

Operation manual

1.0 Menu Operation



ALM1: IN signal input warning lamp
 ALM2: OUT signal input warning lamp
 TX1: IN flow signal lamp
 RX1: OUT flow signal lamp
 TX2: Indicator of data sending
 RX2: Indicator of data receiving

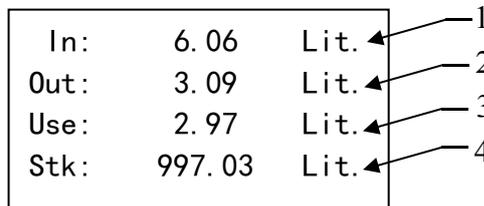
The meter is operated by keypad, and there are some parameters need to be set when installing. The instrument has four keys, from left to right in order of MENU、《 (left shift)、》 (right shift)、⤴(Up)、⤵ (Down) five keys, and the keys are explained as follows:

Symbol	Name	Function
MENU	Setting key	1. enter the parameter setting; 2, switch to display each parameter item; 3, modify and set the parameter to confirm the new parameter value.
《 (left shift)	Left shift	Mobile cursor position;
》 (right shift)	Right shift	Mobile cursor position; Press the right shift key on the main interface to display the accumulative consumption of oil;
⤴(Up)	Up key	Make the numeric value of the cursor position from 0 to 9 or option switching; Press the Up key on the main interface to display the instantaneous oil consumption figures;
⤵(Down)	Down key	Make the numeric value of the cursor position from 9 to 0 or option switching; Press the Down key on the main interface to display the running time;

1.1 Menu instruction

After powering on, the meter will do self-checking.

If the system is abnormal after self-checking, the meter will display the interface of error self-checking (Details in self-test menu). 1~2 seconds later, the meter will enter the main screen 1 automatically.



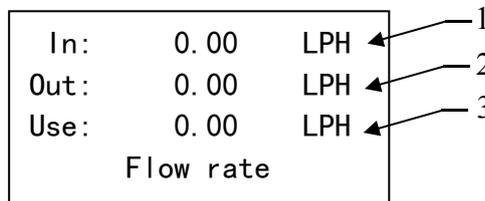
Interface 1 (Push down to“》”(right shift) display the of oil Flow total)

Display definition: Label 1:In: accumulative value of imported oil;

Label 2:Out: accumulative value of export oil;

Label 3:Use: oil deplete, oil consumption = imported oil - export oil.

Label 4:Stk: residual oil;



Interface 2(Push down to“ \approx ”(Up) display the instantaneous consumption of oil Flowrate)Display definition: Label 1:In: Flowrate of imported oil;

Label 2: Out: Flowrate of export oil;

Label 3: Use: Instantaneous oil deplete, Instantaneous oil deplete = Flowrate of imported oil - Flowrate of export oil;

Use:	0.03	H:M	← 1
In:	0.02	H:M	← 2
Out:	0.02	H:M	← 3
2018-01-01 12:02:25			← 4

Interface 3(Push down to“ \sphericalangle ”(Down) Display run time, Unit: HHHH.MM)

Display definition: Label 1: Use: Use time; Label 2: In: IN time;

Label 3: Out: Out time Label 4: Clock

2.0steup

2.1 Main Menu

Under the main interface, press the MENU key to enter the menu interface. Select the corresponding menu item by “Up”、 “Down” and press the MENU key. The operation of each menu item can be illustrated by the following sections, which are simply as follows:

- 1.Export and query
- 2.Communication setup
- 3.Process for input pls.
- 4.Output Setup
- 5.Process for reset
- 6.Calibration
- 7.Display unit
- 8.Change Password
- 9.Data and time
- 10.Self-test information

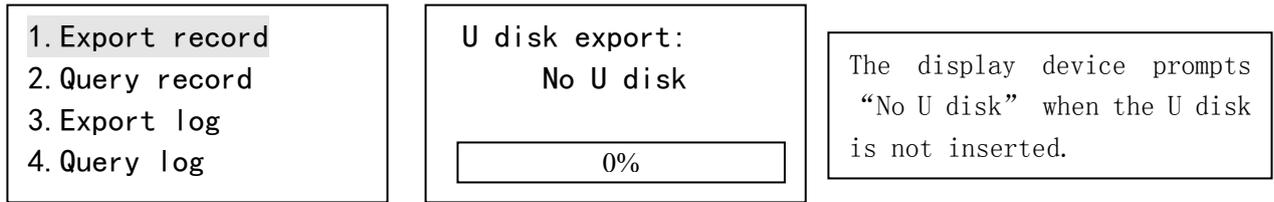
2.2 Export and query

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select Export and query submenu, and then press ENTER key to enter. In Query submenu, there are records of Export record、 Query record、 Export log、 Query log. Press Up or Down key to select the inquiry record, and then press ENTER key to query

