Flow Watch Instruction Manual

Model:F5

LONGRUN

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Notice

Thank you for choosing Model F5 Flow Watch.
This instruction manual contains the important using and operation information of the flow meter. Please read carefully the reference manual before operation to make your flow meter exert the best performance.

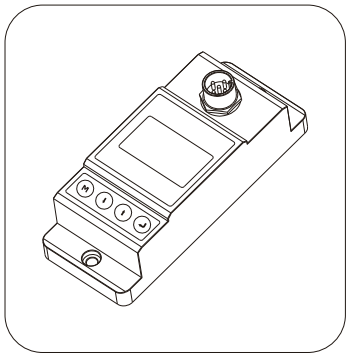
If you make a mistake ,it will affect the meter's normal working and reduce the meter's life or cause some malfunctions.

Product components

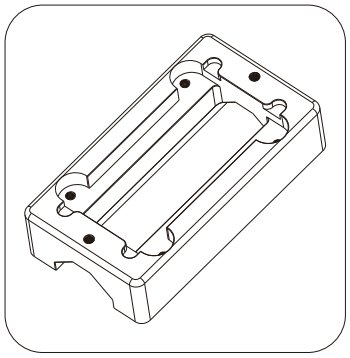
Inspection should be made before installing the Flow meter.Check to see if the spare parts are in accordance with the packing list.

Make sure that there is no potential damage to the enclosure due to a loose screw or loose wire, which occurred during transportation.

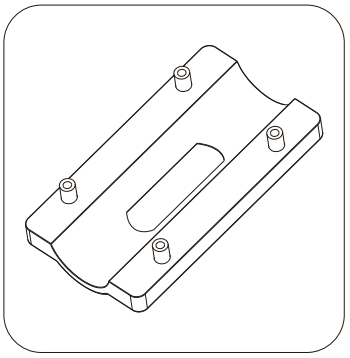
Any questions, please contact your representative as soon as possible.



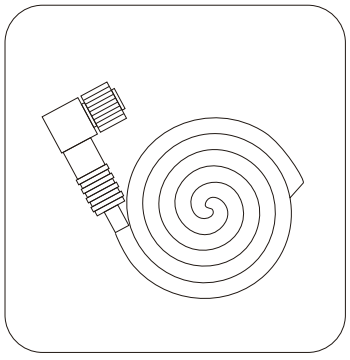
Flow Watch



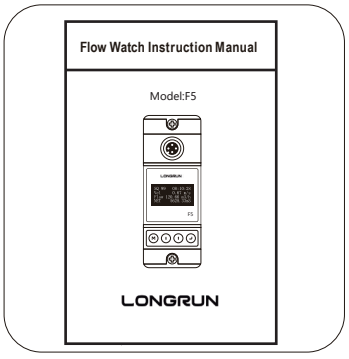
Upper bracket



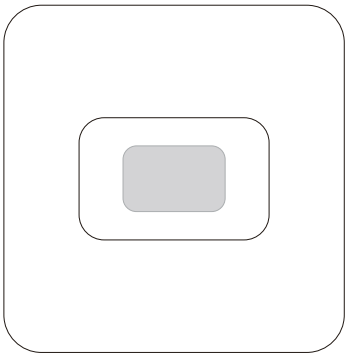
Base bracket



Connecting cables



Instruction manual

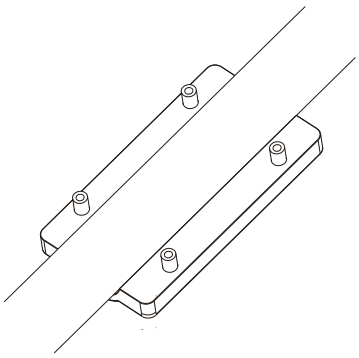


Coupling agent

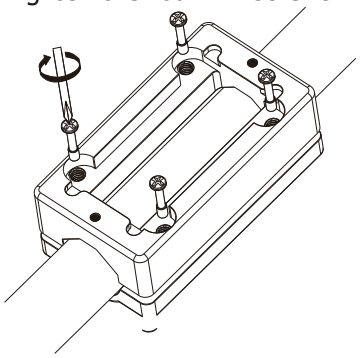
Installation and connection

Once the Flow watch is installed, the flow meter can be connected. You will find the cable terminal is 5pin . Connect 4-20mA and RS485 output as per wiring diagram .

