ULTRASONIC LEVEL METER

MODEL LT-500

LETECH Co., Ltd.

LETECH

ULTRASONIC LEVEL METER

Major Functions

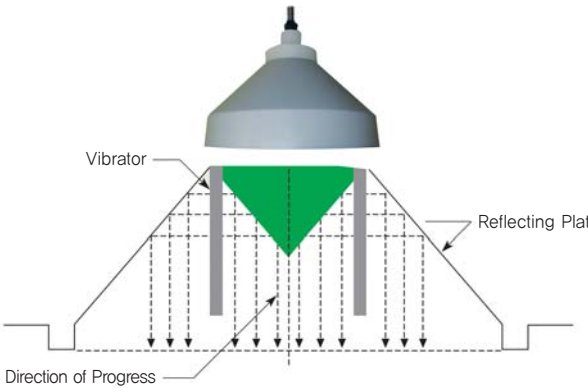
- Liquid crystal display (LCD) for indication of measuring status including Level, Echo, Trend, Temp, %, Bargraph
- Advanced sensor the material of which is suited to tank with corrosive or viscous gas or steam occurs
- Easier level identification in darkness with built-in backlight
- Lateral vibration 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

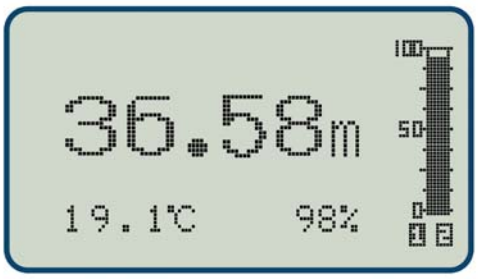
Operating Principle

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.

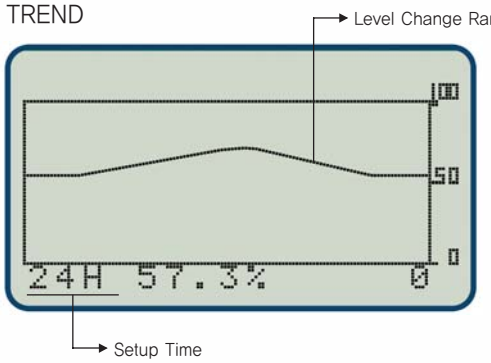


The direction of ultrasonic wave by conical ultrasonic oscillator and reflector

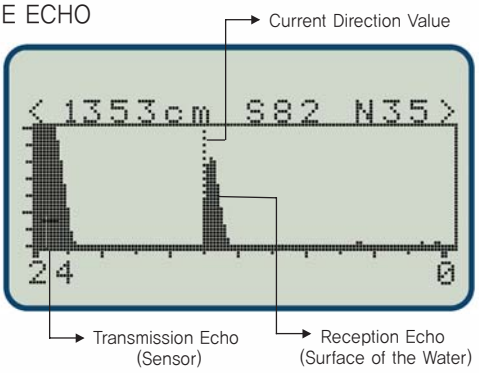
A MODE

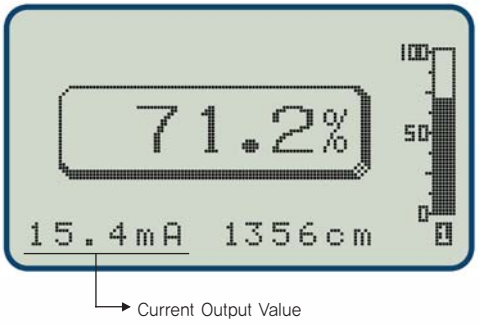


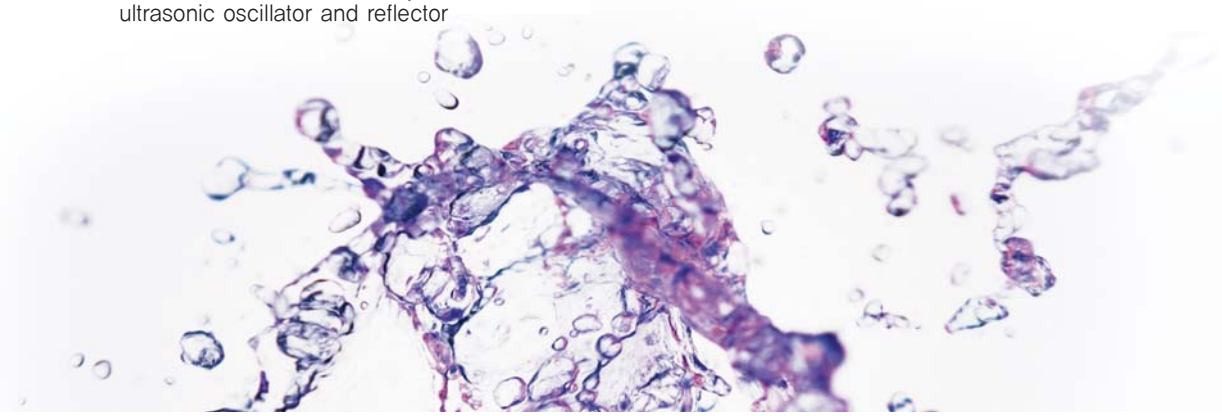
TREND



E ECHO







Product Specification

Equipment Configuration (Standard)

