FLOWTECH

KF720 Series
Electromagnetic Flowmeter Manual

NINGBO KIO FLOW INSTRUMENTS CO.,LTD

ISO9001-2000

1 .Working instrument showing

After complete correct electric connection, run power on instrument. Instrument transmitter first implementation of the initialization; display the company logo (see below). Wait 3 seconds after the instrument into the own measurement mode, immediately began to flow measurement and displays the current flow measurement value or other self-assemblies off information. If there is no meter to power after the show (display without backlight), then the power supply and connectivity in identifying ways to meet the requirements, may view the instrument power supply fuse is intact (you can see the 8 common faults and processing).

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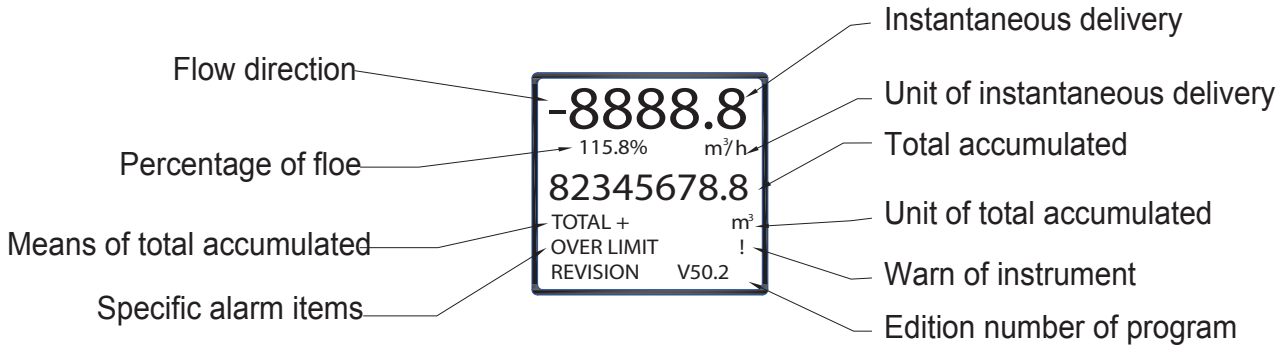
2 . Interface show



Instrument Display Interface
1. The first line shows an instantaneous flow rate, flow rate display units can be in the 'flow unit' function key to choose;
2. The second line shows the percentage of traffic and flow units
3 .The third line shows the cumulative total amount
4 .The fourth line shows the total cumulative and cumulative units
5.fifth line shows the warning prompt and projects
6.sixth line shows the program version number

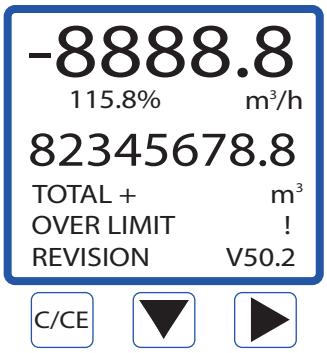
3. Power Supply Fuse Replacement

> ⚠ Replace the fuse should have a certain professional competence of people to perform. if the meter to replace the fuse still would be no show, then please contact the manufacturer.

Ⅳ. Operations

1 . Panel construction and key definition

1.) MF7200 series



2.) Function instructions

C/CE parameter confirmation and withdraw from subprogram

▼ Set item (the key of downward and decrease of data variable)

▶ set item (the key of move to right)

short key and multiple key

▼ & ▶ system for short set “ZERO”, press ▼ and then press ▶

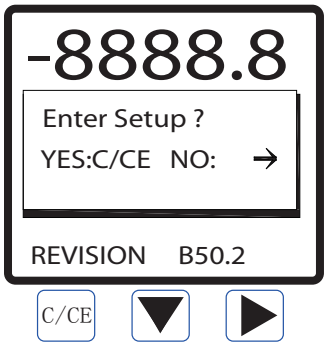
▶ & ▼ multiple press ▶ can short choose “instantaneous delivery uint”,“direction of accumulated”and “unit total of accumulated”, then press ▼ to change parameter and then press “C/CE” to save it

2. menu construction

BASIC SETUP	1.1 Damping(s)（0.1~99.9）	
	1.2 PV Decimal (1 ,2,3)	
	1.3 Totoal Decimal (1 ,2,3)	
	1.4 Lcd rotate (0、+90、180、-90）	
SYSTEM SETUP	2.1 Signal	2.1.1 Qmax(m3/h) 2.1.2 Low Cutoff % 2.1.3 Max Limit% 2.1.4 Limit Time(S) 2.1.5 Direction 2.1.6 Indication
	2.2 Pulse Output	2.2.1 Freq Max(Hz) 2.2.2 Liter/pulse 2.2.3 Pulsewidth(ms)
	2.3 MODBUS Output	2.3.1Protocol 2.3.2 Baudrate 2.3.3 Parity 2.3.4 Dev Address
	2.4 Clear Total	
	2.5 Load Settings	
TRANSMITTER TRIM	3.1 Tube Trim	3.1.1 Empty Trim 3.1.2 Full Trim 3.1.3 TubeRegion%
	3.2 Loop Trin	3.2.1 4mA Trim 3.2.2 20mA Trim
	3.3 Zero Trim	
	3.4 K Character	
	3.5 Total preset	
	3.6 Manual Adjust	3.6.1 Actual Zero(mV) 3.6.2 Empty Freq(Hz) 3.6.3 Full Freq(Hz)
OUTPUT CHECK	4.1 Loop Test	
	4.2 Pulse Test	

3. Select menu item Measurement mode

Enter the parameter setting Press "C / CE “bond. Appears in Figure interface, select" C / CE "will enter the menu:



（BAS）Basic Configuration

（SYS ）System Configuration

（TRIM） Instrument Calibration

（CHK） Instrument Test

Click”→” to quit menu

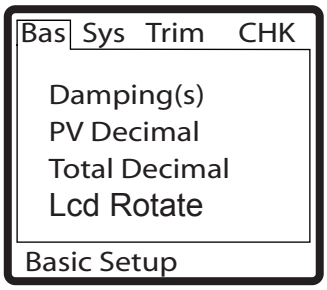
(BAS)Basic Configuration

Damping(s) （0.1~99.1）

PV Decimal (1、2、3)

Totoal Decimal （1、2、3）

Lcd Rotate (0、+90、180、-90）



(SYS)System Configuration

Signal

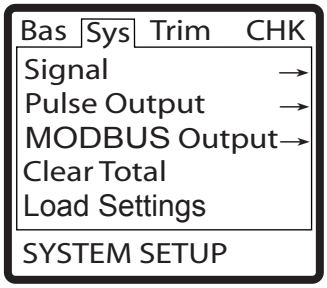
Pulse Output

MODBUS Output

HART Address

Clear Total

Load Settings



(TRIM) Instrument Calibration

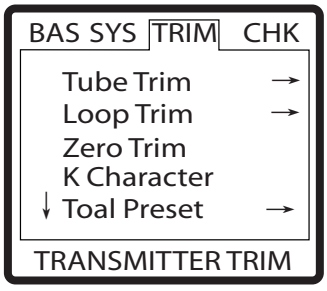
Tube Trim

Loop Trin

Zero Trim

K Character

Manual Adjust



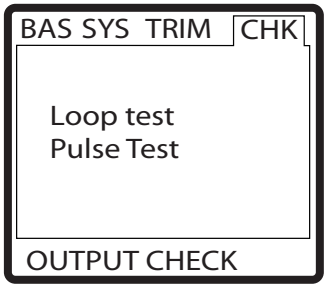
(CHK)Instrument Test

Loop Test

4-20mA test

Pulse Test

Check frequency output



4. Operation Guide for regular function of Transmitter

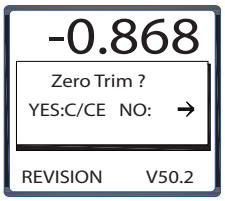
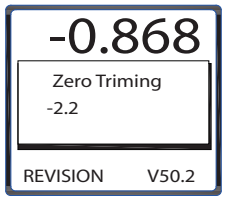
1.) Zero Trim

In order to obtain accurate measurement results, the electromagnetic Flowmeter should be zero Trim before re-installation. This series of transmitter has two calibration methods, the user can choose one way to Zero calibration.

