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Manual Energiflödesmätare Energy Watch

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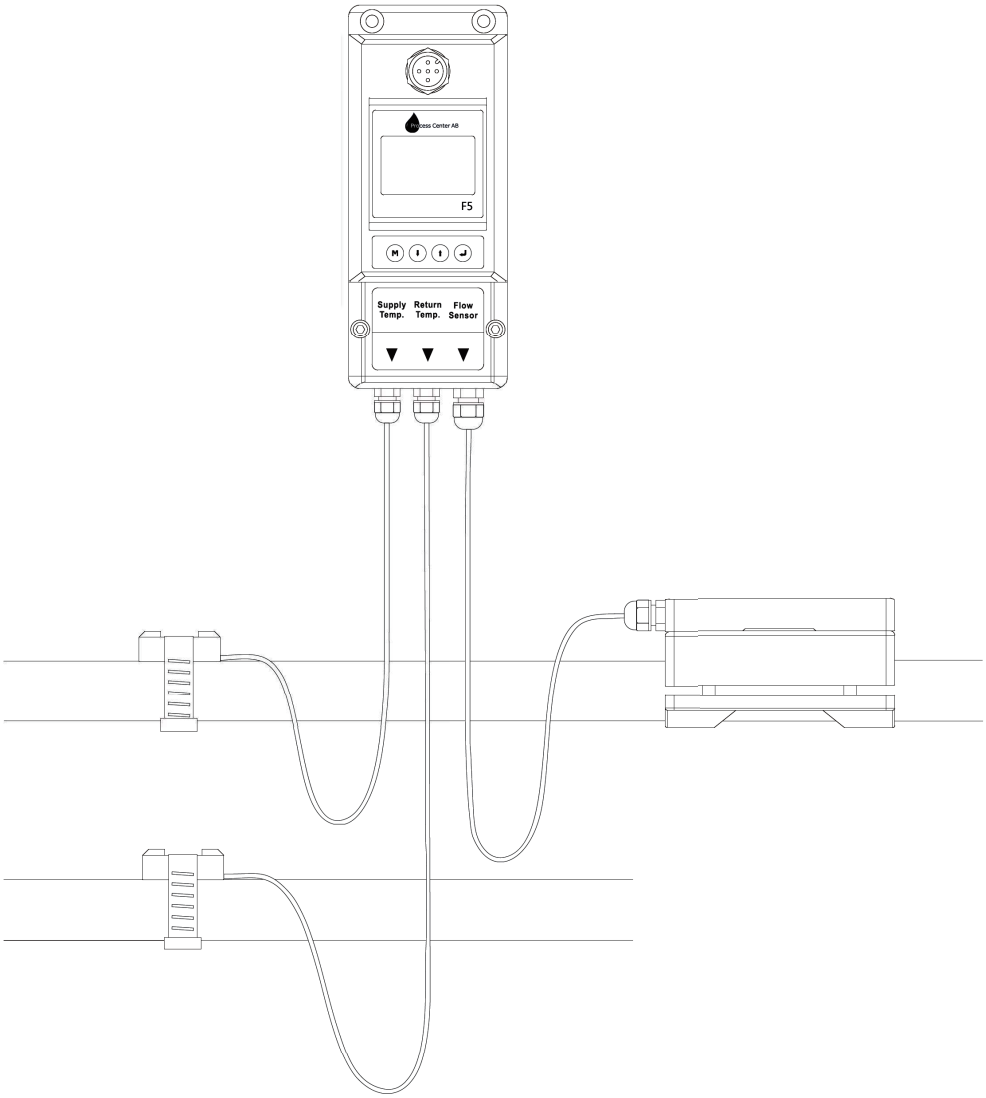

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Content

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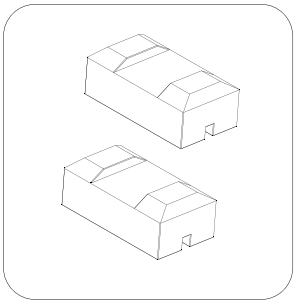
Notice

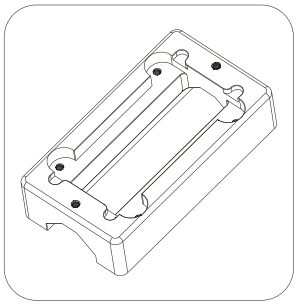
Thank you for choosing Model F5 Energy Watch.
This instruction manual contains the important using and operation information of the flow meter. Please read carefully the reference manual before operation to make your flow meter exert the best performance.
If you make a mistake ,it will affect the meter's normal working and reduce the meter's life or cause some malfunctions.

