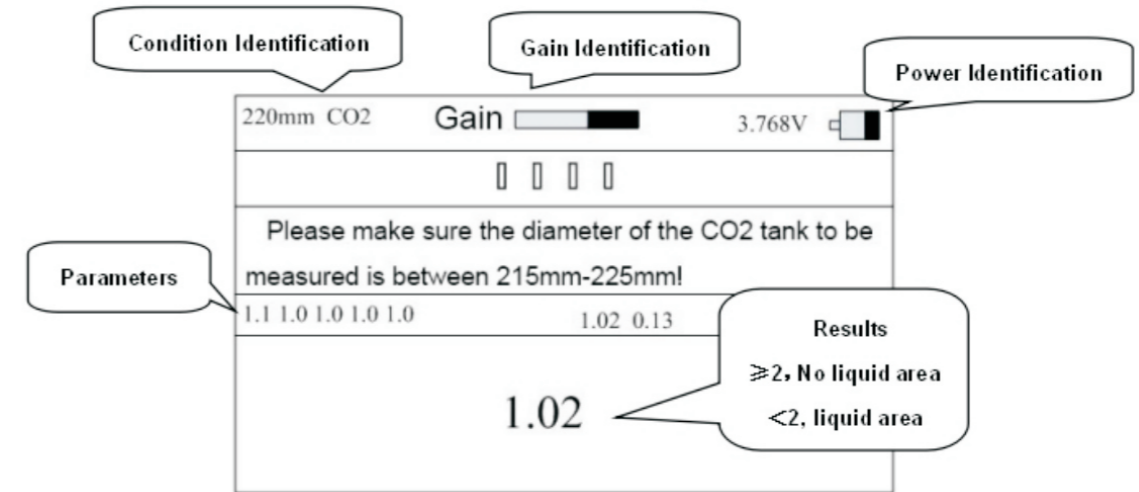


## General Description

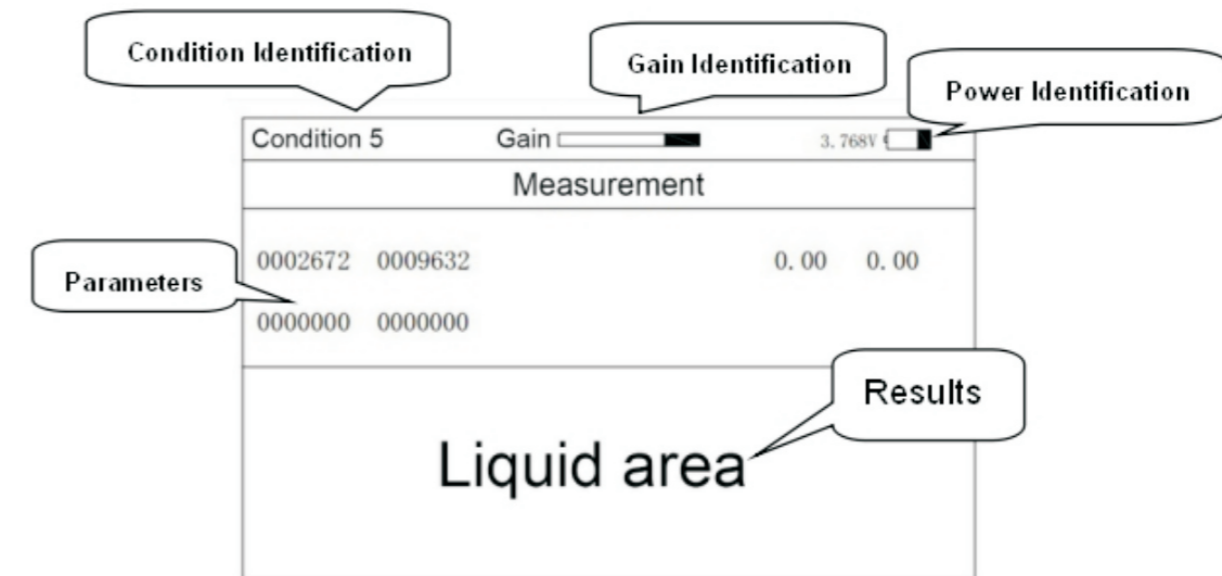
- Simple to operate using button
- OLED light indicating liquid level
- Good user interface design
- Bilingual operation modes (Chinese/English)
- The ultrasonic-waveform-display function facilitates parameter testing, wave form comparing and application of other functions to ensure measurement accuracy in complicated situations
- Comprehensive software displays measurements in a simple manner