> ⚠ Before Zero Trim the instrument; flowmeter measuring tube filled with medium, and in a quiescent state. Flowmeter be good grounded (see page 9). Meter Warm-up time of not less than 15 minutes.

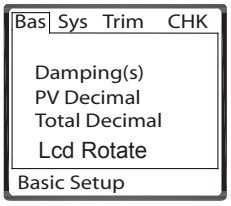
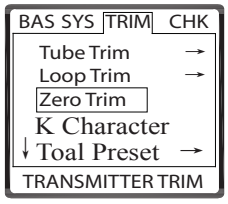
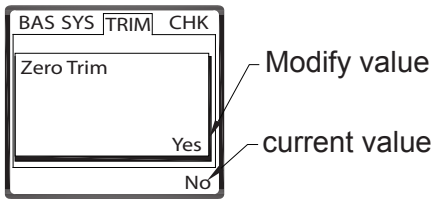
Method 1: Fast Zero calibration

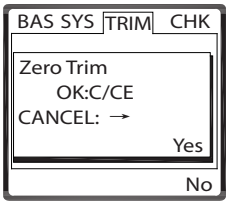
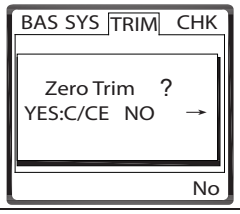
Fast calibration method, the user can follow the steps in instrument "Measurement mode 'state directly into the instrument calibration status of zero. Steps are as follows

Steps	Operation instructions	Interface show
1	In measurement mode, click "↓" and "→" on same time into "zero trim" interface menu	
2	Click "C/CE" to option yes, Transmitter kick off zero trim. (if you want to cancel trim, click "→" option No to give up Trim	
3	When complete to Zero trim, the transmitter will back to flow measurement display stage	

Method 2 : in the "Instrument calibration" menu to zero calibration

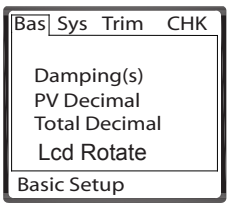
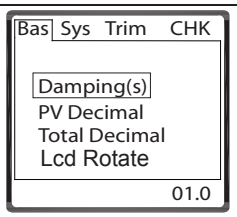
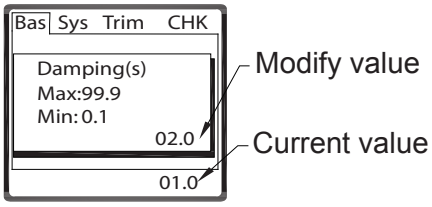
Choose this method, first of all need to enter "Instrument Calibration" under the main menu of the "Zero Trim" sub-menu, and then zero calibration. Steps are as follows:

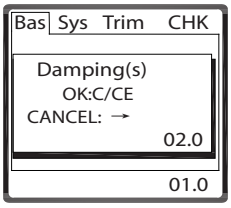
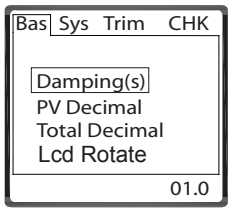
Steps	Operation instructions	Interface show
1	In measurement mode, click two times "C/CE" into Basic menu interface	
2	Click "→" key, pls move Cursor to "TRIM" side, after click "↓" key to move cursor to " Zero Trim" side	
3	Click "→" key into zero trim menu, after click "→" or "↓" again, to option Yes on "zero trim" menu	

Steps	Operation instructions	Interface show
4	Click “C/CE” to show confirm menu	
5	Click “C/CE” again into “zero trim” confirm menu, if click “→”, quit “zero trim” stage	
6	Click “C/CE” again to run “zero trim”, if click “→”, quit “zero trim” stage	
7	Pls waiting “Zero trim” finish and automatically return Trim menu. Click “C/CE” two times back to measurement mode	

2.) Damping time

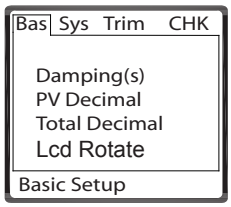
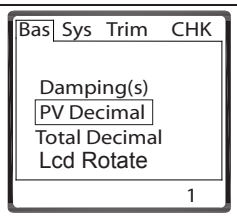
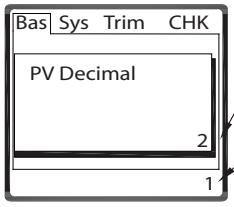
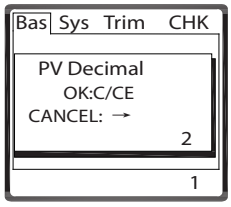
Damping time on the meter display and output. Set range o 1-99 9S (unit is "seconds"). Set as follows:

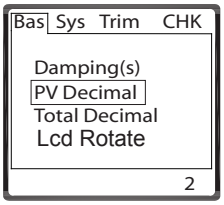
Steps	Operation instructions	Interface show
1	In measurement mode, click “C/CE” two times into configuration menu	
2	Click “↓” to choice Damping(s).	
3	Click “→” into “damping time” setup menu, “→” and “↓” key to set Damping times	

Steps	Operation instructions	Interface show
4	Click “C/CE” key to quit setup menu, LCD show confirm menu	
5	Click “C/CE” key to confirm and return configuration menu(click”→” give up modify	
6	Click “C/CE” two times from configuration menu to measurement menu, also you can continue other operation.	

3.) Instantaneous flow Resolution

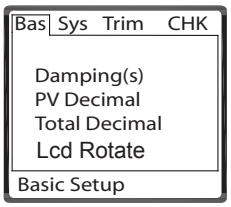
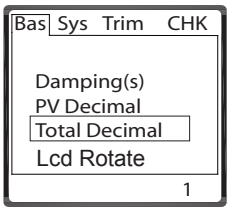
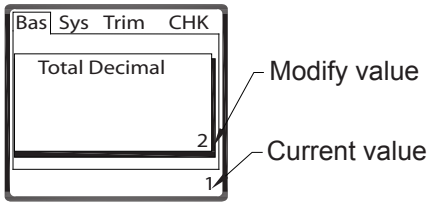
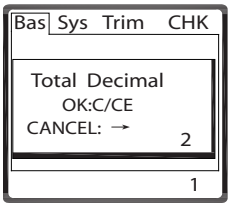
Adjust the instantaneous flow of small points indicate the medium, set the range of 1-3 decimal places

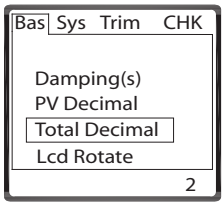
Steps	Operation instructions	Interface show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “↓” to choice total decimal	
3	Click “→” into “ PV decimal” menu. Click “→” and “↓” to setup digits after the decimal point.	
4	Click “C/CE ” quit setup menu. LCD show confirm menu	

Steps	Operation instructions	Interface show
5	Click"C/CE" to choice confirm and return Basic configuration menu (click "→" to give up modify.	
6	Click"C/CE" two times from BAS configuration menu to measurement menu, you also can continue other operation	

4.) Cumulative total flow resolution

Adjusted cumulative flow dots show the median, set the range of 1-3 decimal places