Product components

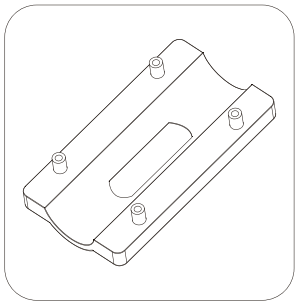
Inspection should be made before installing the Flow meter.Check to see if the spare parts are in accordance with the packing list.
Make sure that there is no potential damage to the enclosure due to a loose screw or loose wire, which occurred during transportation.
Any questions, please contact your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



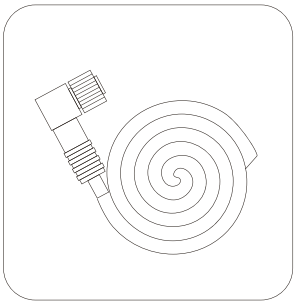
Temp.mount



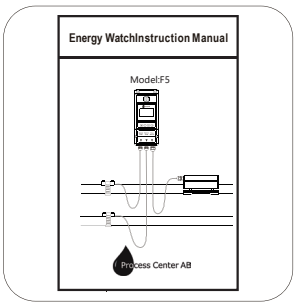
Upper bracket



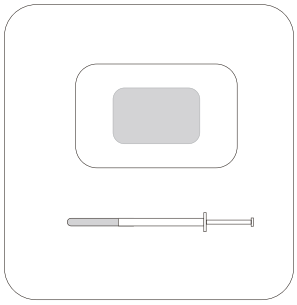
Base bracket



Connecting cables



Instruction manual



Coupling agent
High temp.silicone

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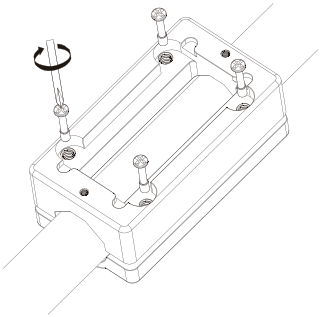
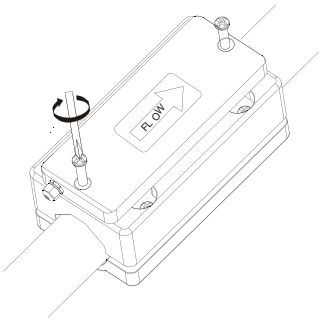
Installation and connection

F5 need to install flow sensor and temperature sensor, clean the pipeline before installation.
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.

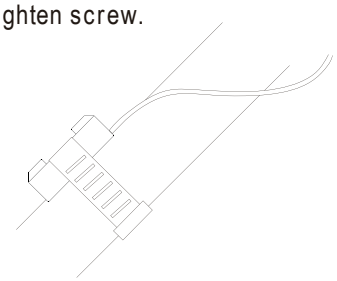
Step1: Align the bracket to the pipe position; Install screw on top part of the bracket, the bottom part of the bracket will automatically connect with the top part.
Tighten the four M4 screws.



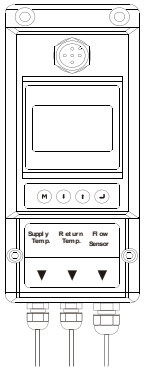
Step2: Take the cover off the Flow Transducer. put it into Upper bracket, and tighten two M4 screws.



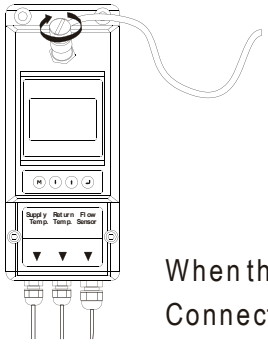
Step3: Install inlet and outlet temperature sensor.Fix it mount to the pipe and then use high temp. silicon grease on the pipe contact surface, loadedtemperature sensor and tighten screw.

