



J15D3MC is a highly versatile and accurate range of non-invasive liquid level measurement systems, comprising a signal processing unit and ultrasonic transceivers.

It has seven features unmatched by other liquid level meter :

1. Can be used for the most demanding environment-known velocity measuring any pressure, the most intense, the most toxic, corrosive aseptic or high purity liquid.
2. The measuring head and the instrument is in the container, so the installation, repair, maintenance operation does not contact the liquid and the gas tank, very safe. Even in the instrument damage or repair state, no leakage may.
3. The measuring head and the instrument isolation measuring real, not

contacted with measured medium, no leakage of liquid or gas may, no environmental pollution, is the green environmental protection instrument real.

4. Online maintenance without stop, because without opening the container, without flange, without communicating pipe, so the installation, maintenance convenience, economy.
5. The measuring head and the instrument is no mechanical moving parts, and strict sealing, isolated from the outside, not wear or corrosion, very durable and reliable, maintenance workload is small.
6. The temperature compensation, automatic calibration constantly, will ensure the highest measurement precision. Accuracy of 1 mm, a maximum range of 3 meters. Even in different temperature and vehicles and ships, can be normal use, accurate measurement.
7. LCD display, operation is simple, as long as the probe coated with coupling agent, are forcing stick to just below the container, then in the echo when appropriate.

Application :

1. Household gas tank, carbon dioxide extinguishers tank, snow of a tank, an oxygen tank, tank liquid level measuring syrup.
2. Vehicles, ships, aircraft, turbine, real-time and accurate monitoring of oil supply tank engine equipment.
3. Sensor is inside of ship wall, the ship measurement water level.
4. Tank car, railway tank car, the liquid tank ship (liquid milk, syrup, liquid carbon dioxide, liquid nitrogen and so on all known sound) or oil (gasoline, kerosene, diesel oil, engine oil, crude oil, vegetable oil) accurately measuring the oil level.
5. The oil refinery, all kinds of oil tank, accurate measurement of oil drums.
6. Chemical liquid storage tank, a liquid storage barrel, a liquid storage container of liquid (water, phenol water, banana water, liquefied petroleum gas, liquid carbon dioxide, liquid nitrogen, liquid chlorine, hydrochloric acid, sulfuric acid, nitric acid, chloroform, acrylic, methyl tert, Ding Ji ether, UDMH nitrogen, ammonia, methyl benzene, butadiene vinyl chloride, light hydrocarbon, bromide, anhydrous hydrogen fluoride, hydrogen sulfide, toluene, xylene, four vinyl chloride, ethylene oxide, acetone, ethanol, ethyl ether, ethylene, freon, ammonia, methanol and so on all known sound accurate real-time monitoring liquid level of the liquid).
7. Food factory, sugar, yogurt, soy sauce factory plant, breweries, vinegar factory, beverage factory, tea beverage production line, carbonated beverage production line, coke plant liquid storage tank, a liquid storage barrel, a liquid storage containers for liquid (vegetable juice, fruit juice, grape juice, vinegar, soy sauce, wine, syrup, cola sugar, tea), liquid level detection.
8. Pharmaceutical factory of liquid storage tank, a liquid storage barrel, a liquid storage containers for liquid (Chinese herbal liquid level detection) .
9. Liquid level detection of mineral water, pure water production line, seawater desalination, liquid storage tank, a liquid storage barrel, a liquid storage container.
10. Fire water tank, real-time monitoring of water, sewage treatment, irrigation and water conservancy, canals, reservoirs, rivers and the sea level.

Technical parameters

Max High	3m (5-20m Choose)	Display resolution : 1mm
Wall thickness	1-8mm(5-20mm Choose)	Short time repetitive : 1mm
DC supply	9-36V(110V、 220V Choose)	Accuracy Measurement : 1‰
Battery	DC12V (3200mAh)	Host use temperature : -20 ~ +70
Display	LCD (OLED Choose)	Senser use temperature: -40 ~ +100 (250 Choose)

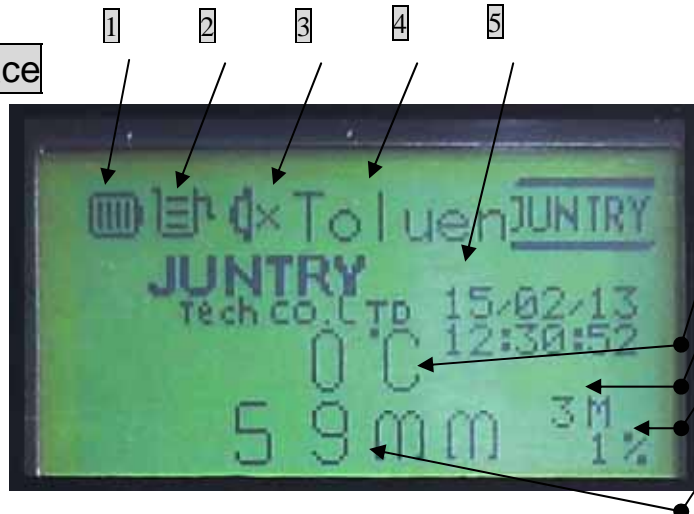


Working Principle :

Ultrasonic sensors are clamped or bonded to the outside walls of the vessel; one on the bottom of the vessel, with the fully density compensated option, one on the side. Signals from the transducers are fed into the processor and either displayed locally, if that option is selected, or output to a separate system. The system calculates the height and volume of the liquid in the tank, from the time taken for the signal to be received from the liquid surface.