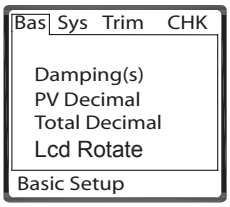
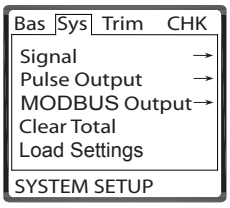
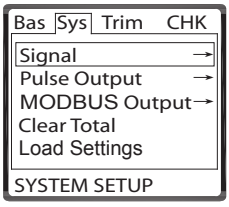
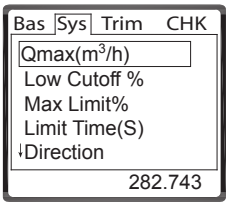
Steps	Operation instructions	Interface show
1	Click "C/CE" two times from measurement mode into configuration menu	
2	Click "↓" to choice PV Decimal	
3	Click "→" into " Total decimal" menu. Click "→" and "↓" to setup digits after the decimal point.	
4	Click "C/CE " quit setup menu. LCD show confirm menu	

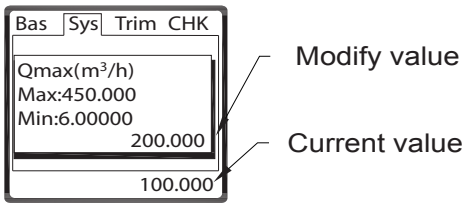
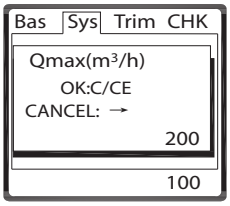
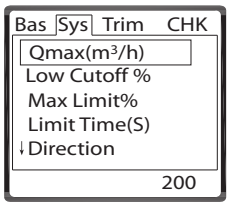
Steps	Operation instructions	Interface show
5	Click"C/CE" to choice confirm and return Basic configuration menu (click "→" to give up modify.	
6	Click"C/CE" two times from BAS configuration menu to measurement menu, you also can continue other operation	

5.) Scale flow m^3/h

Meter-scale flow (QMAX) range depending on the caliber meter (DN, unit :mm). Scale flow units: m^3/h.
Omin=DN2/3540(the equivalent of the current caliber(0.1m/s velocity)
Qmax = DN2/ 29.5 (equivalent diameter 12m/s velocity)
The scale value of the flow meter relate output and frequency output :
Current output Iout : Instruments measured value / scale flow settings x16 +4
Frequency output Fout: Instruments measured value / scale flow settings values x the frequency maximum rate settings

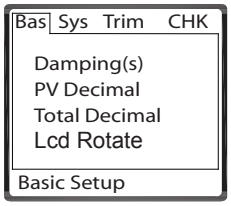
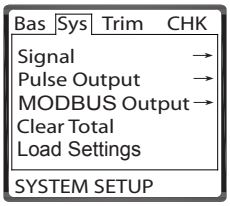
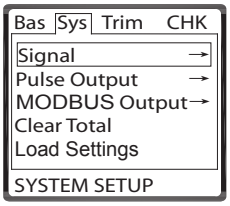
To change the parameter will lead to the meter output value mutation, if posterior instrumentation, then modify this parameter should be considered before install posterior instrumentation(if need it).
Posterior instrumentation-related operational requirement

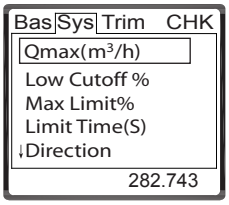
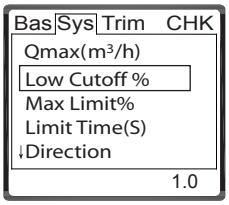
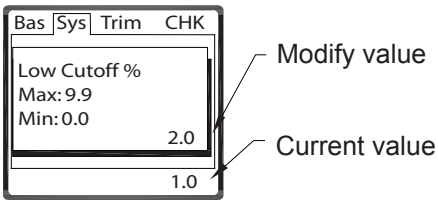
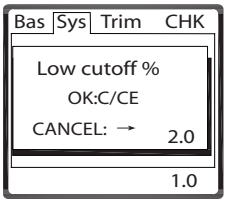
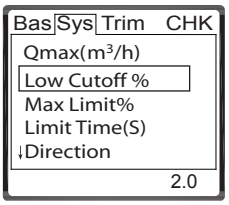
Steps	Operation instructions	Interface show
1	Click "C/CE" two times from measurement mode into configuration menu	
2	Click"→"to choice sys menu	
3	Click "↓" to choice signal item	
4	Click "→" into signal menu	

Steps	Operation instructions	Interface show
5	Click "→" into QMAX menu to setup Max Flow by "→" and" ↓" key	
6	Click "C/CE" to quit setup menu ,LCD show confirm menu	
7	Click "C/CE" ,confirm and save configure ,after return configure option menu,(click "→" to give up modify.)	
8	Click "C/CE" three times to back measurement mode, you also can continue other operation.	

6.) Small flow termination%(low %)

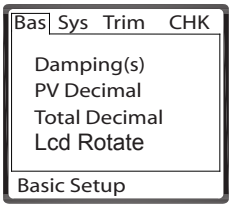
The parameters on the display and output are valid. When the traffic signal to terminate below the low flow rate (unit%) of the settings to set the value of the The signal will be removed, display and output to zero. The termination of the small percentage is relative to the scale in terms of flow rate settings. Set As follows

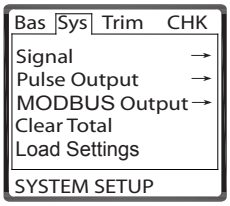
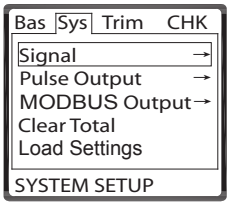
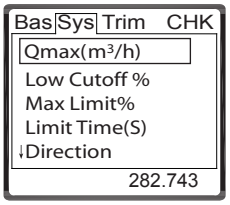
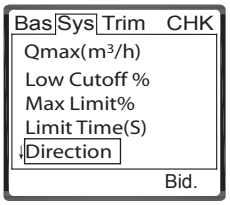
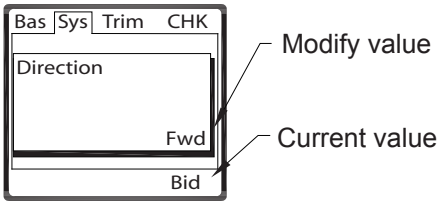
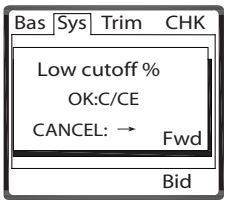
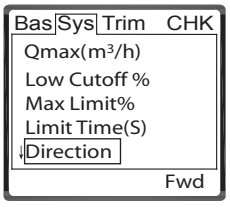
Steps	Operation instructions	Interface show
1	Click "C/CE" two times from measurement mode into configuration menu	
2	Click "→" to choice "sys" item	
3	Click "↓" to choice "Signal" item	

Steps	Operation instructions	Interface show
4	Click "→" into signal handle menu	
5	Click "↓" to choice Low Cutoff % item	
6	Click "→" into Low cutoff% menu, click "→" and" ↓" to setup value of Low cutoff%	
7	Click "C/CE" quit setup menu , LCD show confirm menu	
8	Click "C/CE" ,confirm and save configure ,after return configure option menu,(click "→" to give up modify.)	
9	Click "C/CE" three times to back measurement mode, you also can continue other operation.	