Converter	LT – 500	1 unit
Detector	SS – 05	1 unit

Converter

MODEL	LT – 500
Measuring method	Ultrasonic pulse reflection testing principle
Measuring range	1.5 ~ 60m
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°
Output	• 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-05	
		A	B
Frequency		24KHz	20KHz
Range		1.5 ~ 40M (Blind zone 1.5m)	1.5 ~ 60M (Blind zone 1.5m)
Beam range		1°	1°
Workable temperature		-20 ~+85℃	-20 ~+85℃
Pressure		-0.3 ~1.5 (kgf/cm^2)	-0.3 ~1.5 (kgf/cm^2)
Mounting		1″ PF	1″ PF
Size		ø 264mm	ø 264mm
Mounting flange		≥300A, Bracket	≥300A, Bracket
Cable		ø 7 ~5M (Standard)/4C Shield	ø 7 ~5M (Standard)/4C Shield
Structure		IP68	IP68
Material	Reflecting cover	Polypropylen, Sus, PVC, CPVC	Polypropylen, Sus, PVC, CPVC
	Oscillator	Crystal	Crystal
	Radiating surface	POM	POM
Humidity		RH 0~100%	RH 0~100%
Distance from converter to detector		300m	300m
Weight		1kg	1kg

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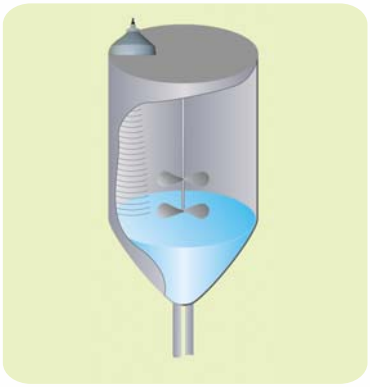
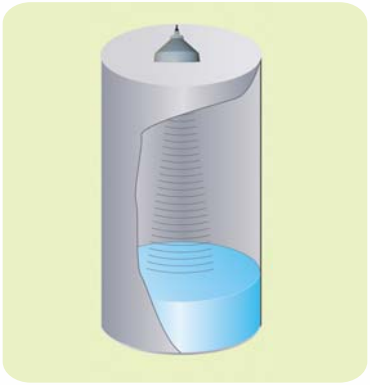
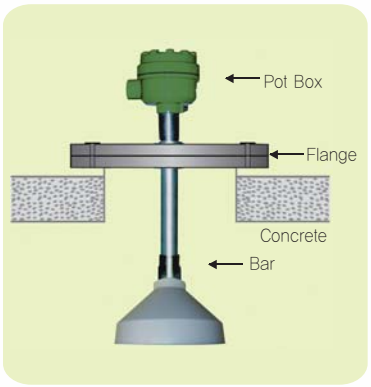
Sensor Installation Tips

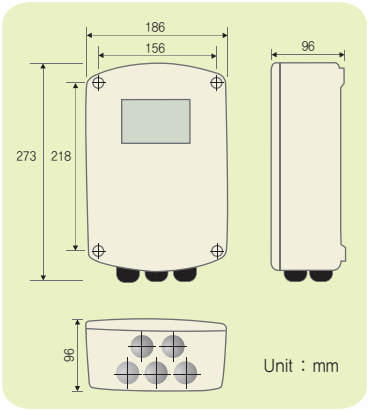




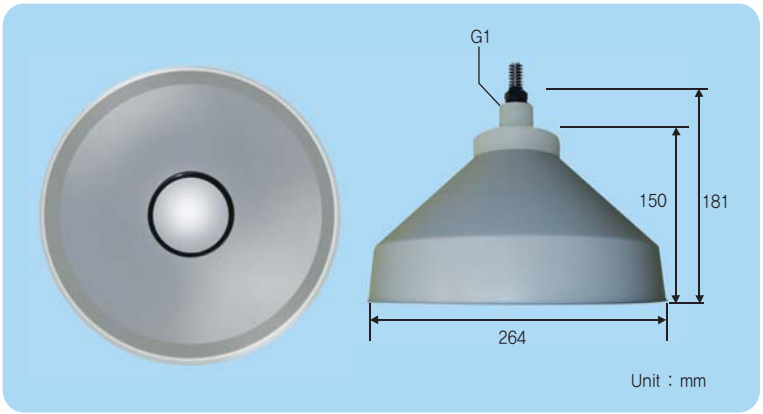


Outside View

■ Converter



■ Detector

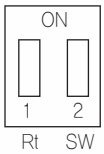


Wiring Diagram

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 WHITE	TD BLACK	TH RED	TH GREEN	TH SWIELD	TD WHITE	TD BLACK	TH RED	TH GREEN	TH 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



SW = RS485
Rt = 100Ω

※ These contents are subject to change without notice for quality improvement.

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