

LULT

User Manual



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Flow



Pressure



Level



Temperature



Analysis



Control

BASS INSTRUMENTS

Bass Ölçme Enstrümanları A.Ş. was founded in Istanbul in 2006 to develop specialized solutions for measuring, monitoring, and controlling fluid parameters such as flow, pressure, level and temperature.

For nearly 20 years, Bass Measurement Instruments has been making a significant impact in the industry and continues its operations in a 1,050 m² facility.

Our factory, spanning 10,000 m² of open space and 3,500 m² of enclosed area, is home to Turkey's most advanced and largest liquid and gas flow laboratory. Thanks to this state-of-the-art facility, all testing requirements of both the public and private sectors are met domestically, eliminating the need for international testing alternatives.

Our company exports to more than 40 countries and maintains a strong presence in the industry with its globally proven and reliable products.

Our company holds four patents, demonstrating our commitment to innovation and technological advancement in the industry.

Our company is a key supplier of products to leading firms in Türkiye and around the world across various industries, including Chemicals and Petrochemicals, Water and Wastewater, Textiles, Gas and Oil, Food and Beverage, Paper, Iron and Steel, Pharmaceuticals, Energy, Heating, Ventilation, and Air Conditioning.

Certificates



With its expert team, our company develops specialized solutions and operates in compliance with ISO 9001, ISO 14001, ISO 45001 standards and CE directives, and our calibration laboratory is accredited in accordance with ISO/IEC 17025.

We operate in relevant industries with our products certified for harsh conditions in compliance with ATEX directives and SIL (Safety Integrity Level) declaration, and with WRAS (Water Regulations Advisory Scheme) approved products for potable water applications.

With our EAC-certified products, we actively participate in numerous projects within the Eurasian Economic Union.



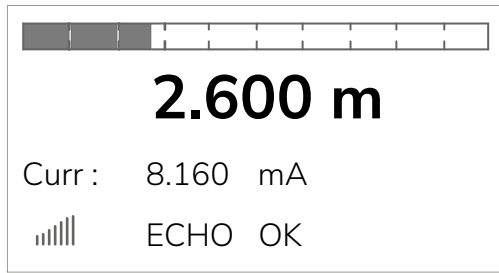
1 - Overview

1.1 Specification

Power Supply	: 12-32 VDC
Output	: 4 ~ 20mA signal output with HART (2-wire)
Repeatability	: ≤3mm or 0.2% of set measuring distance
Resolution	: ≤3mm;
Blanking Zone	: 0.2~2m
Temperature Compensation	: Built-in sound speed temperature compensation
Operating Temperature	: -20°C ~ +70°C(with LCD) / -40°C ~ +85°C(without LCD)

1.2 LCD Main Screen Display

LCD with 128 * 64 dot matrix display, support for multi-variable display.



Show current percentage as progress bar

Display current distance, level or empty height

Press the M key to switch between e, distance, display percentage, current, temperature

Display measurement status, alarm information etc.

Another display:

1. The second line can display percentage, loop current, temperature or distance.
2. The third line display:
 - ECHO OK: Echo measurement normal, Now the left side display the signal strength
 - Er:01-Comm fail: Board hardware failure.
 - Er:02-Comm Prof: Software version is wrong.
 - Er:03-Echo Loss: Echo signal is too small.
 - Er:04-LargeNoise: Echo signal noise is too large.
 - Alm: Low Limit: The measured value is lower than the lower alarm limit.
 - Alm: High Limit: The measured value is higher than the upper alarm limit.



2 - Ultrasonic Sensor

The excitation frequency range supported by the H760 is 30~50 KHz. The factory default is 40 KHz, and the excitation frequency can be changed by HART software or local adjustment.

