Operation Manual

eYc FUMD Clamp-on Ultrasonic Flow Transmitter

Contents

1. Notice----------P.02
2. Product component----------P.02
3. Installation and Connection----------P.03
4. Panel Function----------P.03
5. Powering on----------P.04
6. Keypad Functions----------P.04
7. Window descriptions---------- P.04
   - Display Menu---------- P.04
   - Setup Menu---------- P.04
   - Setup Menu-Pipe parameter---------- P.05
   - Setup Menu-System setting---------- P.05
   - Setup Menu-Calibration---------- P.05
   - Setup Menu-Output---------- P.06

Notice

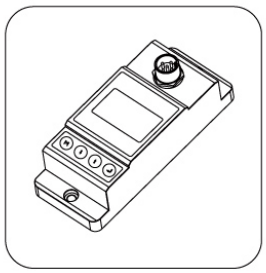
Thank you for choosing eYc FUMD Clamp-on Ultrasonic Flow Transmitter.

This operation manual contains the important using and operation information of the flow transmitter. Please read carefully the reference manual before operation to make your flow transmitter exert the best performance.

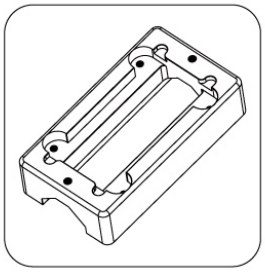
If you make a mistake there will be affected the transmitter's working and reduce the transmitter's life or cause some malfunctions.

Product component

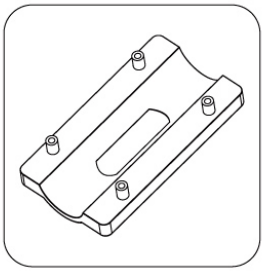
Inspection should be made before installing the flow transmitter. Check to see if the spare parts are in accordance with the packing list. Make sure that there is no potential damage to the enclosure due to a loose screw or loose wire, which occurred during transportation. Any questions, please contact your representative as soon as possible.



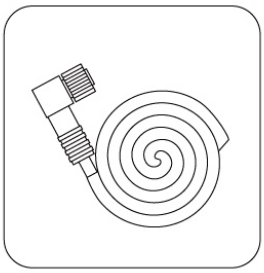
Flow transmitter



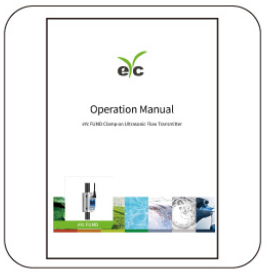
Upper bracket



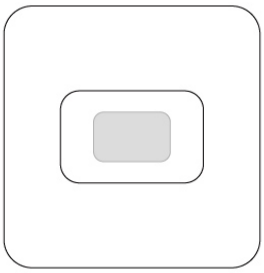
Base bracket



Connecting cables



Operation manual



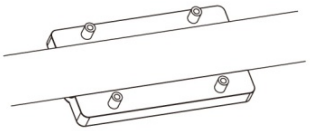
Coupling agent

Installation and Connection

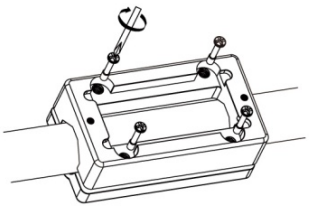
Once the flow transmitter is installed, it can be connected.

You can be found the cable have 5 pin terminals, as per wiring diagram to connect 4 ... 20 mA output, RS-485.

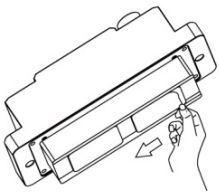
Step 1: Make sure no dirt, paint, or other stains on the surface of the tube. Then put the bottom parts on the side of the pipe.



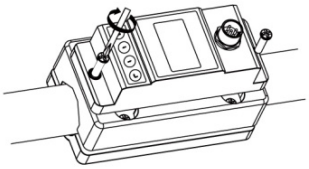
Step2: Align the bracket to the pipe position; Install screw on top part of the bracket, the bottom part of the bracket will automatically connect with the top part. Tighten the four M4 screws.



