



ISO9001 • ISO14001
OHSAS 18001

GE-1202

Ultrasonic Level Meter

USER MANUAL

A.YITE INSTRUMENT CORP

<http://www.ayite.net>

1、 Overview

Sincerely thank you for buying our ultrasonic level meter.

The GE-1202 meter includes several proprietary technologies, is safe and clean, with high precision and long service life, stable and reliable, and convenient to install and maintain, and is applicable to various fields of acid, alkali, salt, anticorrosion, and high temperature.

The meter is with following features:

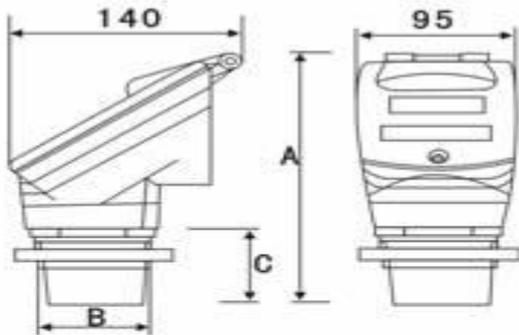
- For circuit design, high-quality power modules are selected to be as power supply parts and highly stable and reliably imported devices are used as components of the meter. It can fully replace imported foreign meters of the same type.
- Patent sonic-wave intelligent technology software can make intelligitized echo analysis. It needs neither debugging nor other special steps. This technology has functions of dynamic thinking and dynamic analysis.
- Our sonic-wave intelligent patent technology greatly improves the meter's precision, and the precision of liquid level is up to 0.25%, which is enough to resist various interference waves.
- The meter is a non-contact one and does not directly contact liquid, so the fault rate is low. The meter can be installed in several different ways, and the user can make meter calibration according to the Manual.
- The meter's all input and output lines must be with such protection functions as lightning protection and short circuit prevention.

2、 Technical targets

Measuring range:	0~15m (Chosen based on actual measuring range)
Blind area:	0.25m~0.6m
Ranging accuracy:	0.25% (Standard condition)
Ranging resolution:	1mm
Pressure:	Less than four atmospheric pressure
Meter display:	With LCD to display liquid levels.
Analog output:	4~20mA
Digital output:	RS485, Agreement Modbus or customization agreement
Power supply voltage:	DC24V/AC220V, lightningproof device installed inside
Ambient temperature:	-20℃ ~ +60℃
Protection grade:	IP65

3、 Installation of meter

3.1 Meter's overall size

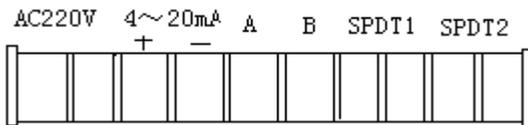


尺寸A	尺寸B	尺寸C
227mm	M65 × 2	68mm

Installation way:

Open environment commonly used stent installation method, using a fixed flange own instrument.

3.2 Meter's wiring

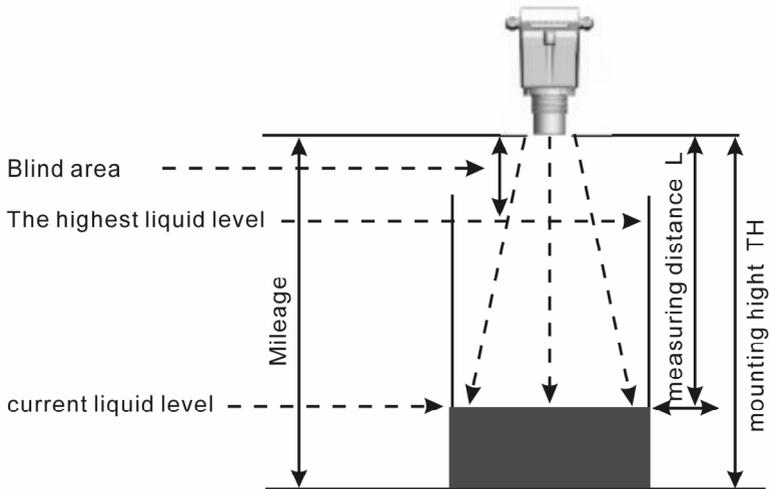


Power: 220V or DC24V; Output: 4-20mA

RS-485: A-B

Relay 1: SPDT1; Relay 2: SPDT2

3.3 The meaning of installation parameters



As shown, instrument's transducer sent the wave hit the level, then reflected back to transducer, the transducer receives, by calculate the time, then get the value for L , the **mounting height TH** subtract the **distance L**, then will be the current **level H**.

Meter range means the instrument can measure the distance, the installation should be less than a high degree of TH range.