LCD Display interface

1. battery power
2. Level low alarm
3. Senser signal
4. Liquid type
5. Date time



6. Temperature
7. Max High
8. Percentage
9. Liquid level

The measured media and the environment

- 1、Medium purity :Liquid cannot be filled with dense bubbles, liquid can not be suspended a solid, if not depositing crystalline substance in liquid substances such as large amounts of sediment
- 2、 Dielectric viscosity : Kinetic viscosity<10mPa•S. 10mpaS< Kinetic viscosity <30mPaS when the instrument is reduced>30mPaS Time cannot be measured.
- 3、 The measured container :
 - Such as: carbon steel, stainless steel materials, various kinds of hard metal, glass steel, epoxy resin, plastic, ceramic, glass, hard rubber or other composite materials. The installation of the measuring head of the container wall for multilayer material, interlayer should closely contact, no air bubbles or air sandwich. Inner and outer surface of the container wall should be flat.

- Tank type: Spherical tank, the square pot, vertical tank.

Place the ultrasonic Sensor

- For containers, can give the probe working surface coated with acoustic grease will directly by hand at the bottom of the container can be pressed.
- Sensor the direction and the distance measured in the same line.
- The sensor side and the liquid surface no obstacle.
- Away from the tank bottom liquid inlet, in order to avoid the effect of liquid turbulent flow on measurement.
- Is higher than that of the liquid inlet or outlet, in order to avoid the effect of long-term deposition tank bottom dirt on the measurement. If the condition is not satisfied, it should ensure that periodically remove dirt, at the bottom of the tank.

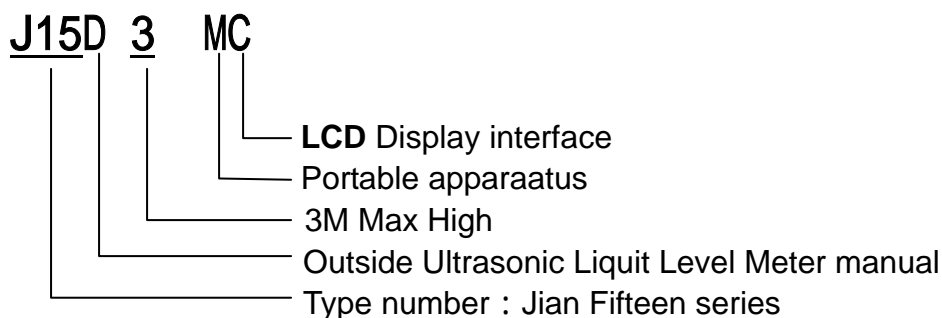
Method of use and operation

Before using the check meter housing front, rear cover is loose, the external power supply is plugged in (if you want to use an external power supply). The lead wire of the probe is connected with the instrument interface, the probe is coated with acoustic grease installed on the tested container just below the bottom, the attention to its close to the vessel wall, connect the power supply DC12-36V or use the internal battery power, namely, turn on the switch to battery position. After startup, the meter will automatically complete self-test function, and automatically enter the measurement display state, to observe the LCD display on the right side of the echo display lamp, mobile ultrasonic probe on the hand at the same time, the echo to the strongest state, the user can through the instrument observation window from the LCD screen directly reads the measured water level inside the container value.

Analysis and troubleshooting

Fault conditions	Reason	Trouble shooting
No reactivity meter electricity (no Display, no backlight)	Power no good	Check and Connected
	Battery loss or damage	Charging or battery replacement
Instrument the self-test, stay in a screen, can not enter the state of measurement.	The instrument isn't initiaized	Turn ON turn OFF Power swith
	Instrument panel faisure	Returns to us initialization
The measurement results are correct, but beating greatly	Liquid level fluctuation	Keep the level of calm
	Ultrasonic Sensor Connection is loose, bad contact	The replacement of ultrasonic sensor connection
The measurement results are basically stable, but the display value is not correct.	sensor position is not correct	Adjust or replace it.
	If there is a damper	Mobile ultrasonic sensor
The measurement results without the law.	ultrasonic sensor position isn't correct	Mobile ultrasonic sensor
	Ultrasonic Sensor Connection is loose, bad contact	The replacement of ultrasonic sensor connection
	Instrument panel failure	Returns to us initialization

Product Identification Code (PIC)



Maintenance and repair

- 1 Keep the instrument clean, do waterproof, moisture-proof, anti-corrosion and avoid violent collision, other objects against.
- 2 Instrument for outdoor installation if the ambient temperature is beyond the rated temperature, should take corresponding measures to protect, to ensure the normal work of instruments.
- 3 Environmental temperature is too high, should avoid direct sunlight instrument, away from heat and ventilation; ambient temperature is too low, the instrument protection box or other protective device for frost protection, and keep the instrument drying.

Nots

- 1 .The maximum allowed is -20 ~ +60 temperature range host 1 level meter, when the measured level of medium temperature meter the highest surface temperature, must take corresponding measures to protect.
- 2 .Liquid level meter should be installed to avoid the influence of external heat source.。
- 3 .Users are not free to replace the parts inside the liquid level gauge , **Is strictly prohibited in dangerous places (explosive gas environment) using this liquid level meter!**

Transportation and storage

- 1 The instrument should be stored in the ambient air temperature of 0 ~ 40 , drying air relative humidity of not more than 80% of the interior, corrosion instrument does not contain impurities in indoor air.
- 2 Instruments in the transportation and storage should be to prevent the erosion of collision, moisture and chemical substances.