7.) FLOW DIRECTION

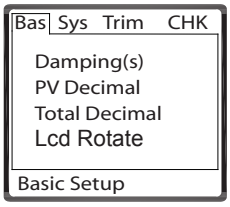
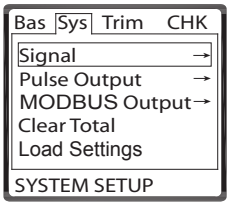
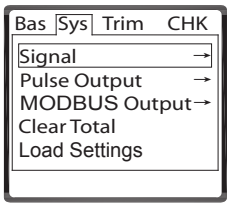
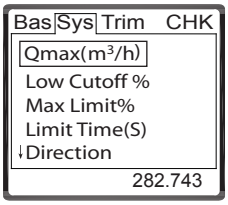
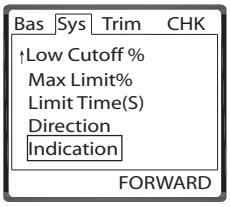
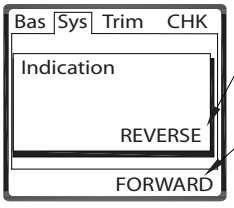
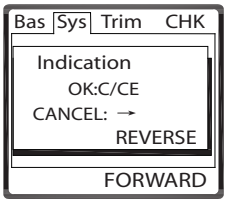
Flow sign "Bid" indicated that the flow of positive and negative. If sign show "Fwd" , the flow were measured and showed that the flow of positive, the flow of symbols" Rev" said that only the reverse flow is measured and displayed

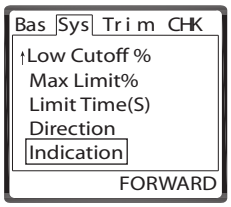
Steps	Operation instructions	Interface show
1	Click "C/CE" two times from measurement mode into configuration menu	

Steps	Operation instructions	Interface show
2	Click “→” to choice “sys” item	
3	Click “↓” to choice “Signal” item	
4	Click “→” into signal handle menu	
5	Click “↓” to choice Direction item	
6	Click“→”enter direction , press use “↓”to set direction	
7	Click “C/CE” quit setup menu , LCD show confirm menu	
8	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.)	
9	Click “C/CE” three times to back measurement mode, you also can continue other operation.	

8.) The flow of indication

FORWARD, said flow direction in the same direction with the sign factory settings; REVESRSE, flow direction in the opposite direction with the factory settings. When the meter on-site installation direction inconsistent with the direction of the factory (arrow sign on sensor), the instantaneous flow rate is displayed as "-" .Through the settings to change the flow direction measurement symbols. To change the sign of the value of flow measurement devices will affect the cumulative values.

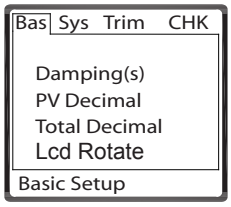
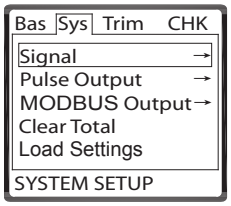
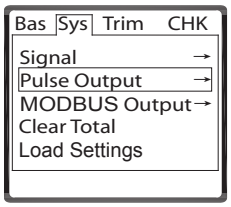
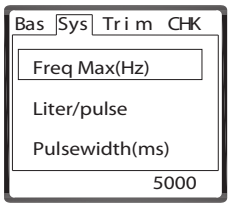
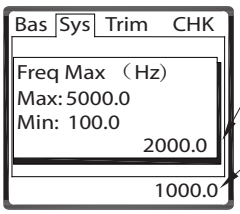
Steps	Operation instructions	Interface show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “→” to choice “sys” item	
3	Click “↓” to choice “Signal” item	
4	Click “→” into signal handle menu	
5	Click “↓” to choice Indication item	
6	Click “→” into Indication menu, click “↓” to setup flow direction	
7	Click “C/CE” quit setup menu , LCD show confirm menu	

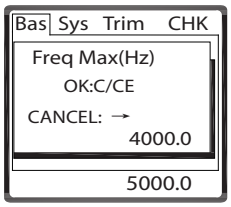
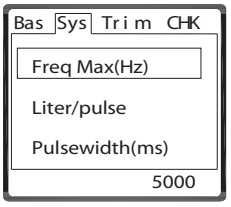
Steps	Operation instructions	Interface show
8	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.	
9	Click “C/CE” three times from configuration menu to measurement menu, also you can continue other operation.	

9.) Frequency upper limit Hz (output frequency range of the instrument 100-5000Hz)

Scale corresponding to the current flow of output frequency

Output frequency (Hz)=(the current flow rate (m3/h) /scale flow rate (m3/h)) XFrequency limit(Hz)

Steps	Operation instructions	Interface show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “→” to choice “sys” item	
3	Click “↓” to choice “Pulse Output” item	
4	Click “→” into “Pulse output” menu	
5	Click “→” into Freq Max menu, click “→” and“ ↓” to setup output frequency	

Steps	Operation Instructions	Interface Show
6	Click “C/CE” quit setup menu , LCD show confirm menu	
7	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.)	
8	Click “C/CE” three times from configuration menu to measurement menu, also you can continue other operation.	

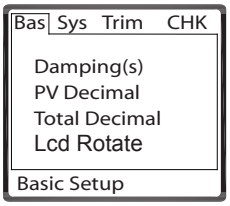
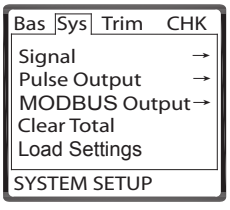
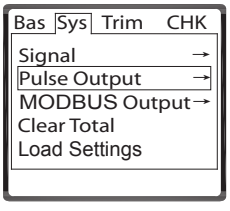
When the Liter/ pulse = 0.0, the case "frequency cap Hz" setting determines the frequency of the output

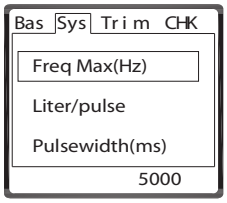
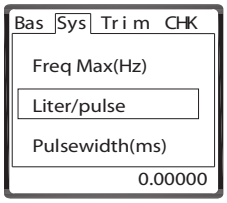
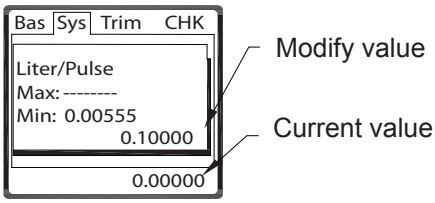
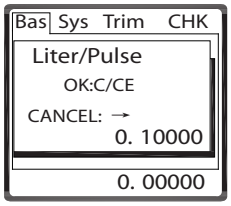
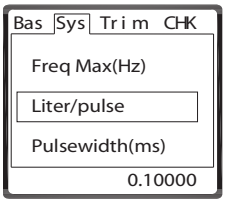
When the Liter/pulse >0.0, the setting of L/P determines the frequency output

10.) Liter/pulse(L/P)

Scale corresponding to the current flow of output frequency

$$\text{Output Frq (Hz)} = \frac{\text{Current Flow(m3/h) /3.6}}{\text{Liter/pulse(L/P)}} \qquad \frac{\text{Current Flow(L/s)}}{\text{Liter/pulse(L/P)}}$$

Steps	Operation instructions	Interface show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “→” to choice “sys” item	
3	Click “↓” to choice “Pulse Output” item	

Steps	Operation Instructions	Interface Show
4	Click “→” into “Pulse output” menu	
5	Click “↓” choice Liter/Pulse item	
6	Click “→” into Liter/Pulse menu, click “→” and“↓” to setup value of Liter/Pulse	
7	Click “C/CE” quit setup menu , LCD show confirm menu	
8	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.)	
9	Click “C/CE” three times to back measurement mode, you also can continue other operation.	