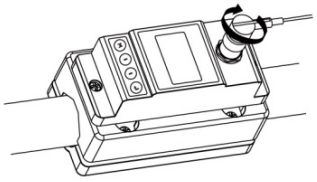
Step 3: Take the cover off the flow transmitter

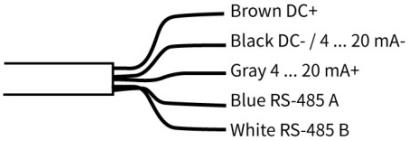


Step 4: Put the flow transmitter into Upper bracket, and tighten tow M4 screws.

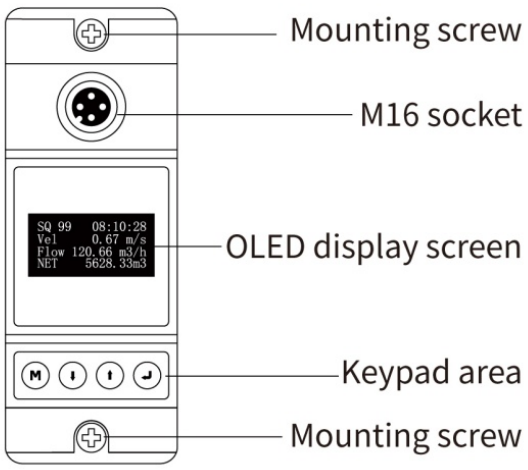


Step 5: Take out the ccble, connect it to the socket, and tighten up. Then connect to the output.



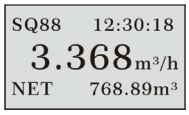


Panel Function



Powering on

As soon as the flow transmitter is switched on, the self-diagnosis program will start to run.



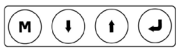
Signal Quality (SQ value)

Q value is short for Signal Quality. It indicates the level of the signal detected. Q value is indicated by numbers from 0 ... 99 represent the minimum signal detected while 99 represent the maximum.

Normally, the transducer position should be adjusted repeatedly and coupling compound should be checked frequently until the signal quality detected is as strong as possible.

Keypad Functions

Follow these guidelines when using the flow transmitter keypad：

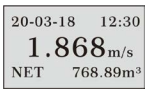


Setting or display mode, when it is setting mode, that can return to the previous menu, and scroll up and down to select the menu, when press move to next digit, press and the numbers scroll from 0 ... 9, you can select the number. Press to confirm.

Window descriptions

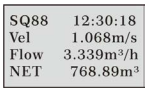
Display Menu

■ When the power on, the transmitter will display Velocity / Net Totalize. Display data and time, velocity and net totalize.

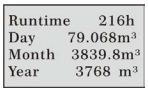


■ Press will display Flow Rate / Net Totalize.
Press will return to previous menu. Display signal quality. Time, flow rate and velocity.

■ Press will display Flow Rate / Velocity / Net Totalize.
Press will return to previous menu. Display signal quality. Time, velocity, flow rate and net totalize.

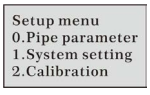


■ Press will display Run-time / Daily Totalize / Month Totalize / Year Totalize. Press will return to previous menu. Display Run-time, Data, Month and Year net totalize.



Setup Menu

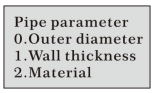
Press will display Setup menu.
The following options are available (by or buttons)



0. Pipe parameter
1. System setting
2. Calibration
3. Output setting

Setup Menu-Pipe parameter

Press ⊙, Select 0. Pipe parameter, then ⊙display：

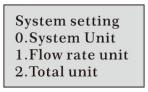


The following options are available (by ⊙or ⊙buttons)

0. Outer diameter
1. Wall thickness
2. Material：Move ⊙or ⊙can option PVC, Carbon steel, Steel, Copper pipe.
3. Fluid type：Move ⊙or ⊙can option Water, Sea Water, Oil ... etc.