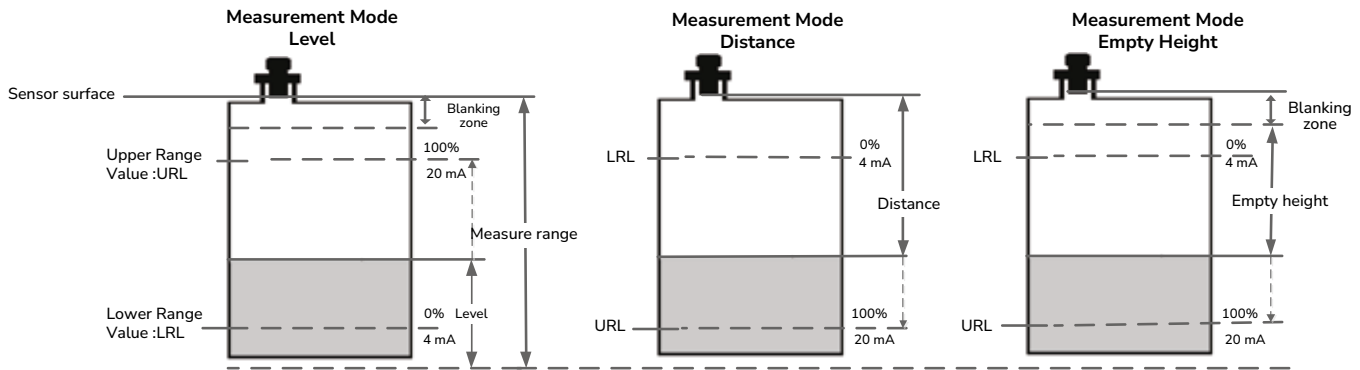
For ultrasonic sensors of other frequencies, it is necessary to modify the two or three specified resistors and capacitors of the board to support the following frequency ranges: 20~30 KHz, 50~80 KHz, 80~125 KHz. The operating frequency of the sensor should be the same as the excitation frequency of the H760.

3 - Quick Setup Process

Follow the steps below to set the quick start parameters. If there is a false echo, you need to set the corresponding parameters and then return to the normal operation mode.

1. Set the measurement mode: distance, level, or empty height.
2. Set the range unit.
3. Set the LRV (lower range value) and URL (upper range value).
4. Set measure range. Set blanking zone. Set response rate.
5. Calibration sound speed
6. If there is a false echo in the measurement, or the measurement result is wrong, you can choose the appropriate echo algorithm, echo algorithm coefficient, minimum threshold. For a detailed description of these parameters, please see the appendix.

3.1 Set The Measurement Mode



H760 is may set to measure level, distance or empty height. Please set the measurement mode according to the application requirements.

In the level measurement mode, if the level value is required to be 0 at the "Lower Range Value" position, the level value can be adjusted by the "Set Bias" function (see the operation code 00070 menu).

The difference between the empty height and the distance mode is: the empty height value is the distance value, and the value after the blanking zone is subtracted. That is, the formula for calculating the empty height is:

$$\text{Empty high} = \text{Distance} - \text{Blanking zone}$$

Therefore, after changing the blanking zone setting value, the distance value is not affected, but the empty height value will respond to the change.



3.2 Set Range

Set the range unit and LRL and URL. The unit can be mm, cm, m, feet or inch. The LRL is the distance value, or level value, or empty high value which corresponding to 4mA output. The URL is the distance value, or level value, or empty high value which corresponding to 20mA output.

3.3 Set Measure Range

The measurement range determines the longest measurement distance and is recommended to be set according to the actual application. Generally, it should be about 0.5 m larger than the farthest distance that needs to be measured.

3.4 Set Blanking Zone

Set probe blanking zone (0.2~2m), suggests setting it according the probe parameter. The blind zone setting should be as large as possible if conditions permit.

3.5 Set Response Rate

Set the maximum change rate of the level, can be choice the fast (10m/min) or medium speed (1.0m/min) or slow (0.1m/min).

3.6 Calibration Sound Speed

The speed of sound transmission varies in air or other gases, such as volatile gases such as gasoline, acetone, and alcohol. Therefore, in non-air situations, the speed of sound needs to be corrected to eliminate measurement errors. There are 2 ways to correct the speed of sound:

- Method 1: Enter the "Calibration Sound Speed" menu in the local adjustment function. The sound speed correction can be completed by directly inputting the actual distance of the probe to the level (unit: m).

Note: The current sound speed is displayed when the Calibration Sound Speed menu does not enter the input state. You can enter the actual distance value to correct the speed of sound.

- Method 2: Enter the "Sound Speed (20°C)" menu in the local adjustment function. The sound speed is corrected by directly inputting the sound velocity at 20°C.

Note: The default sound speed is 343.616m/s (20°C air speed).