When the Liter/ pulse = 0.0, the case "frequency cap Hz" setting determines the frequency of the output

When the Liter/pulse >0.0, the setting of L/P determines the frequency output

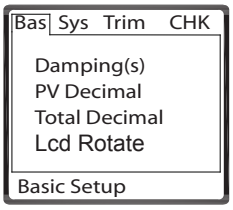
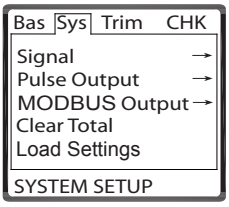
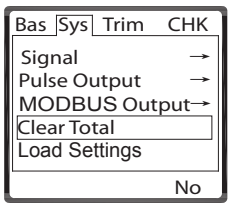
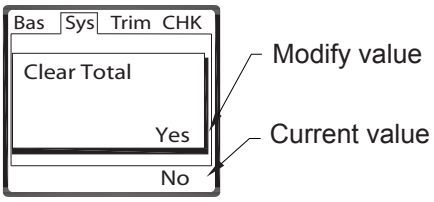
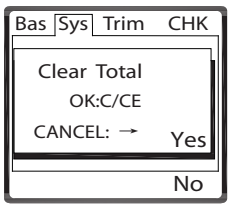
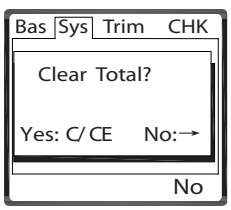
11 .) Cumulate Clear

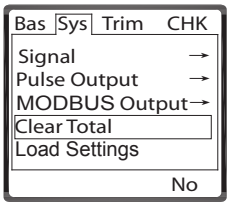
Two ways of the total cumulative flow, its meaning is as follows

1 Σ +, means symbol "+ 'cumulative value of the flow

2 Σ- ,means symbol ' - " cumulative value of the flow

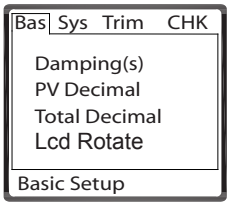
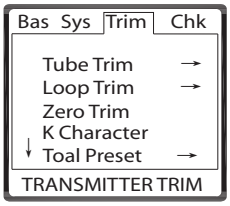
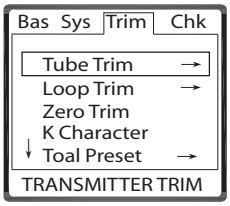
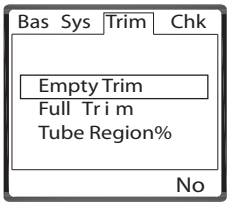
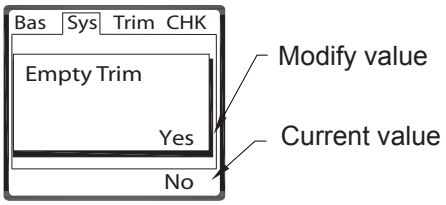
Select cumulate cleared, the total amount of the above two are forced to zero, cannot be recovered if don't save before. Clear cumulate as follows

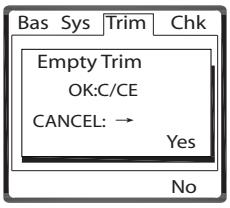
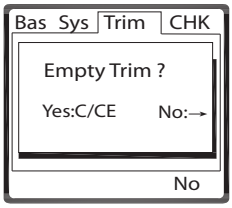
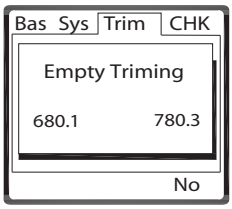
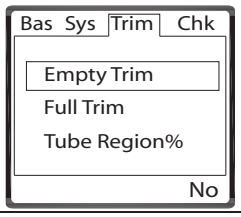
Steps	Operation instructions	Interface show
1	Click "C/CE" two times from measurement mode into BAS configuration menu	
2	Click "→" to choice "sys" item	
3	Click "↓" to choice "Clear Total" item	
4	Click "→" into Clear Total menu, click "↓" to setup value of clear total	
5	Click "C/CE" quit setup menu , LCD show confirm menu	
6	Click "C/CE" again into "Clear total " confirm menu, if click "→", quit "Clear total" stage	

Steps	Operation Instructions	Interface Show
7	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.)	
8	Click “C/CE” three times to back measurement mode, you also can continue other operation.	

12.) Empty Trim

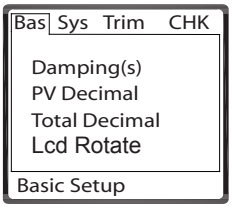
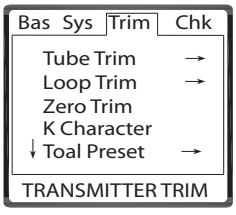
> ⚠ Before Empty Trim must verify that the installation the connection is accurate, reliable and good grounding! And also ensure that there is no flow medium in meter sensor tube.

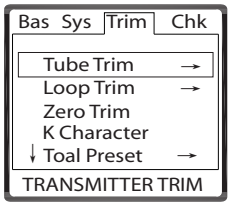
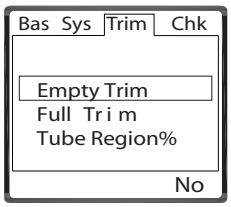
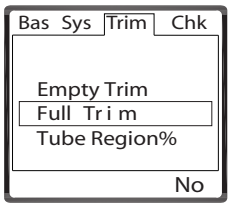
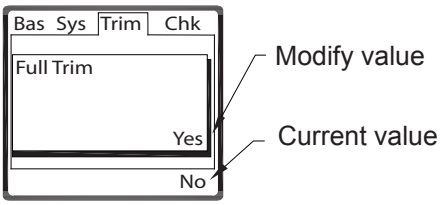
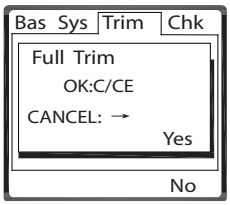
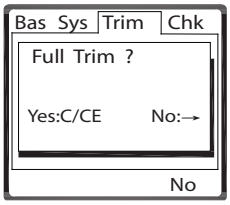
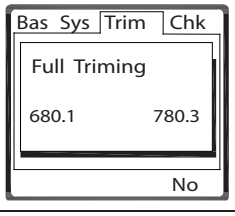
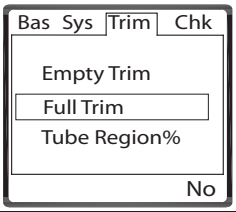
Steps	Operation instructions	Interface show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “→” to choice “Trim” item	
3	Click “↓” to choice “Tube Trim” item	
4	Click “→” into “Tube Trim” menu	
5	Click “→ ” into “Empty trim” menu, click“ ↓” to setup value of Empty trim.	

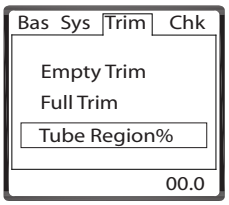
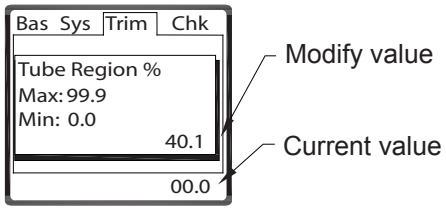
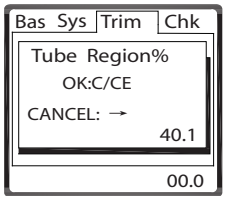
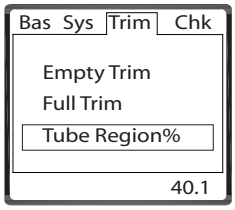
Steps	Operation instructions	Interface show
6	Click “C/CE” quit setup menu , LCD show confirm menu	
7	Click “C/CE” quit confirm menu, LCD show confirm again menu	
8	Click “C/CE” ,confirm and save configure ,after return configure option menu,(click “→” to give up modify.)	
9	When Trim finish, the LCD will automatically back Trim menu	
10	Click “C/CE” three times from configuration menu to measurement menu, also you can continue other operation.	