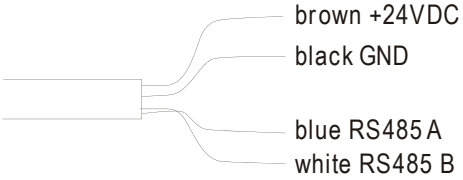


Step4: Fix the F5 Unit, where it is easy to observe and where power is available.



Step5: Take out the cable and screw the end of the plug into the socket of F5.It can be easily plugged into the socket in the right direction and then rotated in.
Finally connected to the DC power supply, the Energy meter began to measure.





When the F5 is installed, the Energy meter is wired.
Connect the DC power and RS485 output.

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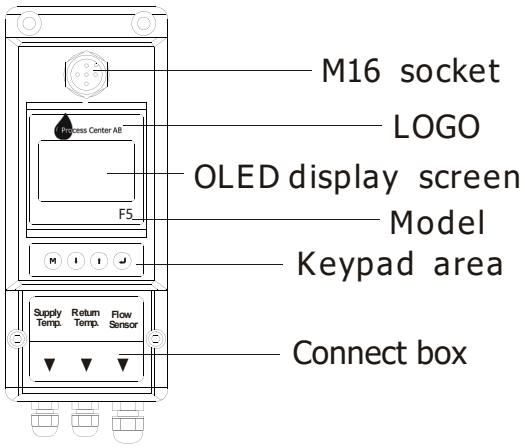
Panel function



Powering on

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

SQ 88	12:30:29
Eq 135.28	GJ/H
EH 335.66	GJ
EC 35487.53	GJ

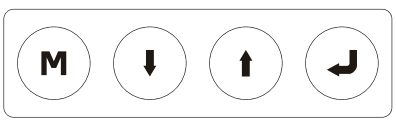
Signal Quality (SQ value)

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.

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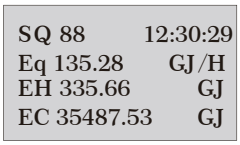
Window descriptions

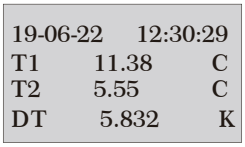
Display Menu

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



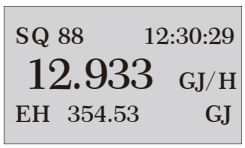
Display signal quality (SQ), time, heat power (Eq), heat totalizer (EH), cold totalizer (EC)

■ Press ⬇ will display T1, T2, delta T, press ⬆ will return to previous menu.



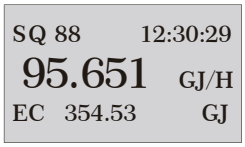
Display date, time, outlet temp. (T1), inlet temp. (T2), Delta temp. (DT)

■ Press ⬇ will display Eq, EH, press ⬆ will return to previous menu.



Display signal quality (SQ), time, Heat power (GJ/h), Heat totalizer (EH)

■ Press ⬇ will display Eq, EC, press ⬆ will return to previous menu.

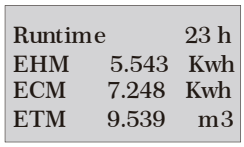


Display signal quality (SQ), time, heat power (Eq), cold totalizer (EC)

■ Press ⬇ will display Flow rate, Net totalizer, press ⬆ will return to previous menu.

Display signal quality (SQ), time, flow rate, Net totalizer

■ Press ⬇ will display the Unit runtime, press ⬆ will return to ps menureviou



Display Unit runtime, monthly heat totalizer (EHM), monthly energy totalizer (ECM), monthly flow totalizer (ETM)

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Setup Menu

Press (M) will display Setup menu.

```
Setup menu
0.Pipe parameter
1.System setting
2.Calibration
```

The following options are available (by (↓) or (↑) buttons)