4 - Use Configuration Software

Information
Configuration
Monitor
Transmitter Adjustment
Maintenance
Ultrasonic Setting
Ultrasonic Parameter
Ultrasonic Calibration
Advanced Functions

Sensor Parameter:

Echo Algo. Coef.: 50 % (0~100%)
Noise Level: 102 mV (100~400mV)
Sensor Frequency: 45.000 kHz (20.0 ~ 50.0 kHz)

Standard Setup:

Set Measure Mode --> Measure Mode: Distance
Measure Range --> Measure Range: 15.000 m (0.2~20.0 m)
Blanking --> Blanking: 0.400 m (0.2~2.0 m)
Response Rate --> Response Rate: Medium (1.0m/Min)
Echo Algorithm: Largest Echo
Echo Lock Mode: Off
Echo Sampling A(Up): 4 (0~50)
Echo Sampling B(Down): 3 (0~50)

Temperature Parameter:

Unit: degF
Temperature Source: Temp. Fixed
Fixed Temperature: 56.000

Read Write Click Write

Information
Configuration
Range
Output
Fault Protection
Monitor
Transmitter Adjustment
Maintenance
Ultrasonic Characteristics
Advanced Functions

Sensor Information:

PV Sensor S/N: 0

Transmitter Input Range:

Set PV Unit PV Unit: m
PV URV
PV LRV
PV URV: 20.000
PV LRV: 0.000

Read Write Click Write



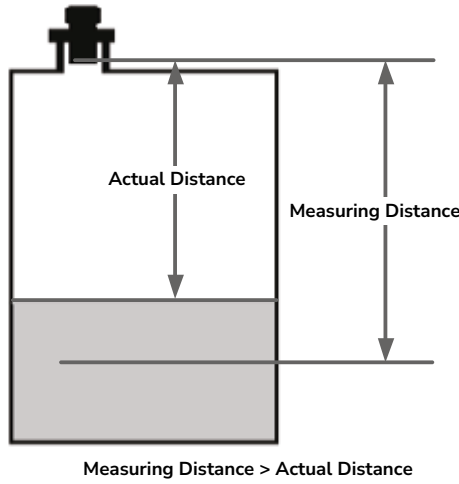
5 - Appendix: Parameter Description

Connection of the instrument to the constant-pressure residual chlorine sensor: Connect the power supply, output signal, and relay contacts to the instrument's terminal. The sensor's fixed cable typically has a length of 5-10 meters. The terminal is labeled, and it should be inserted into the instrument's terminal with matching characters, ensuring secure compression.

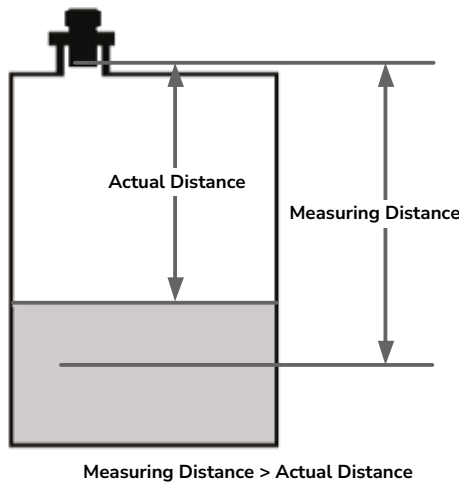
5.1 Echo Algorithm

Different types of interference echoes may exist during use. in order to obtain correct measurement results, the user should select an appropriate echo algorithm for measurement.

1. First select the "Confirm maximum value" algorithm (factory default) for measurement. If the measurement is correct, keep the algorithm unchanged. If the measured distance is larger than the actual distance, as shown in the figure below, change the algorithm to "First wave".



2. Use the "First wave" algorithm to measure. If the measurement is correct, keep the algorithm unchanged. If the measured distance is smaller than the actual distance, as shown in the figure below, change the algorithm to "Maximum value or the first wave".



