



LMU Ultrasonic Level Meter



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Application:

The series is an compact 2-wire series ultrasonic level meter for continuous non-contact level measurement in liquids and solids. It consists of probe and electronic units, both of which are leak-proof structure. This series can be widely applied to the metallurgical, chemical, electricity and oil industries.

Features:

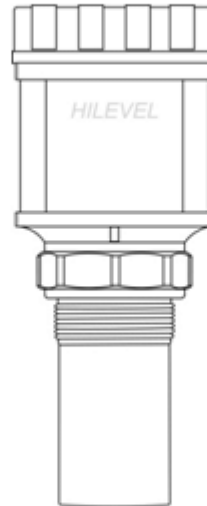
Continuous non-contact level measurement with compact version;

- Integrated design, installed conveniently;
- Protected in the excessive voltage and current , protected in the thunder and lightning;
- The big show window of LCD or LED is easy to debug and observe;
- Excellent anti-interference capability;
- 4-20mA output;
- Intellectual signal treatment technology, guarantee that the instrument meets various kinds of operating occasion
- All metal outer cover (IP67), airproof and alkali-resisting, meet the abominable environment.



▪ **Structure:** ↵

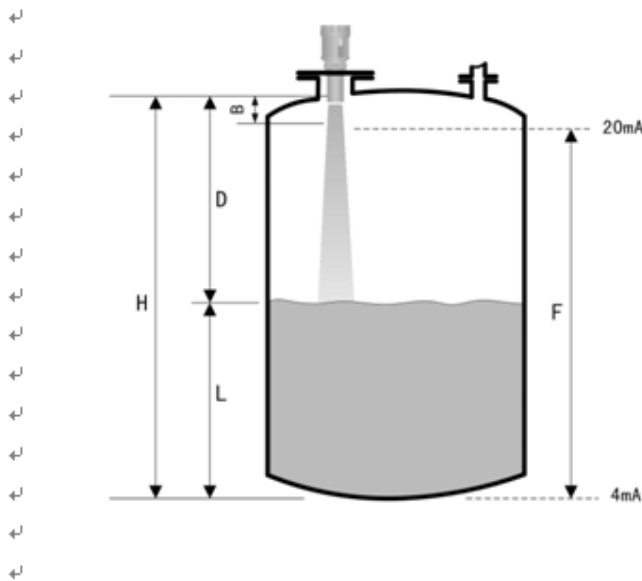
The series is consists of sensor and electronic unit. ↵





▪ **Measuring principle: Time-of-flight method**

The sensor of the meter pulses in the direction of the product surface. There, they are reflected back and received by the sensor. The meter measures the time t between pulse transmission and reception. The meter uses the time t (and the velocity of sound c) to calculate the distance D between the sensor membrane and the product surface: $D = c \cdot t / 2$. As the device knows the empty distance H from a user entry, it can calculate the level as follows: $L = H - D$



H: installation height
D: distance value

An integrated temperature sensor compensates for changes in the velocity of sound caused by temperature changes. Calibration Enter the empty distance H and the span F to calibrate the device.

Blanking distance: Span F may not extend into the blanking distance B . Level echo from the blanking distance cannot be evaluated due to the transient characteristics of the sensor.

Technical data:

1. Basic data

Type	LMU
Power supply	DC24V ($\pm 10\%$) 60mA
Display	4 digit LCD
Accuracy	0.2% of full span (in air)
Output current	4-20mA
Output load	0-500 Ω
Temperature range	-40°C~80°C
Pressure range	± 0.1 MP (press definitely)
Measure cycle	1 second (changeable)
Beam angle	8°(3db) for range :4m 6m 8m



Parameter set up 5°(3db) for range
 Cable connection :12m 15m 20m 30m
 Material 3 induction buttons
 The electronic unit : metal
 The sensor: ABS
 Protect grade IP67
 Fix Screw or Flange

2. The measuring range:

MODEL	H LMU4	LMU6	LMU8	LMU12	LMU15	LMU20	LMU30
LIQUID	4.00m	6.00m	8.00m	12.00m	15.00m	20.00m	30.00m
SOLID			3.00m	5.00m	7.00m	10.00m	15.00m

Note: When using to measuring solid level, the most energy of ultrasonic is absorbed or scattered by solid level, so the back wave is very little, the valid measuring range of solid level is about 50% of liquid level. And the valid measuring range of solid level is determined by the installing location and rang.

3. The blacking distance:

MODEL	HLMU4	LMU6	HLRM8	LMU12	LMU15	LMU20	LMU30
Blacking distance	0.20m	0.25m	0.30m	0.45m	0.60m	0.80m	1.20m