0. Outer diameter
1. System setting
2. Calibration
3. Output setting
4. Energy setting
5. History Data

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 (↑) 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:

```
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,LPM,GPM.
2.Total unit:Move (↓) or (↑) can m3,L,GAL.
3.Totalize RESET:All parameters are reset,Press (↵),move (↓) or (↑) arrow to select"YES"or"NO".After"YES"is selected.

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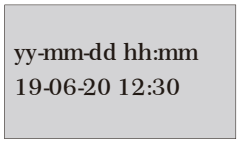
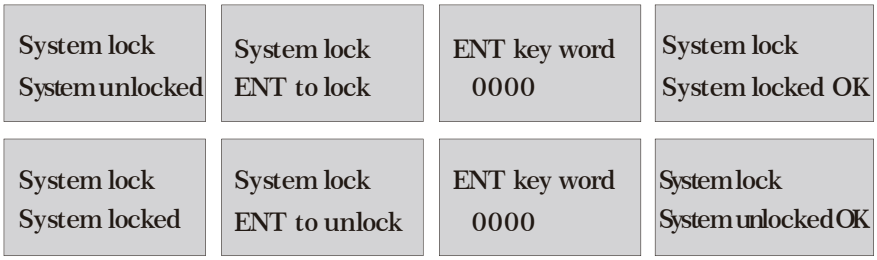
4. Time set



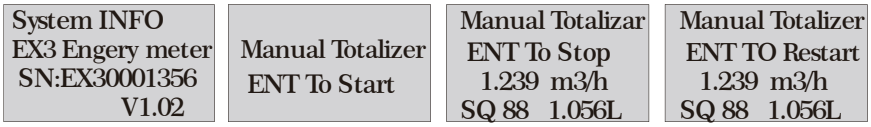
Generally, it is unnecessary to modify date time as the system is provided with a highly reliable perpetual calendar chip.

5. System lock



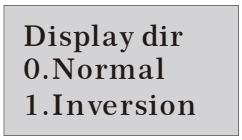
Once the system is locked, any modifications to the system are prohibited, but the parameter is readable. "Unlock" using your designated password. The password is composed of 1 to 4 numbers.

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.

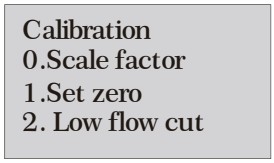
7. Display dir



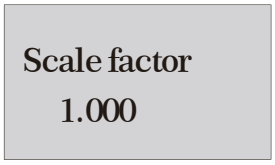
Can choose the direction of display,
convenient to observe the measurement data.

Setup Menu – Calibration

Press ↓ , Select 2.Calibration, and then ↵ display:

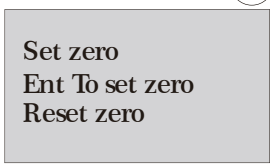


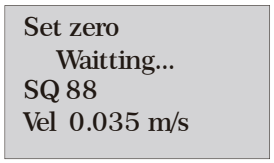
0. Scale factor



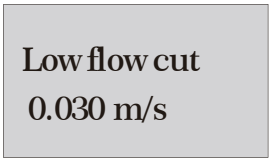
Refers to the ratio between "actual value" and "reading value". For example, when the measurement is 2.00, and it is indicated at 1.98 on the instrument, the scale factor reading is 2/1.98. This means that the best scale factor constant is 1.01.

1. Set zero: Press ↵ ; reset "Zero Point" which was set by the user.



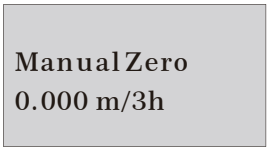


2. Lowflow cut: Flow rate falls below the low flow cutoff value.



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.

3.Manual zero



The seldom used calibration method is suitable for experienced operators to artificially input an offset superimposed on the measured value in order to obtain the true value when other calibration methods cannot be used well.

For example: Actual measured value =250 m3/h
The offset valve =10 m3/h
Meter display =240 m3/h
In general, this value should be set: "0" .

Setup Menu – Output

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

```
Output setting
0.RS485 Setup
1.Alarm value
```

0. RS485 setup

```
RS485  Setup
0.Network addr
1.RS458 Baudrate
```

The window used to set serial port. It connection with the equipment of its serial port set of parameters must match.
Move ↓ or ↑ can option baud rate: 2400, 4800, 9600, 19200.
Data length fixed: 8 ;Stop bit for: 1.
Factory serial port parameters for the default "9600, 8, None, 1".

1. Alarm value(Option)

```
Alarm value
0.Low value
1.High 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 OCT hardware or relay output signal.