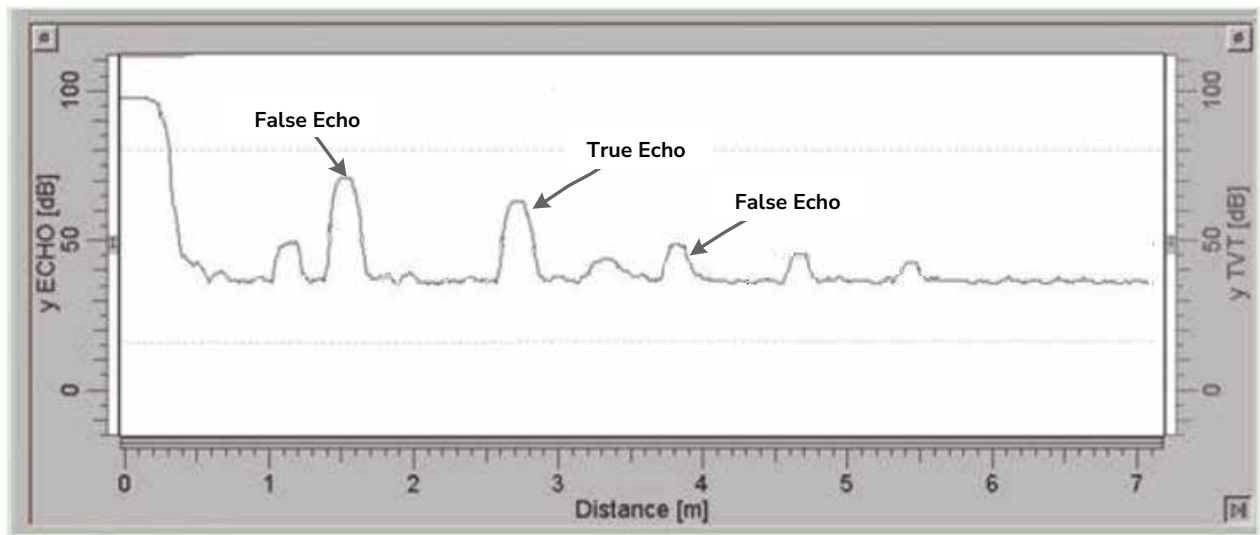
3. Select "Maximum value or the first wave" only if the first two algorithms are not measuring correctly.

Note: Remember to use the "Maximum value or the first wave" algorithm only if the "Confirm maximum value" and "First wave" algorithms are not measuring correctly, otherwise the measurement may be inaccurate.

5.2 Echo Algorithms Coefficient

This coefficient is used to set the Inhibition strength of false echo, default is the 50%. The false echo suppression parameter is only used for the "maximum confirmation" and "maximum or first wave" echo algorithms and does not work in the "first wave" algorithm. Take the measurement distance mode as an example to show how this parameter should be adjusted.

When using the "Confirm maximum value" or "Maximum value or the first wave" echo algorithm, if the measured distance is smaller than the actual distance, it may be due to a false echo before the real echo, as shown in the following figure. In this case, the false echo can be suppressed by increasing the Echo Algorithms Coefficient. The Echo Algorithms Coefficient setting range is 0 to 100%, and the factory default is 50%. The greater the Echo Algorithms Coefficient, the stronger the false echo suppression ability before the real echo. On the other hand, if the measured distance is larger than the actual distance, that is, the false echo behind the real echo is judged as a true echo, it is necessary to reduce the Echo Algorithms Coefficient.



5.3 Noise Level (mV) : Minimum Threshold

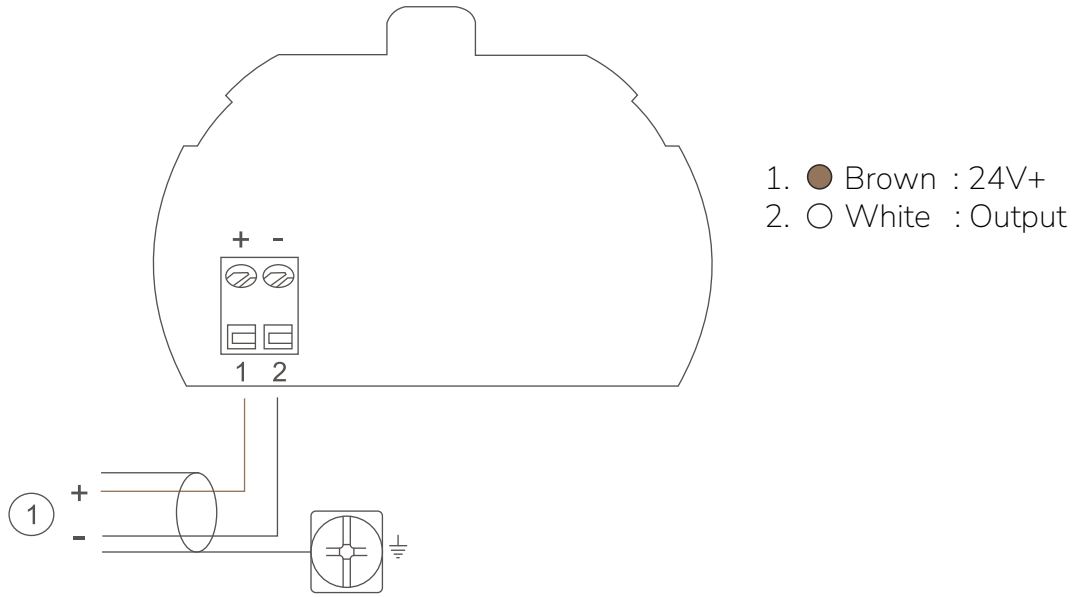
The "Noise Level (mV)" indicates the minimum signal threshold that can be detected and the setting range is 100~400mV. Increasing the minimum threshold will reduce the maximum measurement distance.