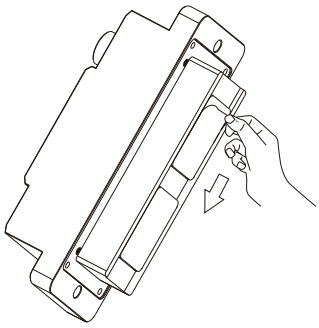
Step1: Make sure no dirt, paint, or other stains on the surface of the tube. Then put the bottom parts on the side of the pipe.



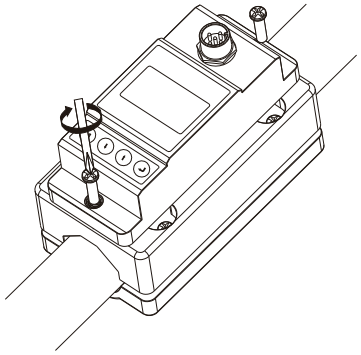
Step2: Align the bracket to the pipe position; Install screw on top part of the bracket, the bottom part of the bracket will automatically connect with the top part. Tighten the four M4 screws.



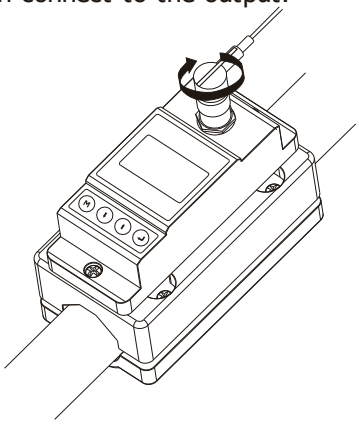
Step3: Take the cover off the sensor.

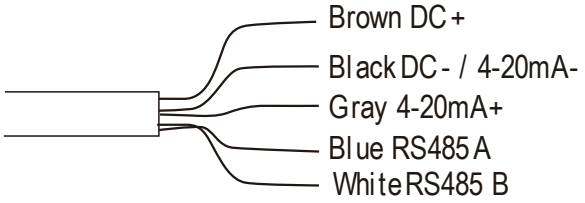


Step4: Put the flow watch into Upper bracket, and tighten two M4 screws.

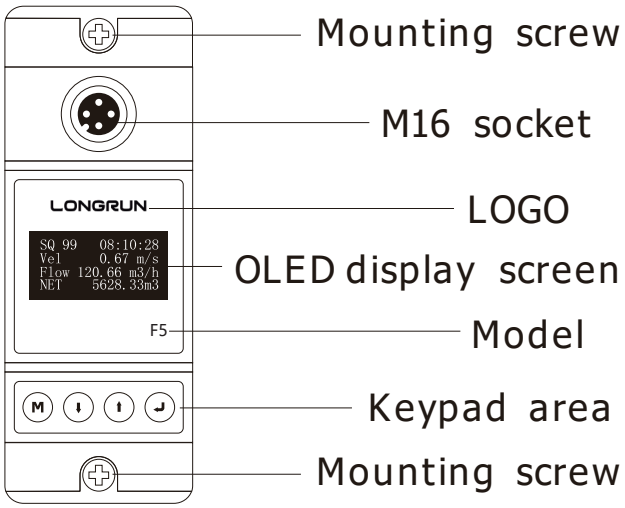


Step5:Take out the cable, connect it to the socket, and tighten up.
Then connect to the output.