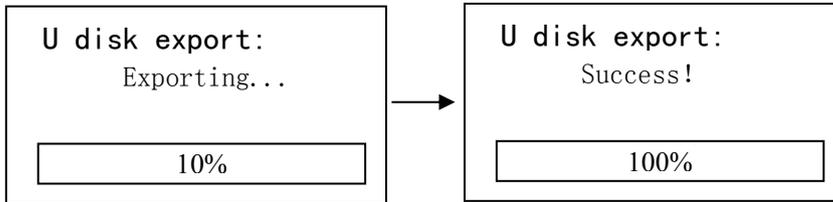
- 1.Export record
- 2.Query record
- 3.Export log
- 4.Query log

2.2.1 Export record

Press Up or Down key to select Export record, and then press ENTER key to enter, Record format is the record of fuel consumption. As shown below.



When the U disk is inserted, the instrument exports the data. As shown below:

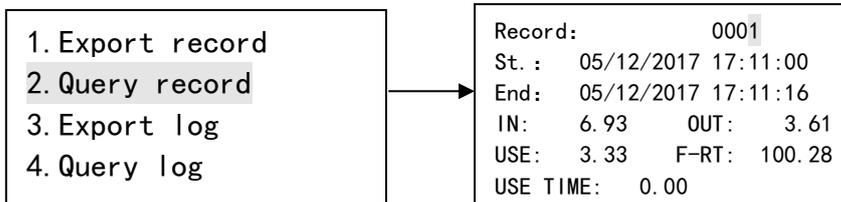


The export data format is ".Csv", and the data can be opened in the computer EXCEL software. The data is shown in the following diagram. As shown below

	A	B	C	D	E	F	G	H	I
1	START DATE	START TIME	END DATE	END TIME	IN TOTAL	OUT TOTA	USE TOTAL	USE F-RT	USE TIME
2	05/12/2017	17:11:00	05/12/201	17:11:16	6.93	3.61	3.33	100.28	0

2.2.2 Query record

Press Up or Down key to select Query record, and then press ENTER key to enter, Record format is the record of fuel consumption. shown as below.



Record definition: St.: Start time End: End time

IN: accumulative value of imported oil OUT: accumulative value of export oil

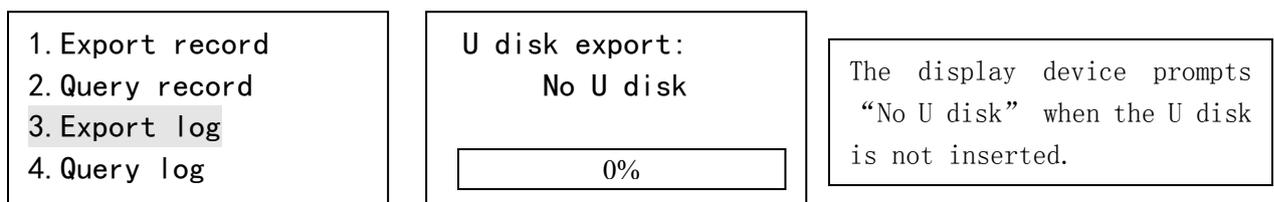
USE: oil deplete F-RT: Instantaneous oil deplete

USE TIME: run time

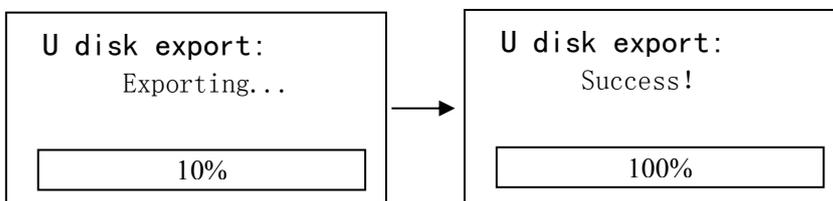
When querying, press up and down keys to switch each record content, Left and right key mobile cursor position, with up to 1500 data.

2.2.3 Export log

Press Up or Down key to select Export log, and then press ENTER key to enter, Record format is the record of fuel consumption. shown as below.