When the LCD displays "Er: 04-Large Noise", it indicates that there is excessive echo noise which causes the meter to not work properly. At this time you can increase the "Minimum Threshold" setting until the "Er: 04-Large Noise" prompt disappears.

When the LCD displays "Er: 03- Echo Loss" it indicates that the echo signal is too small and the "minimum threshold" can be reduced until "Er: 03-Echo Loss" disappears.

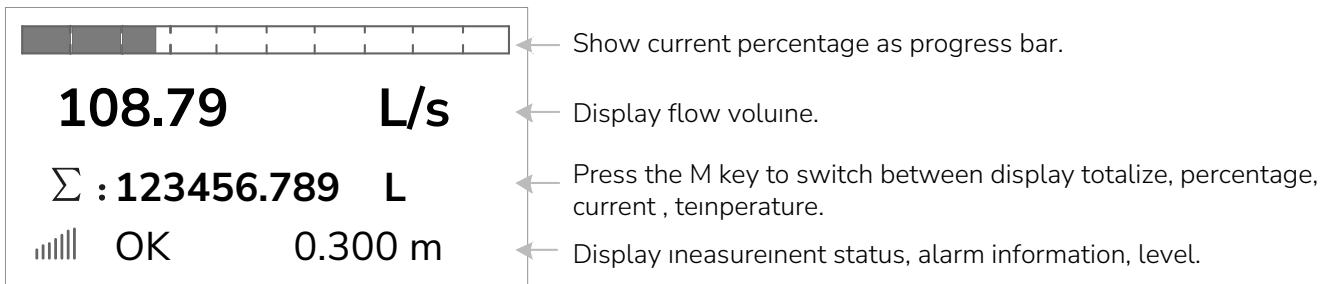


5.4 Electrical Connection



LCD Main Screen Display:

LCD with 128 * 64 dot matrix display, support for multi-variable display.



Another Display:

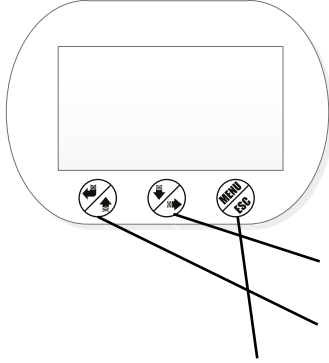
1. The second line can display totalize(I),percentage(Per :),loop current(Curr:),temperature(Temp:).
2. The third line display:
 - OK: Echo measurement normal, Now the left side display the signal strength
 - Error-01:Board hardware failure.
 - Error-02:Software version is wrong.
 - Error-03:Echo signal is too small.
 - Error-04:Echo signal noise is too large.
 - Alm - Low:The measured value is lower than the lower alarm limit.
 - Alm - High:The measured value is higher than the upper alarm limit.



Switching Second Lines Of Display Variables

Press the M key to switch the variable shows on the second line. The variables include totalize(I),percentage(Per :),loop current(Curr:),temperature(Temp:).

Key Set The Parameter Process



Press  Key to enter or exit the menu mode(data entry).

Press  Key to scroll forward through the menu, or to shift the setting number.

Press the  Key to scroll backwards through the menu, or to increase the setting number.

Long press (over 3 seconds) the  Key to enter submenu setting, or access the parameter to be changed , or accept the new selected or entered value

Enter: Press the  key, enter the inenu inode. Then you can check and inodify the paraineters.

Select Menu: Press the  key to scroll backwards the inenu (previous inenu), or press the @key to scroll forward the menu (next inenu) until the inenu you want to set is displayed.

Enter Settings: Long press the  key, that means press the  button for 3 seconds and then release it to enter the setting. in this state, the underline is on the second line, indicating that the paraineters can be inodified;

Modify: To enter data, press the  key to inodify the current number, and press the  key to inove to the right. To select an option, press the  key to scroll backwards the options and press the  key to scroll forward the options.

Save: Long press the  key to save the data or confirm the selection, then underline switch back to the first line.

Exit: Press the  key to exit the inenu inode or return to the previous menu.



Basic Function

Protection

Set to "Write Disable", parameters are not allowed to be modified. Set to "Write Enable" to allow modification of parameters.

