

ULTRASONIC LEVEL METER

MODEL **LT-300**



 **LETECH Co., Ltd.**



■ Major Functions

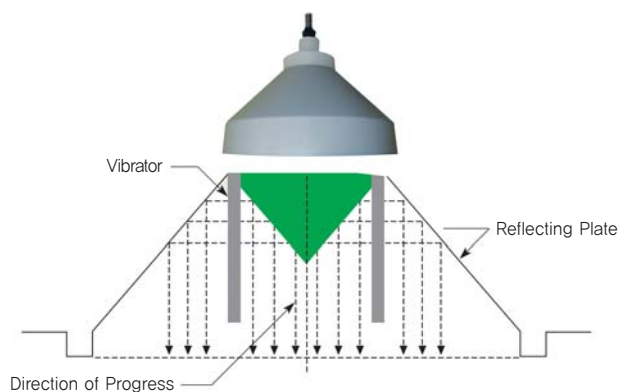
- Liquid crystal display (LCD) for indication of measuring status including Level, Echo, Trend, Temp, %, Bargraph
- Advanced sensor the material of which is suited to tank with corrosive or viscous gas or steam occurs
- Easier level identification in darkness with built-in backlight
- Lateral vibration of cylindrical oscillator for protection of sensor from contamination
- Wider range of measurement available with less energy on the exploitation of conical reflector
- Built-in response for stable measurement even in a fluctuating area

■ Major Features

- Degree: 0.2% F.S Resolution: 1mm
- Indication unit selectable by meter, centimeter, or %
- Current value identifiable on display without tester
- Temperature sensor built in detector or converter for automatic temperature correction
- Level change ranging from 5 minute to 48 hours identifiable on display with a built-in trend
- Transmission status identifiable on display with a built-in oscilloscope
- "?" shown on the display for measuring disability or converter error
- Product defect identifiable with current output

■ Operating Principle

Electric shock wave shall be applied to both ends of ceramic device with piezoelectric effect in order to generate ultrasonic wave by stirring up mechanical vibrations. The time which the ultrasonic wave transmitted in the air returns to the original point after being reflected by the measured object shall be calculated in distance.

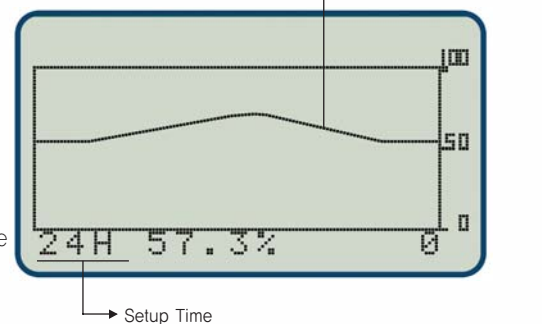


The direction of ultrasonic wave by conical ultrasonic oscillator and reflector

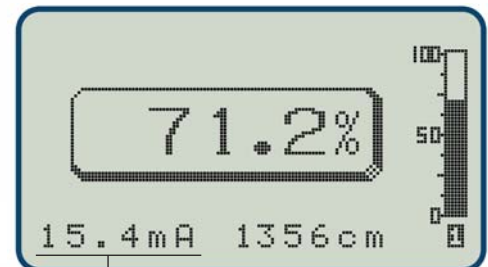
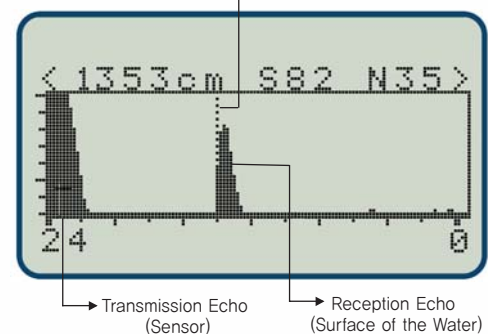
A MODE



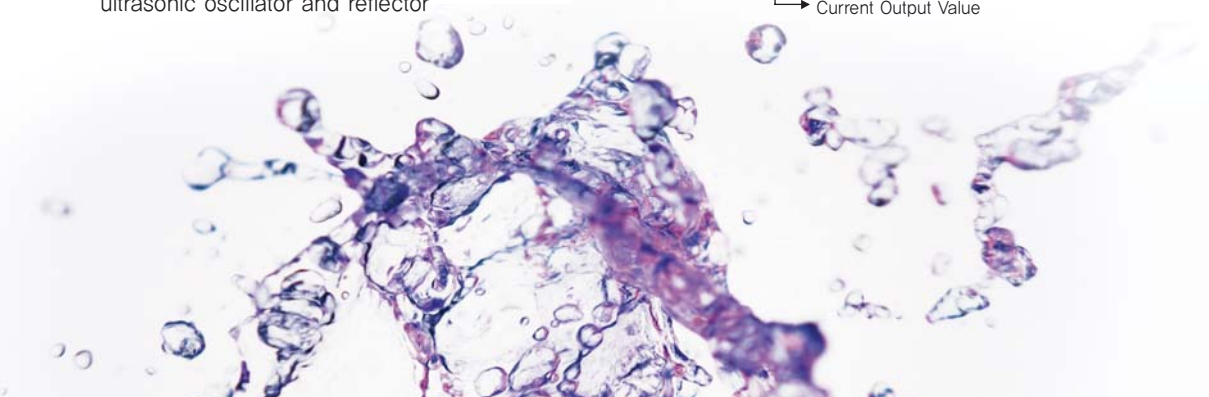
TREND



E ECHO



Current Output Value





Product Specification

Equipment Configuration (Standard)