13.) Full Trim And Tube Region%

Before Full Trim must verify that the installation the connection is accurate, reliable and good grounding! And also ensure that there is full flow medium in meter sensor tube.

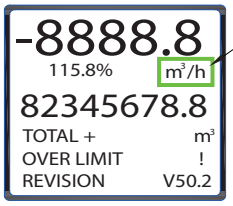
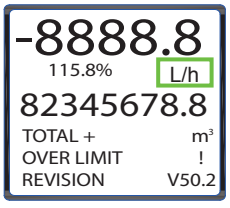
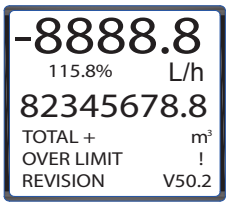
Steps	Operation Instructions	Interface Show
1	Click “C/CE” two times from measurement mode into configuration menu	
2	Click “→” to choice “Trim” item	

Steps	Operation instructions	Interface show
3	Click "↓" to choice "Tube Trim" item	
4	Click "→" into "Tube Trim" menu	
5	Click "↓" choice "Full Trim" item	
6	Click "→" into "Full trim" menu, click "→" to setup value of Full trim.	
7	Click "C/CE" quit setup menu , LCD show confirm menu	
8	Click "C/CE" quit confirm menu, LCD show confirm again menu	
9	Click "C/CE" to Full trim, after return configure option menu,(click "→" to give up modify.)	
10	When Trim finish, the LCD will automatically back Trim menu	

Steps	Operation instructions	Interface show
11	Click to choice Tube Region% Item, Click “C/CE” three times to back measurement mode.	
12	Click “→” into Trim Region% menu, Click “→” and “↓” to setup value of Trim region%, The value high means Region high, regular to setup 40%-60%	
13	Click “C/CE” quit setup menu , LCD show confirm menu	
14	Click “C/CE” to confirm data, after return Trim menu,	
15	Click “C/CE” three times from configuration menu to measurement menu, also you can continue other operation.	

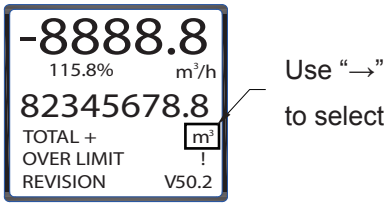
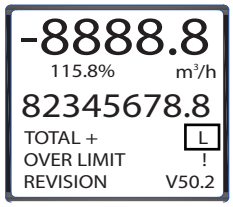
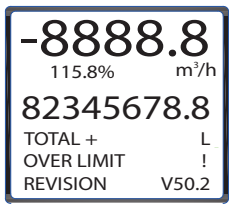
14.) Unit of flow

Adjust instant flow’s unit, the setting rangL/S,L/min,L/h,m3/S,m3/m,m3/h,gal/S,gal/m,gal/h

Steps	Operation instructions	Interface show
1	In the measurement mode, click “→” to choice flow unit	
2	Click “↓” to modify flow unit	
3	Click “C/CE” to confirm flow unit	

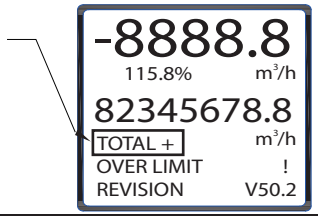
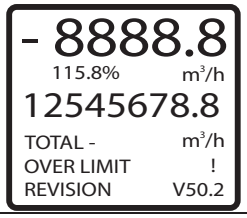
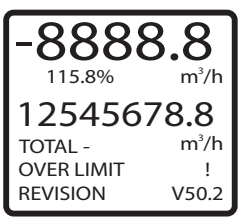
15.) Unit of Total

Adjust Total unit, setting rangeL,m^3,gal

Steps	Operation instructions	Interface show
1	In the measurement mode, click "→" to choice Total unit	
2	click "↓" to modify Total unit	
3	click "C/CE" to confirm Total unit	

16.) Direction of Total

Adjust Total direction, setting range is positive or negative

Steps	Operation instructions	Interface show
1	In the measurement mode, click "→ " to choice Total direction	
2	Click "↓" to modify Total direction	
3	Click "C/CE" to confirm Total direction	

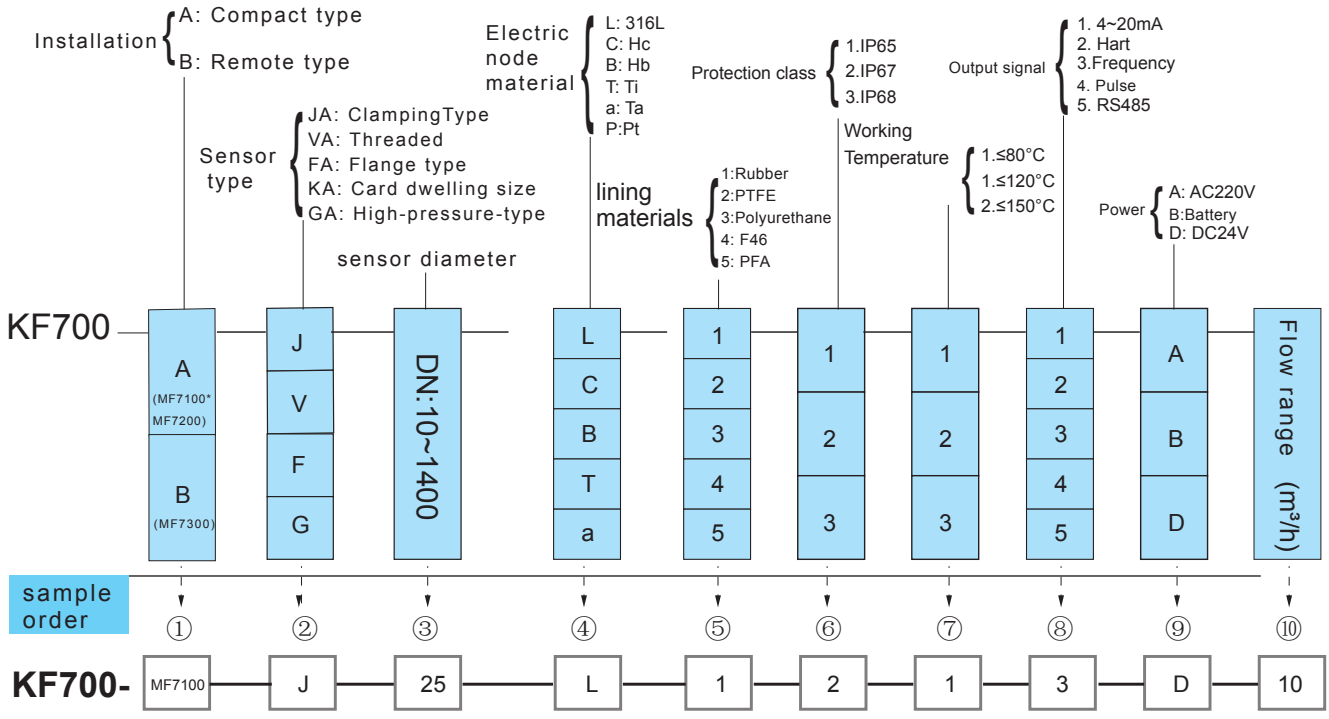
Note:

This section provides users with some common features of this converter operational guidance. Users need to reference 4.2 functional menu structure and description of 4.3 to select menu items to use other functions requested.