Range Unit

The unit can be m³/s, m³/m, m³/h, L/s, L/m, L/h, ft³/s, ft³/m, ft³/h, gal/s, galim, gal/h, Ugal/s, Ugal/m, Ugal/h, kg/s, kg/m, kg/h, t/m, t/h, t/d, lb/h, lb/d.

Range 100%

Set the flow volume value corresponding to 20mA output.

Range 0%

Set the flow volume value corresponding to 4mA output.

Damping (S)

Set range of 0~32 seconds. Increase damping, output is more stable, and response speed is slower.

Disp. Point

Set the decimal point position of the first line of display data.

Alarm Low

Set the lower limit of alarm, unit is range unit.

Alarm Low Hyst

Set the hysteresis of the lower limit alarm, unit is range unit.

Alarm High

Set the upper limit of alarm, unit is range unit.

Alarm High Hyst

Set the hysteresis of the upper limit alarm, unit is range unit.

MODBUS Address

Set RS-485 (Modbus) communication address: 01 to 247 (default value: 1).

MODBUS Baud

Set RS-485 (Modbus) communication baudrate: 1200, 2400, 4800, 9600, 19200, 38400bps (default value: 9600).

MODBUS Parity

Set RS-485 (Modbus) communication check bits: None (no check), Odd (odd check), Even (even check), (default value: None).

MODBUS Stop Bits

Set RS-485 (Modbus) communication stop bit: 1 bit or 2 bits (default value: 1 bit).

Contrast

Setting the contrast of the LCD.



H Limit Level

Set value of upper flow limit liquid level, unit: m. When the liquid level exceeds the set value, the flow rate remains at the flow rate corresponding to the set value. Example: set to 0.5 m, when the liquid level exceeds 0.5 m, the flow remains at the corresponding flow value of 0.5 m. The factory default is the maximum range.

L Limit Level

Set value of liquid level at lower flow limit, unit: m. When the liquid level is less than the set value, the flow is 0, and the factory default is 0.

Total Unit

The unit can be m³, L, ft³, gal, Ugal, kg, t, lb.

Density

Density of the measured liquid, unit: g/cm³. It is only used for mass flow measurement and ignored for volume flow measurement.

Code

Input the operation code (password) and enter the corresponding advanced function settings. As below:

00040: 4-20mA output current calibration;

00050: Advanced function setting. Including measurement range, blanking zone, response rate, etc.

00060: Set Echo Algorithms Coefficient, probe excitation frequency.

00070: Sound speed calibration, temperature sensor calibration. 00090: Set open channel type, and params of open channel.

00011: Check version.

00509: Set Chinese or English menu. 06108: Reset totalize.

06308: Preset totalize.

Code 00040: Loop Current Trim

4 mA Trim

Trim the loop current of 4 mA. Connect the ammeter, press the M key to increase the output current, press the S key to decrease the output current, press the Z key to end the adjustment and save.

20 mA Trim

Trim the loop current of 20 mA. Connect the ammeter, press the M key to increase the output current, press the S key to decrease the output current, press the Z key to end the adjustment and save.



Code 00050

Signal Monitor

Set value of upper flow limit liquid level, unit: m. When the liquid level exceeds the set value, the flow rate remains at the flow rate corresponding to the set value. Example: set to 0.5 m, when the liquid level exceeds 0.5 m, the flow remains at the corresponding flow value of 0.5 m. The factory default is the maximum range.

Blanking

The measurement range determines the longest measurement distance

Measure Range

Set blanking zone (0.2-2m), suggests setting it according the probe parameter.

Response Rate

Set the maximum change rate of the level, you can choose the fast (lüm/min), medium (1.0m/min) or slow (0.1m/min).

Echo Algorithm

Confirm maximum value: Select the echo with the largest amplitude as the true echo. First wave: Select the first valid echo as the true echo. Maximum value or the first wave: Compare the first echo and the echo with the largest amplitude to get the true echo.

Echo Lock.

Off mode: Immediate response to echo, but limited by response rate. Maximum value mode: The collected value is compared with the current output value. When the number of times exceeds the set number Echo Sampling A(Up) or Echo Sampling B(Down), it is considered to be a true echo. Agitator Mode: The A defaults to 5, and the B defaults to 2, working in the same way as the "Maximum value mode". When it is have the Agitator in the field, must choice the "Maximum value mode" or "Agitator Mode"

Echo Sampling A(Up)

When the measured echo continues to be above the locked value (closer to the probe) and the number of times exceeds this value, it is determined to be the new echo lock value.