Setup Menu – Energy setting

Press ↓ , Select 4.Energy Setting, and then ↵ display:

```
Energy setting
0.Energy unit
1.Temp. unit
2.Flow position
```

The following options are available (by ↓ or ↑ buttons)
0.Energy unit: Move ↓ or ↑ can option: GJ, MBtu, KWh, MWh.
1. Temp unit: Move ↓ or ↑ can option: C or F
2. Flow position: Move ↓ or ↑ can option: Inlet, Outlet
3. DT sensitivity: Move ↓ or ↑ ,You can change the value
4.RTD Calib: Temperature sensor calibration

```
RTD Caliration
0.T1 K factor
1.T2 K factor
```

```
T1 K factor
 0.998
```

```
T2 K factor
 0.998
```

Setup Menu – History Data

Press ⬇ , Select 5.History Data, and then ↵ display:

```
Date history
0.By Day
1.By Month
2.By Year
```

0. By Day
Diaplay: Daily heat totalizer (EHD), Daily cold totalizer(ECD), Daily Flow totalizer (ETD)

```
Day    00-20-08-18
EHD    3.188
ECD    6.889  KWh
FTD    6.866   m3
```

1. By Month
Display: Monthly heat totalizer(EHM), Monthkt cold totalizer(ECM), Monthly Flow totalizer (ETM)

```
Month  00-20-08-18
EHM    9.188
ECM    9.889   KWh
FTM    9.866    m3
```

2. By Year
Display: Year heat totalizer(EHM), Year cold totalizer(ECM), Year Flow totalizer (ETM)

```
Year   00-20-08-18
EHY    88.196
ECY    96.889  KWh
FTY    89.866   m3
```

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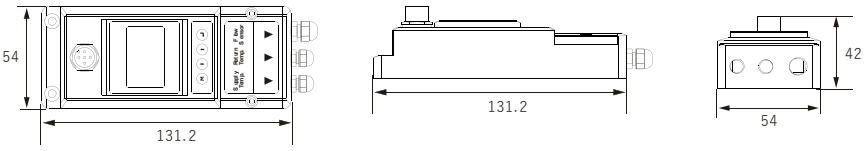
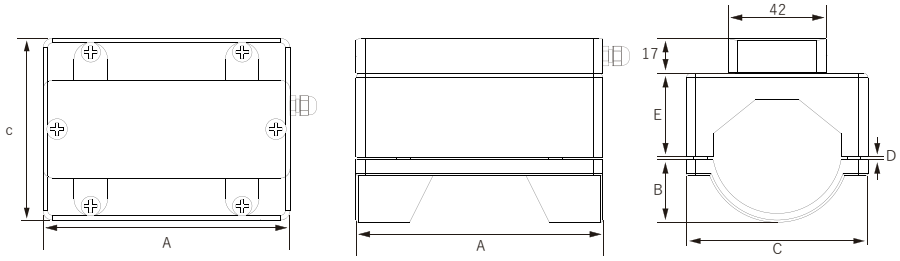
Dimensions

Model	A (mm)	B (mm)	C (mm)	D(mm)	
				min	max
F5-Φ20	25	8	58	1.5/Φ20	8/Φ23
F5-Φ25	25	15	58	1.5/Φ25	4.5/Φ28
F5-Φ32	28.5	18.5	58	1.5/Φ32	4.5/Φ35
F5-Φ40	29.5	24	68	1.5/Φ38	8.5/Φ45
F5-Φ50	36	27	78	1.5/Φ48	8.5/Φ54
F5-Φ63	41	32	91	1.5/Φ58	7.5/Φ64

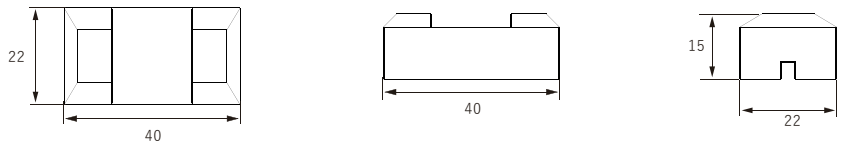
F5 Unit dimensions



Flow transduer dimensions



Temp. sensor dimensions



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