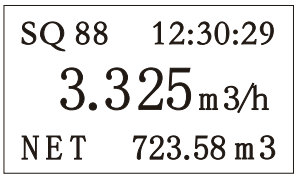


Panel function



Powering on

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



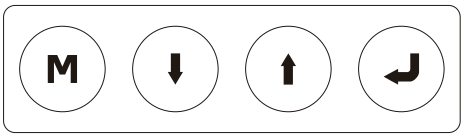
Signal Quality (SQ value)

Q value is short for Signal Quality. It indicates the level of the signal detected. Q value is indicated by numbers from 0~99 represents 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 guide lines when using the Flow meter keypad:

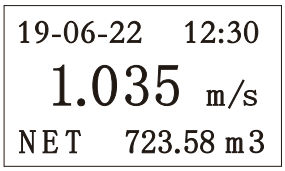


(M) Setting or display mode, when it is setting mode, that can return to the previous menu, (↓) and (↑) scroll up and down to select the menu, when press (↓) move to next digit, press (↑) and the numbersscroll from 0 to 9, you can select the number. Press (↵) to confirm.

Window descriptions

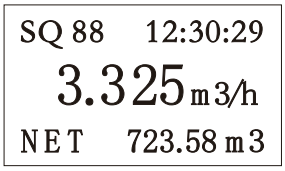
Display Menu

■ When the power on, the meter will display Velocity/Net Totalize.



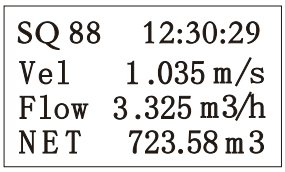
Display date and time, velocity and net totalize.

■ Press ⬇ will display Flow Rate/Net Totalize, press ⬆ will return to previous menu.



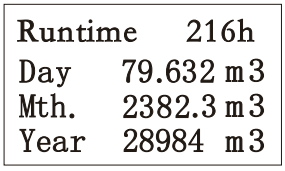
Display signal quality. Time, flow rate and velocity.

■ Press ⬇ will display Flow Rate/ Velocity/Net Totalize, press ⬆ will return to previous menu.



Display signal quality. Time, velocity, flow rate and net totalize.

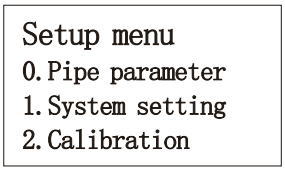
■ Press ⬇ will display Run time/Daily Totalize /Month Totalize /Year Totalize, press ⬆ will return to previous menu.



Display Run time, Date, Month and Year net totalize.

Setup Menu

Press M 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:

```
Pipe parameter
0.Outer diameter
1.Wall thickness
2.Material
```

The following options are available (by ↓ or ↑ bu ttons)

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:

```
System setting
0.System unit
1.Flow rate unit
2.Total unit
```

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 m3/h, PM,GPM.

2. Total unit: Move ↓ or ↑ can m3, L,GAL.

3. Totalize RESET: Press ↵ , move ↓ or ↑ arrow to select 'YES' or 'NO'. After 'YES' is selected , parameters will be reset .

4. Time set

```
yy-mm-dd hh:mm
19-06-20 12:30
```

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

5. System lock

```
Syetem lock
Syetem unlocked
```

```
Syetem lock
ENT to lock
```

```
ENT key word
   0000
```

```
Syetem lock
Syetem locked OK
```

```
Syetem lock
Syetem locked
```

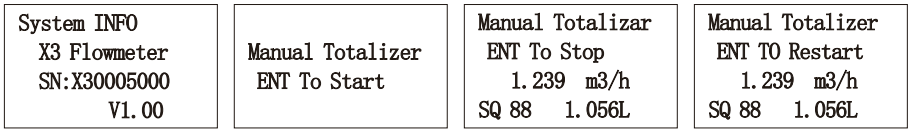
```
Syetem lock
ENT to unlock
```

```
ENT key word
   0000
```

```
Syetem lock
Syetem unlocked OK
```

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 1to4 numbers.

6. System INFO



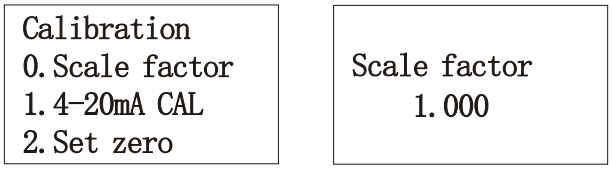
System INFO: Display serial number (SN) of the meter. This SN is the only one assigned to each flow meter ready to leave the factory. The factory uses it for files setup and for management by the user.