Echo Sampling B(Down)

When the measured echo continues to be below the locked value (farther from the probe) and the number of times exceeds this value it is determined to be the new echo lock value.

Fail Safe Mode

Set the output of the loop current when sampling faults. There are 4 modes: output maximum (22.0mA), output minimum (3.8mA), hold last valid value (Hold), or output user-defined current value (Failsafe Value).

Fail Safe Value

User defined output current value when sampling faults.

Temp. Unit

Set temperature unit : °C, F, R or K.

Temp. Source

Compensation temperature can be selected: sensor output or fixed temperature.

Fixed Temp.

Set the temperature value when the temperature source is fixed temperature value.



Code 00060

Echo Algo. Coef.

Set the suppression strength for false echoes. The default value is 50%. Increase this value when measuring a false echo that is closer (closer to the probe) than the real echo.

Noise Level (mV)

When the LCD displays "Er :04-Large Noise" you can increase this value until the prompt disappears.
(Set range 100-400mV)

Sensor Freq (kHz)

The excitation frequency supported by the LULT is 30-50KHz. The factory default is 40 KHz. For other frequencies it is necessary to modify the two or three specified resistors and capacitors of the board to support the following frequency ranges : 20-30 KHz, 50-80KHz, 80-125 KHz.

Code 00070 Temp Compensation

Calib Sound Speed

Calibrate the speed of sound by entering the actual distance from the probe (unit: m).
Note: The current sound speed is displayed when the Calibration Sound Speed menu does not enter the input state.

Sound Speed (20 °C)

Check the speed of sound at 20°C after calibration. It is also possible to directly input a calibrated sound velocity of 20 °C.

Set Bias

Set this value to offset the measured value. Setting a positive value will increase the measured value.

Temp. Bias

Set this value to offset the sensor temperature value. Set this value when the temperature value is not accuracy. Setting a positive value will increase the sensor temperature value.

Temp. Low Trim

Input the current actual temperature value to calibrate the temperature sensor.
Note: Temperature high point calibration is required at the same time.

Temp. High Trim

Input the current actual temperature value to calibrate the temperature sensor.
Note: Temperature low point calibration is required at the same time.

Code 06108 Reset TOT

TOT Reset

Reset totalize and overflow counter of totalize.

Code 06308 Preset TOT

Preset Tot High

Preset totalize high word(Total= totalize high + 0.001 x totalize Low).

Preset Tot Low

Preset totalize low word(Total= totalize high + 0.001 x totalize Low).



Code 00090 Open Channel

OCM Type

Open channel: V-notch weir, Rectangle weir, Trapezoid weir, Parshall flume, User-defined.

V-notch Type:

90°, 60°, 45°, 30° V-notch weir, and Custom V-notch weir.

OCM V-Angle

Angle of V-notch weir: 5.0 ~ 95.0.

OCM Width B

Width of approach channel B: 0.000 ~ 50.000m.

OCM Height p

Height of the crest relative to the floor p: 0.000 ~ 50.000m.

Rectangle Type

0.25m, 0.50m, 0.75m, 1.00m Rectangle weir, and Custom Rectangle weir.

OCM Width b

Measured width of weir b: 0.000 ~ 50.000m.

OCM Width B

Width of approach channel B: 0.000 ~ 50.000m.

OCM Width p

Height of the crest relative to the floor p: 0.000 ~ 50.000m.

Trapezoid Weir

OCM Width b

Measured width of weir b: 0.000 ~ 50.000m.

Parshall Type:

76, 152, 228, 250, 300, 450, 600, 750, 900, 1000, 1200, 1500, 1800mm, and custom parshall flume.

OCM Factor C

Coefficient of discharge C: -999.0 ~ 9999.0.

OCM Exponent n

Index of discharge n: -999.0 ~ 9999.0.

User-defined

OCM Calib num.

Number of "head-flow table": '2 ~ 3'20

OCM Cal. Interval

Equal interval head value of "head-flow table": 0.000 ~ 9999.000m.

Calib Flow 1

Flow 1 of "head-flow table" = flow of '1 x OCM Cal.Interval', Unit same as range unit.

Calib Flow 2

Flow 2 of "head-flow table" = flow of '2 x OCM Cal.Interval', Unit same as range unit.

Calib Flow 32

Flow 32 of "head-flow table" = flow of '32 x OCM Cal.Interval', Unit same as range unit.