Ⅴ、Technical data

Sensors range	DN10 – DN3000
Measurement Flow range	0.03m/s -12m/s（Advice rangebetween 0.3m/s-10m/s）
Measurement Accuracy (relative with sensor diameter)	1、0.5 m/s-10 m/s：+0.5%（User select+0.3%、+0.2%） （Relate with sensor diameter） 2、 0.3 m/s-0.5 m/s：+0.5%
Repeatability	0.25%/0.1%（According Accuracy demand）
Environment Temperature	-20°C-55°C
Power supply	AC:85-265V,45-62Hz;DC：18-36V
Power rating	AC: 10 VA; DC: 10W
Grade of Protection	IP65 IP67
Output	1 power output : 4-20mA load is less than 750Ω 2 frequency output 0 5KHz (active or passive), maximum amplitude of 24V, load current 50 3 Pulse Output: can be set equivalent pulse, pulse frequency of 0.006Hz-5KHz (active or passive), Load current o.2
Communication	RS485 Modbus or HART
Display	English show display instantaneous flow rate, positive cumulative volume, the reverse cumulative amount of net accumulated Volume, flow rate percentage, velocity and various self-diagnostic information Current output self-calibration;
Control methods	Three key
Low cut off %	0.0%~9.9% adjusts (for Display or output)
Damping time	0.1s~99.9s adjusts (for Display or output)
Auto Trim	Current output self-calibration; Empty/full Trim; Zero Trim
Self-test function	Current frequency output self-test
self-diagnostic function	Excitation loop detection; Zero ,Empty and flow signal detection
Explosion proofing	Explosion proofing symbol Ex[ia]ia IICT5