## Interface Display

### Co2 Tank:



### Common Tank:



## Main Specifications

Measurement accuracy	<5mm
Measurable range of wall thickness	3 ~ 30mm
Measurable tank material	Steel, stainless steel, glass, unformed plastics
Measurable medium	Pure liquid, milky liquid, suspension liquid
Ambient temperature	-20°C ~ 60°C (-4° F ~ +140° F)
Ambient humidity	15% ~ 85%RH
Power supply	Two 18650 lithium batteries (supplied by customers)
Current	150mAh (on average)
Operation Duration (fully charged)	> 8 hours

## Product Details

### Housing Body

- Nontoxic harmless engineering plastics
- Handheld ergonomic design
- Large screen with clear interface
- Simple operation, saving training cost



### LED Display

- Visual operation interface
- High screen resolution: night time visibility
- Liquid area or no liquid data can be visually displayed

## Interface

- Aviation plug
- Locking structure, reliable connection and not easy to loose
- With protective cap, keep joint clean and not easy to be damaged



## Switch

- Mechanical Switch
- Short start-up time
- Easy handling

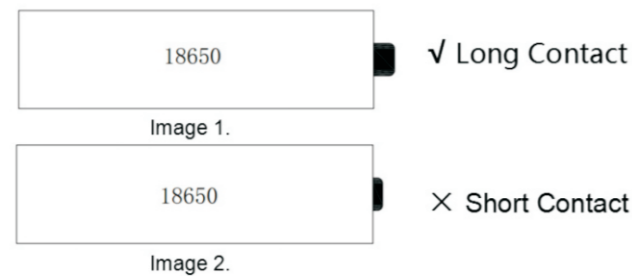
## Power Indicator Light

- Easy to judge battery power according to lightness of the indicator (More power, brighter)



### Battery

- 18650 lithium rechargeable battery
- Convenient replacement
- Environmental
- Single battery is workable for indicator
- Two batteries



Please note, the length of standard 18650 lithium battery is  $65 \pm 2.0\text{mm}$ . If you see the above two dimensions of 18650 battery, please select the one with longer protruding. (see Image 1.)

### Model Selection:



One Probe with two sensors, suitable for various types of tanks;  
 No need of ultrasonic couplant, cost saving, convenient and no pollution;  
 Three kinds of probe rod optional for different requirement



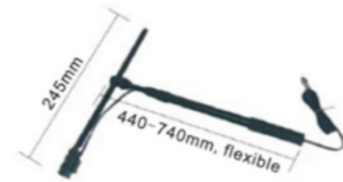
**Standard Probe**

Length: 190mm  
 Application: For single row tanks



**Extension Probe**

Length: 600mm  
 Application: For multi-row tanks



**Extension Probe**

Length: 440-740mm  
 Application: For multi-row tanks

### Six combinations are optional

No.	Product Description	Probe Rode Combination
1	Portable Ultrasonic Liquid Level Indicator with STANDARD PROBE ROD HS-MLI-1	190mm
2	Portable Ultrasonic Liquid Level Indicator with EXTENSION PROBE ROD HS-MLI-2	600mm
3	Portable Ultrasonic Liquid Level Indicator with 90 DEGREE PROBE ROD HS-MLI-3	245mm
4	Portable Ultrasonic Liquid Level Indicator with one STANDARD PROBE RDE and one EXTENSION PROBE ROD HS-MLI-4	190mm, 600mm
5	Portable Ultrasonic Liquid Level Indicator with one STANDARD PROBE ROD and one 90 DEGREE PROBE ROD HS-MLI-5	190mm, 245mm
6	Portable Ultrasonic Liquid Level Indicator with one EXTENSION PROBE RDE and one 90 DEGREE PROBE ROD HS-MLI-6	600mm, 245mm