Converter	LT - 300	1 unit
Detector	SS - 04	1 unit

Converter

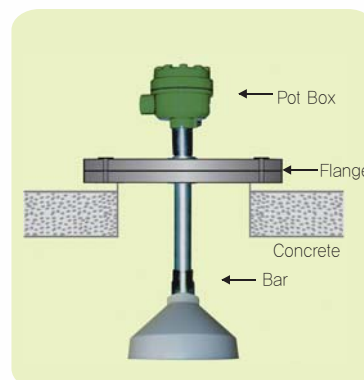
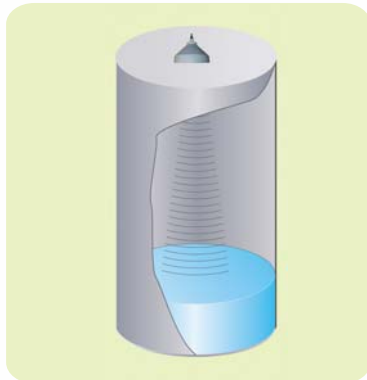
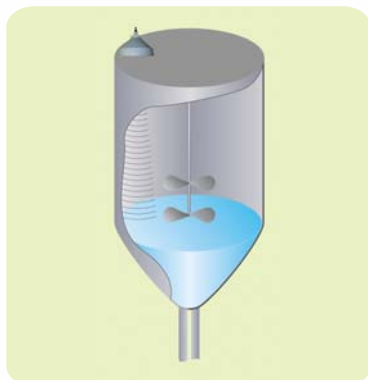
MODEL	LT - 300
Measuring method	Ultrasonic pulse reflection testing principle
Measuring range	0.6 ~ 24m
Measuring degree	±0.20%
Measuring cycle	5 ~ 10 times/sec
Control method	CPU control method
Function	Self-diagnosis, display brightness control, current output identification (output error identifiable on LED)
Operation	6 KEY (UP, DOWN, RIGHT, LEFT, MENU, ESC)
Operating temperature	-30 ~ +70°C
Output	<ul style="list-style-type: none"> ANALOG OUTPUT: DC 4~20mA (Built-in protective lightning arrestor) Load resistance : <600Ω, ISOLATION OUTPUT RELAY OUTPUT: 4 contact points and A contact point (HH, H, L, LL) indicated by red and green Rated voltage: AC 250V, 5A RS-485 OUTPUT, MAX 1500M (Option) • RS-232C Profibus Communication (Option) • Temperature indication (sensor, converter)
Resolution	1mm
Response speed	1000m/min (16.66m/sec) adjustable
Indication unit	Indication unit selectable: m, cm, %
Indication	LCD • LEVEL • TEMP • BAR GRAPH • TREND (former data trend from 10 min to 48 hours) • Indication of Ultrasonic Echo • CURRENT VALUE
Structure	IP67 (≧NEMA 4)
Material	Polycarbonate
Power	AC 90 ~ 240V (50/60Hz), Solar battery DC 12V
Power consumption	10VA
Weight	1.85kg

Detector

MODEL	ss-04
Frequency	24KHz
RANGE	0.6 ~ 24M (Blind zone 1.5m)
Beam range	1°
Workable temperature	-20 ~ +85°C
Pressure	-0.3 ~ 1.5 (kgf/cm ²)
Mounting	1" PF
Size	ø 145mm
Mounting flange	≥150A, Bracket
Cable	ø 7 ~ 5M (Standard)/4C Shield
Structure	IP68
Material	Reflecting cover Polypropylen, Sus, PVC, CPVC
	Oscillator Crystal
	Radiating surface POM
Humidity	RH 0~100%
Distance from converter to detector	300m
Weight	290g

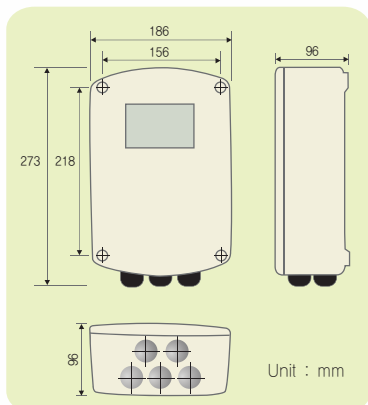


■ Sensor Installation Tips

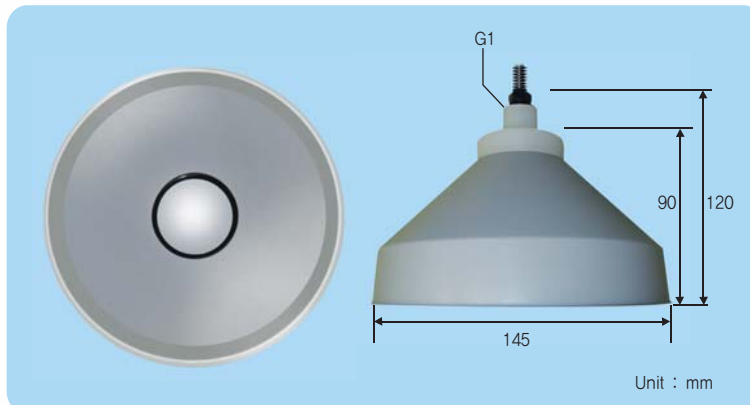


■ Outside View

■ Converter



■ Detector



■ Wiring Diagram

FG	RS232			RS485				CH1		CH2	
	GND	TX	RX	FG	A	B	GND	4-20	GND	4-20	GND
A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12
AC	AC	CH1				CH2					
		TD	TD	TH	TH	TH	TD	TD	TH	TH	TH
		WHITE	BLACK	RED	GREEN	SWIELD	WHITE	BLACK	RED	GREEN	SWIELD
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
CH1 ALARM						CH2 ALARM					
HH	H	L	LL	COMMON		HH	H	L	LL	COMMON	
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12