6 - MODBUS Communcation Protocol

6.1 Serial Communication Parameters

Parameters	Ranges	Default Value
Address	1-247	1
Baud Rate	1200, 2400, 4800, 9600, 19200, 38400	9600
Data Length	8	8
Parity	None	None
Stop Bits	1	1

6.2 Read Variables

6.2.1 Read Level, distance or empty height (Address 0x0304)

Request Frame:

Address	04	03	04	00	02	CRCL	CRCH
---------	----	----	----	----	----	------	------

The Correct Response Frame:

Address	04	04	Data	Data	Data	Data	CRCL	CRCH
---------	----	----	------	------	------	------	------	------

Example : The level is 15.0

Request frame : 01 04 03 04 00 02 30 4E ;

The correct response frame : 01 04 04 41 70 00 00 EE 63 (IEEE754 : 41 70 00 00, That is : 15.0)

6.2.2 Read Temperature(Address 0x0314)

Request Frame:

Address	04	03	14	00	02	CRCL	CRCH
---------	----	----	----	----	----	------	------

The Correct Response Frame:

Address	04	04	Data	Data	Data	Data	CRCL	CRCH
---------	----	----	------	------	------	------	------	------

Example : The temperature is 18.056145

Request frame : 01 04 03 14 00 02 31 8B ;

The correct response frame : 01 04 04 41 90 72 FC CB 74 (IEEE754 : 41 90 72 FC, That is : 18.056145)



6.2.3 Variable Address Table

All variables in the table can be read in the same way as reading level/distance/empty high.

Variable Address (Hexadecimal)	Parameter	Access Type	Data Length (word)	Data Type	Description
0x0300	Current	R	2	Float	
0x0302	Percentage (%)	R	2	Float	
0x0304	Level/Distance/Empty High	R	2	Float	
0x0306	Distance	R	2	Float	Distance, unit: m
0x0314	Temp	R	2	Float	

6.3 Configuration Data Operation

6.3.1 Read Range Unit (Address 0x0108)

Request Frame:

Address	03	01	08	00	01	CRCL	CRCH
---------	----	----	----	----	----	------	------

The Correct Response Frame:

Address	03	02	Data	Data	CRCL	CRCH
---------	----	----	------	------	------	------

Example : range unit : m (Unit code is 45)

Request frame : 01 03 01 08 00 01 04 34 ;

The correct response frame : 01 03 02 00 2D 78 59 (Hexadecimal : 002D, Convert to decimal : 45)

6.3.2 Write Upper Range Value (Address 0x0100)

Example : Set the upper range value to 20.0

Request Frame:

Address	10	01	00	00	02	04	CRCL	CRCH
---------	----	----	----	----	----	----	------	------

The Correct Response Frame:

Address	10	02	0C	00	02	CRCL	CRCH
---------	----	----	----	----	----	------	------

Request frame : 01 10 01 00 00 02 04 41 A0 00 00 EA 21 ;

The correct response frame : 01 10 01 00 00 02 40 34.



6.3.3 Variable Address Table

All variables in the table can be read in the same way as reading range unit, or can be write in the same way as writing the upper range value.

Variable Address (Hexadecimal)	Parameter	Access Type	Data Length (word)	Data Type	Description
0x0100	Range 100%	R/W	2	Float	
0x0102	Range 0%	R/W	2	Float	
0x0106	Damping	R/W	2	Float	≥ 0.0 , unit: s
0x0108	Range Unit	R/W	1	Unsigned short	{ 49 , "mm" }, { 48 , "Cm" }, { 45 , "m" }, { 44 , "FEET" }, { 47 , "INCH" }.
0x0109	Alarm High	R/W	2	Float	
0x010B	Alarm Low	R/W	2	Float	
0x010D	Alarm Low Hyst	R/W	2	Float	
0x010F	Alarm High Hyst	R/W	2	Float	
0x0113	2 nd Display	R/W	1	Unsigned short	{ 0, "Percentage (%) " }, { 1, "Current" }, { 2, "Temp" }, { 3, "Distance" },
0x0114	Disp. Point	R/W	1	Unsigned short	0, 1, 2, 3
0x0115	Measure Mode	R/W	1	Unsigned short	{ 0, "Level " }, { 1, "Distance " }, { 2, " Empty High" }
0x0117	MODBUS Address	R/W	1	Unsigned short	Range 1 ~ 247
0x0118	MODBUS Baud	R/W	1	Unsigned short	1200, 2400, 4800, 9600, 19200, 38400 bps