Instrument blind means measuring instruments in the vicinity of the transducer can not be measured in the region, the highest level with the transducer spacing should be greater than the blind, for example: blind spot for the 0.3m, the highest level with the transducer spacing must be greater than 0.3m.

3.4 Instrumentation Principles

1. The distance of transducer launching surface to the lowest level should be less than the purchase instrument range
2. The distance of the transducer launching surface to the highest liquid level should be greater than the purchase of the blind instrument
3. The launch surface of the transducer should be keep parallel to the liquid surface.
4. Transducer installation location should be as far as possible avoid these liquid surface fluctuations position that just under the inlet, outlet ,if it is impossible to avoid,

please install guided-wave tube to aid in measuring.

5. If the pool wall or tank wall is not smooth, meter installation location should at least more than 0.5m from the pool wall or tank wall. The specific distance from the pool wall or the tank wall determined according to the actual situation.

6. If the distance of the transducer launching surface to the highest level is less than the blind area of the purchase instrument is required to install an extension tube, that diameter is greater than 200mm, and the length is 0.35m~0.50m.

3.6 Installation Notes

1. The instrument used outdoors, it is best to install awning or the protecting housing, so as to avoid the LCD screen ageing affected by sunlight.

2. Wire, cable protection pipes, pay attention to sealing to prevent water, and prevent mice and other rodents Bite.

3. Although the instrument itself with a lightning protection device, but the instrument when used in a multi-mine area, it is recommended into the outlet end of the instrument to install lightning protection devices dedicated.

4. Instruments are used in particularly hot, cold places, which mean there is likely to exceed the ambient temperature around the instrument's work requirements, so we propose increase fortify high and low temperature devices around the liquid level gauge.

4、 Debugging of meter

4.1 Keyboard directive



【SET】: Press **【SET】** about 3 second, It will appear 0000, the first 0 is flashing,change the first 0 as 1, then Press OK button enter the parameter setting menu; After Finish setting, then press SET key to exit the parameter setting menu,

【▲】: Page up key and number key. In menu, the key is used as the page up key of menu; when changing data, the key is used as number key to add number.

【▼】: Page down key. In menu, the key is used as the page down key of menu; when changing data, the key is used as used as number key to minus number..

【OK】: Confirmation key. Choose menu or confirm option and data.

4.2 Password directive

Press **SET** key, the password interface will appear: “0000”; press key **【▲】** to change the first 0 into 1, and press key **【OK】** to enter the interface of parameter setting menu for GE-1201.

4.3 parameter set

4.3.1 Level Calibration (LEVEL)

After Meter installed, power-on. The LCD will show the level value, but the data are often inconsistent with the actual level, so it need level calibration.

Level calibration steps are as follows: press **【SET】** about 3 second, It will appear **0000**, the first **0** is flashing, change the first 0 as 1, then Press **【OK】** button to level calibration with **▼**, and **▲** will be replaced by the actual level value of the number (as 2.100). Press **SET** button to confirm, then press **SET** key to exit the parameter setting menu, LCD will display the actual level at this time. (When calibrate, make sure the meter is fixed, and no power off)

4.3.2 Set 4mA~20mA

Press **【SET】** about 3 second, press **▼** choose menu 20mA, it is shall be 20mA level. If need change, press OK key, then press **▲** and **▼** to set. When finished, press **SET** to exit. For 4mA, the level is 0, unusually be changed.

4.3.3 Settings for Probe height (TH)

TH menus can be displayed probe height, can see whether the height can meet the situation on the ground, Can also be used for Calibration of the liquid level. In accordance with the situation on the ground to change the value of the probe height (You could not change both LEVEL and TH, just change one of them)

4.3.4 Relay Setting (Relay).....Relay is not standard function.

It have 4 sign, “&”、“|”、“N”、“^” . When change the sign, press OK, then the sign is flashing, then press **▲** and **▼** to set. When finished, press **SET** to exit.

The meaning of those sign:

- < : less than; > : more than; & : means “and” need achive both of 2 condition;
- | : means “or”, just achieve one of the condition;

N: only the first condition, the next will not display

∧: The first condition is for relay close, next is for relay open

4.3.5 Display Model(DispMode)

1. Level: the distance between the water surface and bottom

2. AIRH: the distance between the water surface to the sensor

3. AIRHT, show the AIRH and temperature

press ▲ to choose. press OK to finish, press **SET** to exit.

4.4.7 P--Multi

Don't change this page, it is used for the factory

It is produced by A.YITE Technology. <http://www.ayite.net>

Ultrasonic Level Meter, Ultrasonic Depth Meter, adopt the ultrasonic principle, have perfect function to measure the water depth and the sludge depth, the instrument could be custom-made for special condition, and Explosion-proof is available too.