Ⅵ、Type selection

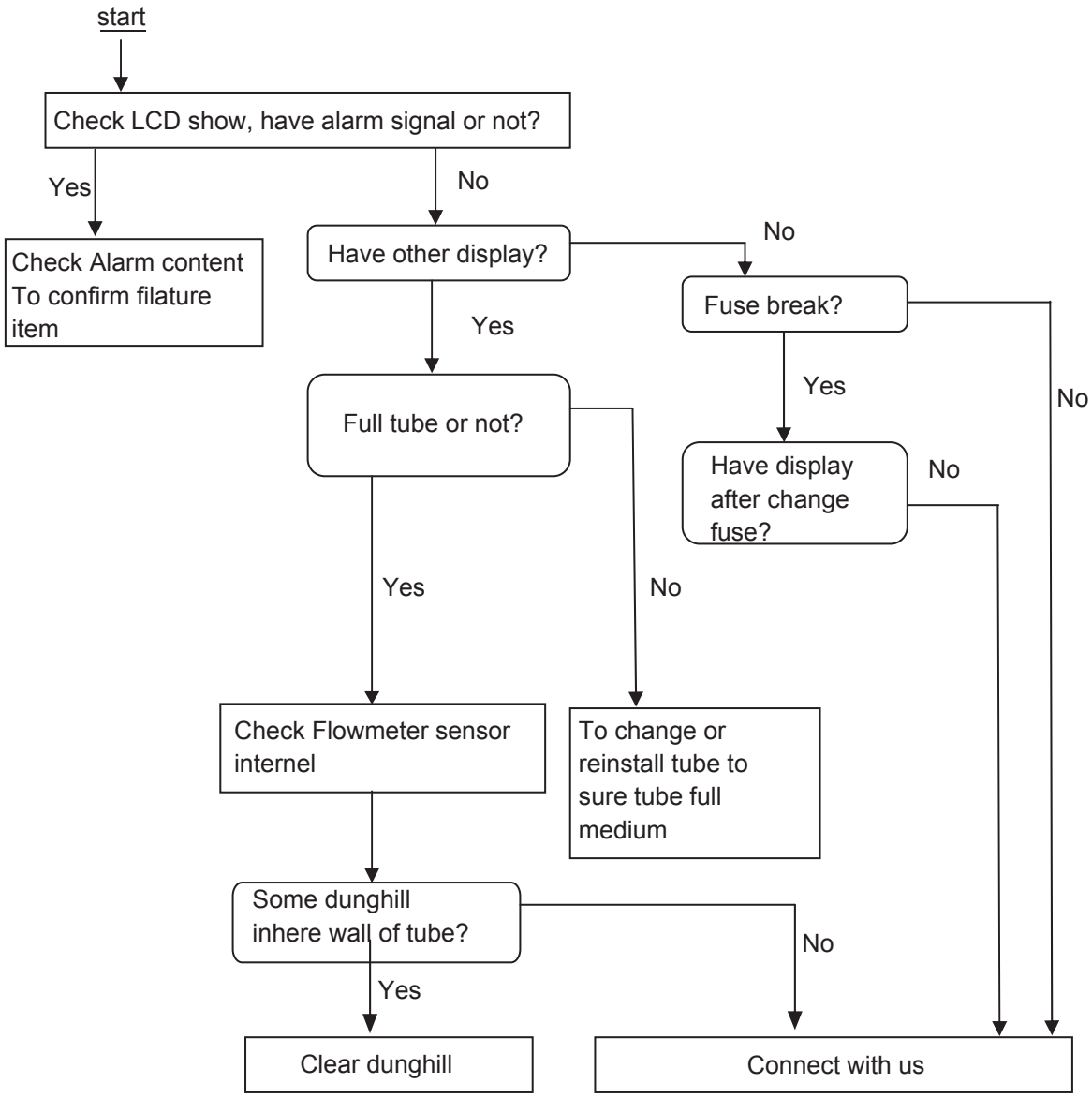


Ⅶ、Error information

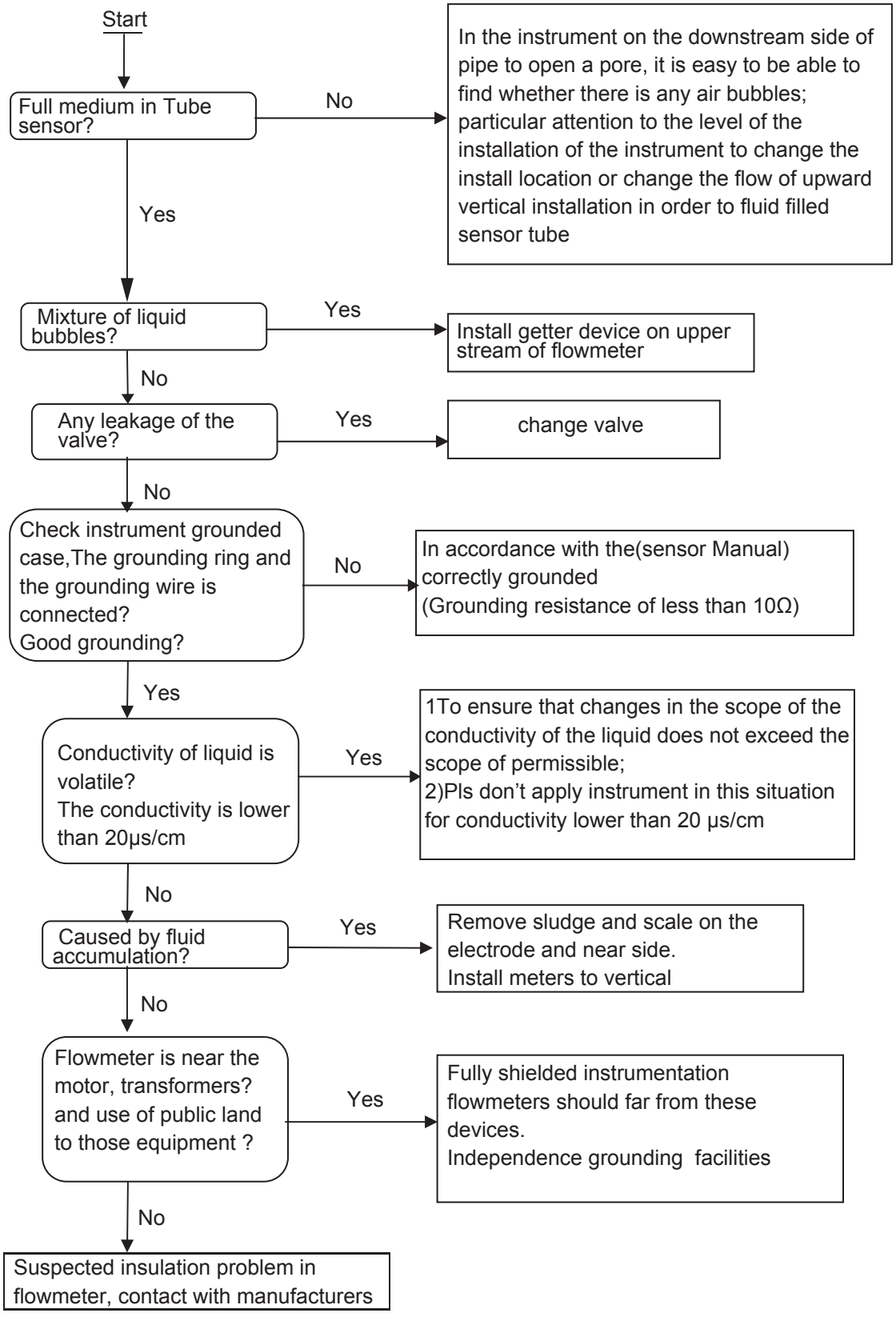
Error	Contents	Reason
Upper limit	Flow measurement value over than the upper limit value alarm	Limit alarm set value is lower than the flow measurement, modify the upper limit alarm settings
Lower limit	Flow measurement value lower than the lower limit value alarm	Limit alarm set value is over than the flow measurement, modify the lower limit alarm Settings
Excitation	Excitation circuit is not working correctly	A) check cables terminal and electrical excitation of the terminal connection is good or not B)check the sensor excitation circuit don't existence of open or short circuit C excitation coil temperature is too high D excitation frequency set too high
Empty tube	Empty tube stage is show zero or random data.	A)flow meter sensor is not full of medium B) electrode surface was completely covered by insulating layer C) signal lines to connect the signal is incorrect or open loop D)measuring low conductivity medium E)empty and full trim is not correct, or tube region % is high sensitivity settings
Zero point	Zero point value too High on zero trim	A) on the zero trim time, the flowmeter sensor medium in a state of non-full pipes B)on the zero trim time, the sensor tube in a non-static state media C) flowmeter grounding is incorrect or unreliable and technical requirements of re-grounding
Over range	Instant value exceeds instrument declare value	Over the instruments max allow the value, pls re-select the more Large diameter of the flowmeter

Ⅷ、Common failures and how to deal with

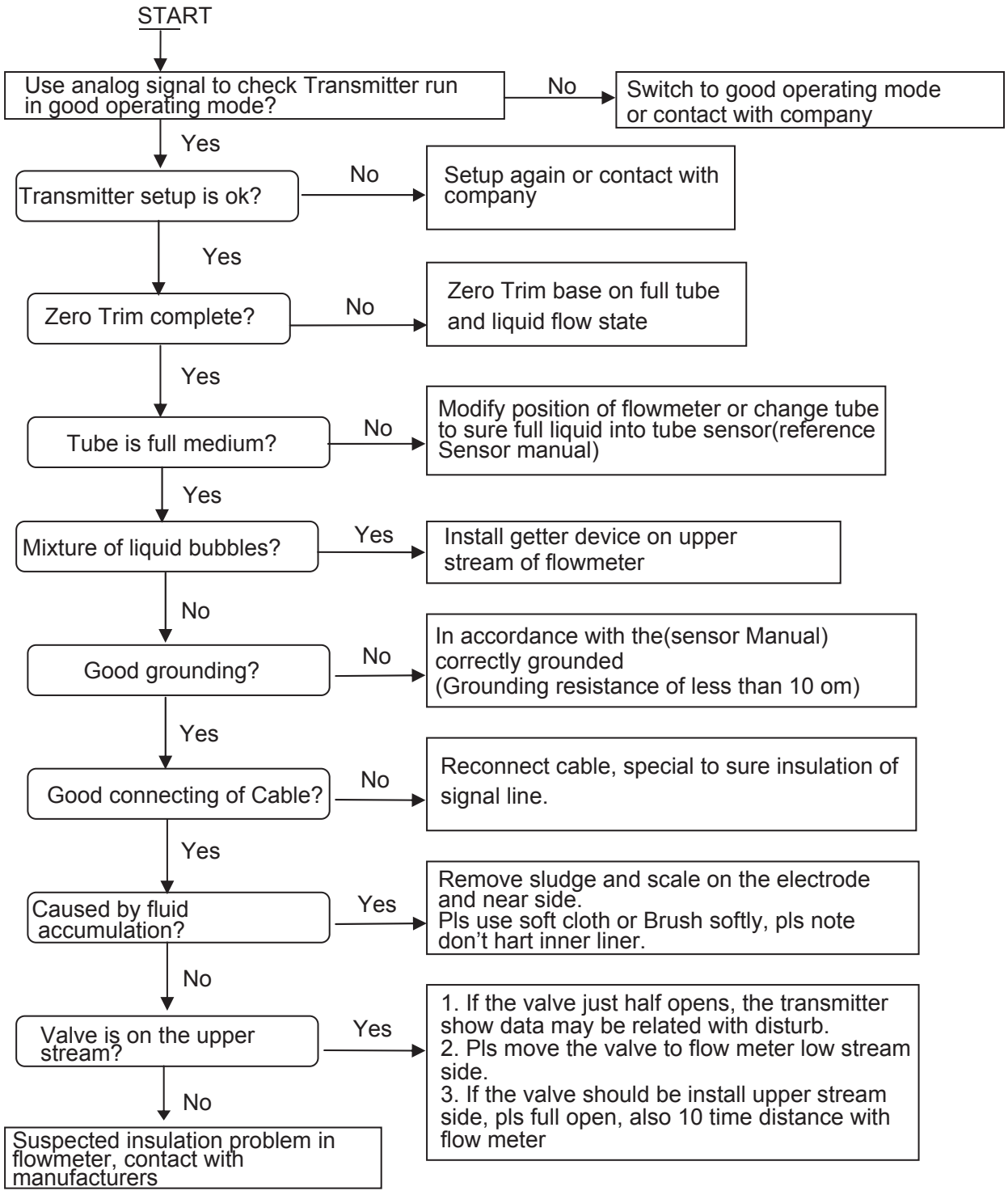
1、No flow data show on LCD



2、Zero point instability



3、Instrument show data inconsistent with the actual flow



9. Transportation, storage

In order to avoid transport and storage of the occurrence of unnecessary damage, in the process of transport and storage of the following items should be noted that

1) In order to prevent the functioning of the process of instrument in damage and lost, before arrival at the installation site, please keep the packaging when the company shipped state.

2) To be handled carefully during transportation to avoid brutal to loading and unloading.

3) Arrived at the scene should be carefully unloaded, in accordance with the contents of each item packing list check, if missing or not in conformity for those issues, pls contact with the company.

4) Instrument storage sites must meet the following requirements for indoor

a) drying, ventilation and avoid erosion of corrosive gas

b) a small mechanical vibration to avoid the impact to flowmeter.

c) Environment temperature range. -20 ~ 60°C

d)The humidity should be small than 80%;

5) If instrument doesn't use for a longer term, Pls keep good protection as the factory instrumentation.