Setup Menu-System setting

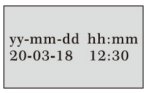
Press ⊙, Select 1. System setting, then ⊙display：



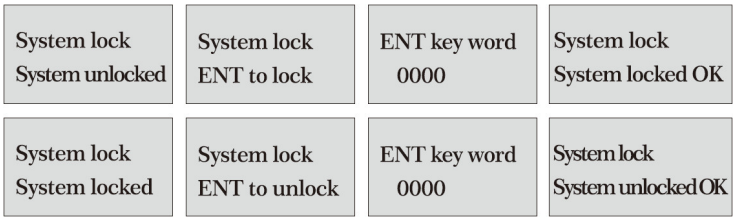
The following options are available (by ⊙or ⊙ buttons)

0. System unit：Move ⊙or ⊙can option Metric, English.
1. Flow rate unit：Move ⊙or ⊙can option m^3/h, LPM, GPM.
2. Total unit：Move ⊙or ⊙can option m^3, L, GAL.
3. Totalize RESET：All parameters are reset, press ⊙, move ⊙or ⊙arrow to select "YES" or "NO". After "YES" is selected.
4. Time set

   Generally, it is unnecessary to modify date time as the system is provided with a highly reliable perpetual calendar chip.

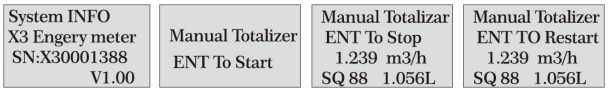


5. System lock



   Once the system is locked, any modifications to the system are prohibited, but the parameter is readable." Unlock" using your designated password. The password is composed of 1 ⋯ 4 numbers.

6. System INFO



   System INFO：Display serial number (SN) of the meter. This SN is the only one assigned to each flow meter ready to leave the factory. The factory uses it for files setup and for management by the user.

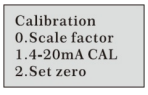
   Set zero：Press ⊙; reset "ZERO Point" which was set by the user.

   Manual totalizer：The manual totalize is a separate totalize.

   Press ⊙ to start, and press ⊙ to stop it. It is used for flow measurement and calculation.

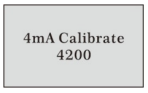
Setup Menu-Calibration

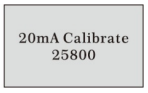
Press ⊙, Select 2. Calibration, and then ⊙display：



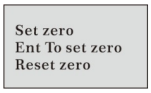
0. Scale factor
   Refers to the ratio between “actual value” and “reading value”. For example, when the measurement is 2.00, and it is indicated at 1.98 on the instrument, the scale factor constant is 1.01.

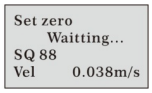
1. 4 ⋯ 20 mA CAL：Check if the current loop has been calibrated before leaving the factory. Press ⓘ move ⓘ to display 4 mA or 24 mA, and at the same time, check with an ammeter to verify that Current Loop output displayed values. It is necessary to re-calibrate the current loop, if over the permitted tolerance.



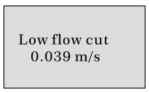


2. Set zero Press ↵; reset “Zero Point” which was set by the user.





3. Low flow cut：Flow rate falls below the low flow cutoff value.

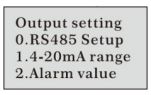


The flow indication is driven to zero. This function can prevent the flow meter from reading flow after a pump as shut down but there is still liquid movement in the pipe, which will result in totalization error.
Generally, 0.03 m/s is recommended to enter as the low flow cutoff point. The low flow cutoff value has no relation to the measurement results once the velocity increases over the low flow cutoff value.

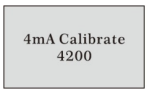
Setup Menu-Output

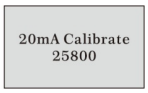
Press ⓘ, Select 3. Output setting, and then ↵ display：

0. RS-485 setup
   The window used to set serial port. It connection with the equipment of its serial port set of parameters must match. The first choice of data that baud rate：2400, 4800, 9600, 19200 choice. The second option that in check, None. Data length fixed to eight; Stop bit for a fixed length; Factory serial port parameters for the default “9600, 8, None, 1” .

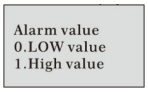


1. 4 ... 20 mA range
   Set the Current loop output value according to the flow value at 4 mA, and 20 mA. The flow unit is m^3/h.





2. Alarm value (Option)
   Enter the low alarm value; any of the measured flow, which is lower than the low value, will activate the alarm in the OCT hardware or relay output signal. Enter the high alarm value; any of the measured flow, which is higher than the high value, will activate the alarm in the OCT hardware or relay output signal.



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