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:

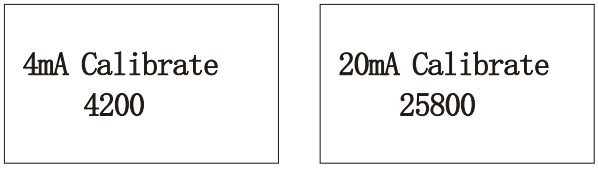


0. Scale factor

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 reading is 2/1.98.

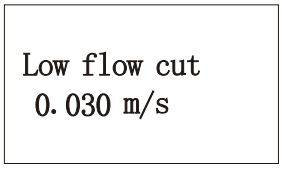
This means that the best scale factor constant is 1.01.

1.4-20mA CAL :Check if the current loop has been calibrated before leaving the factory. Press (↓) move (↑) to display 4mA or 24mA, 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. Lowflow 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 is shut down but there is still liquid movement in the pipe, which will resultin totalization error.
Generally, 0.03m/s is recommended to enter as the low flow cut off point. The low flow cutoff value has no relation to the 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

```
Output setting
0.RS485 Setup
1.4-20mA range
2.Alarm value
```

This window is used to set serial port . It must match the equipment's connected parameters .
First select baud rate: 2400,4800,9600,19200 are selectable
Then select : None . Data length :8 Stop bit is fixed length .
Factory default value for serial port parameter is "9600,8,None,1"

1. 4-20mA Range

```
4mA Calibrate
   4200
```

```
20mA Calibrate
   25800
```

Set the Current Loop output value according to the flow value at 4mA, and 20mA. The flow unit is m3/h.

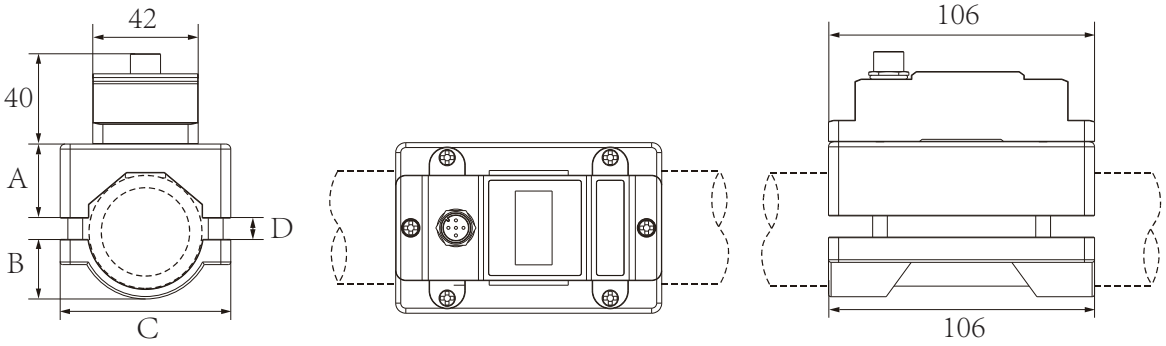
2. Alarm value(Option)

```
Alarm value
0.Low value
1.Hight value
```

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 OTC hardware or relay output signal.

Dimensions

Model	A (mm)	B (mm)	C (mm)	D(mm)	
				min	max
F5-φ9.53	25	10	58	1.5/φ9.53	6/φ14.03
F5-φ12.7	25	10	58	1/φ12.7	6/φ17.7
F5-φ15	25	10	58	1/φ12.7	6/φ17.7
F5-φ20	25	10	58	1/φ16.5	7.5/φ23
F5-φ25	25	15	58	1/φ25	4/φ28
F5-φ32	28.5	18.5	58	1/φ32	4/φ35
F5-φ40	29.5	24	68	1/φ38	9/φ45
F5-φ50	36	27	78	1/φ48	7/φ54
F5-φ63	41	32	91	1.5/φ58	8.5/φ64
F5-φ75	46.5	40	105	1/φ72	7/φ78
F5-φ90	51.5	43	119	1/φ80	13/φ92



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