## Application

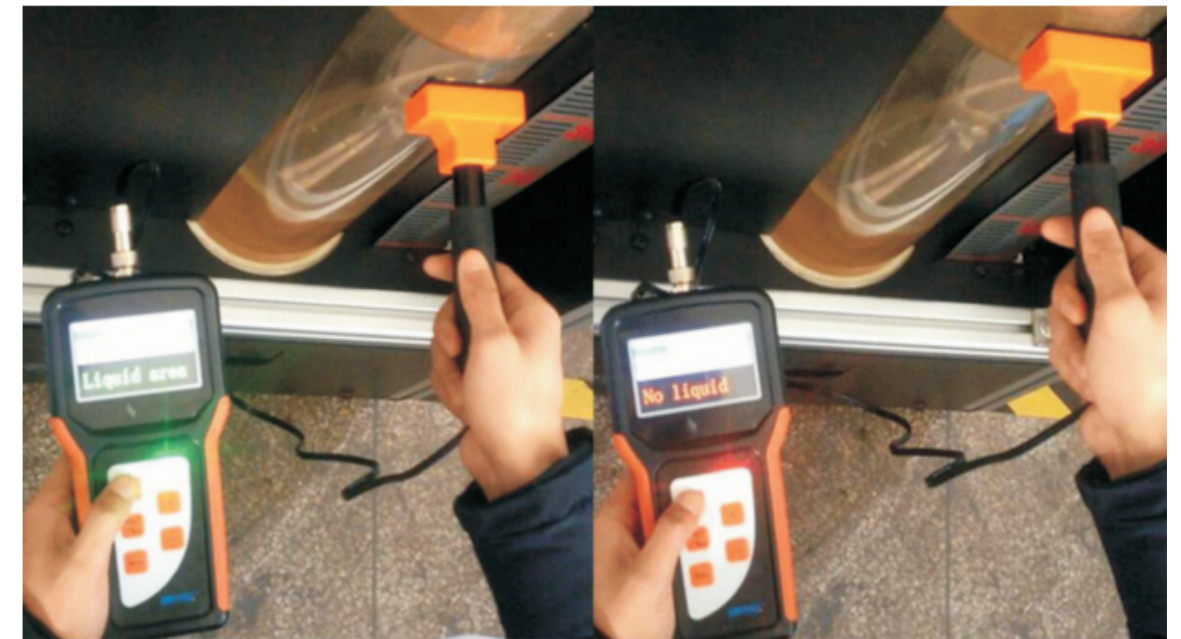
For CO2 storage tank of the fire fighting system in the offshore drilling platform.



For dangerous chemicals in storage tank



For calibration of liquid level meter



Measurement results visually displayed;  
Green light indicating liquid area;  
Red light indicating non-liquid area;

## Qualifications



Certificate  
of High-tech  
Enterprise



ISO 9001



Patent for  
Invention



Innovation Fund



Certificate  
by CCAIA



License for  
Producing  
Measurement  
Equipment



Authorized  
Supplier  
for CNOOC



Authorized  
Supplier  
for CNPC



Certificate  
of Software  
Copyright



Explosion-proof  
Certificate

## Package

Item	Inner Package	Outer Package										
Pictures												
Description	<p>Professional engineering instrument box with protective layer;            Convenient to carry with strap and handle;            Free from impact and damage;            Packing List:</p> <table border="0"> <tr> <td>Portable liquid level indicator</td> <td>1 piece</td> </tr> <tr> <td>Ultrasonic probe</td> <td>1 piece</td> </tr> <tr> <td>Manual</td> <td>1 piece</td> </tr> <tr> <td>Certificate of approval</td> <td>1 piece</td> </tr> <tr> <td>Warranty Card</td> <td>1 piece</td> </tr> </table>	Portable liquid level indicator	1 piece	Ultrasonic probe	1 piece	Manual	1 piece	Certificate of approval	1 piece	Warranty Card	1 piece	<p>Carton Packing            G.W.:2.5 kg            N.W.:1 kg            Size:420*320*130mm</p>
Portable liquid level indicator	1 piece											
Ultrasonic probe	1 piece											
Manual	1 piece											
Certificate of approval	1 piece											
Warranty Card	1 piece											

## Shipping



Shipping by Express, Air or Sea.