When the U disk is inserted, the instrument exports the data. As shown below:

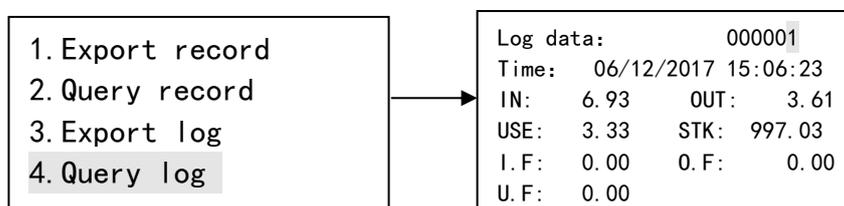


The export data format is “.Csv”, and the data can be opened in the computer EXCEL software. The data is shown in the following diagram. As shown below

	A	B	C	D	E	F	G	H	I
1	DATE	TIME	IN TOTAL	OUT TOTAL	USE TOTAL	STOCK	IN FLOW	OUT FLOW	USE FLOW
2	09/12/201	12:21:38	6.06	3.09	2.97	997.03	0	0	0
3	09/12/201	12:21:43	6.06	3.09	2.97	997.03	0	0	0
4	09/12/201	12:21:48	6.06	3.09	2.97	997.03	0	0	0
5	09/12/201	12:21:53	6.06	3.09	2.97	997.03	0	0	0

2.2.4 Query log

Press Up or Down key to select Query log, and then press ENTER key to enter, Record format is the record of fuel consumption. shown as below.



Record definition: Time: Recording time

IN: accumulative value of imported oil OUT: accumulative value of export oil

USE: oil deplete F-RT: Instantaneous oil deplete STK: residual oil

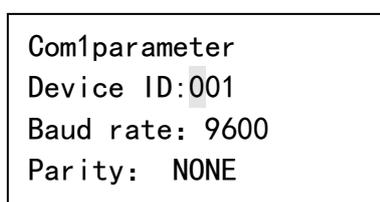
I.F: imported flowrate O.F: export flowrate

U.F: Instantaneous oil deplete

When querying, press up and down keys to switch each record content, Left and right key mobile cursor position, with up to 250000 data.

2.3 Communication setup

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select Communication setup submenu, and then press ENTER key to enter. shown as below.

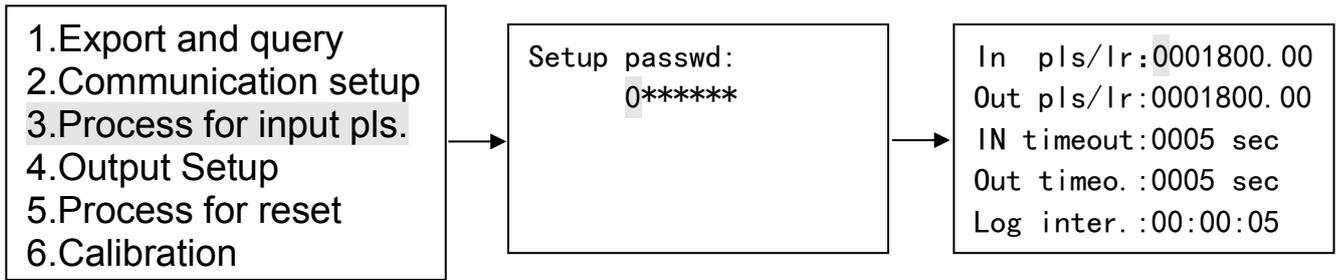


RS485 communication setup: The meters address range: 0~255. Baud rate can be selected 1200, 2400, 4800 and 9600. Parity check can be selected none, odd and even.

Setting parameters press Right key to shift cursor, and then press Up/Down key to set the values.

2.4 Process for input pls.

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Process for input pls.” submenu, Enter the password (password factory default is 000000), then press ENTER key to enter. shown as below.



In pls/lr: imported Flowmeter Coefficient

Out pls/lr: export Flowmeter Coefficient

IN timeout: Stop alarm time of import flowmeter signal, when normal operation, the import flowmeter acquisition signal is 0, this state exceeds the set alarm time, the fuel consumption meter will alarm and prompt.

Out timeo.: Stop alarm time of export flowmeter signal, when normal operation, the export flowmeter acquisition signal is 0, this state exceeds the set alarm time, the fuel consumption meter will alarm and prompt.

Log inter.: Log record preservation interval, Hours / minutes / seconds

Setting parameters press Right key to shift cursor, and then press Up/Down key to set the values.

The signal is prompted as follows:

```

Warning
out flow sensor not
work, check out flow
sensor: wiring/pulse
value/clean gear
  
```

Import flow meter signal to stop alerting

```

Warning
in IN flow sensor not
response than: check INLINE
FLOW sensor: wiring/pulse
value/clean gear
  
```

export flow meter signal to stop alerting

2.5 Output Setup

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Output Setup” submenu, then press ENTER key to enter. This option menu set parameters reserved, no need to set. shown as below.

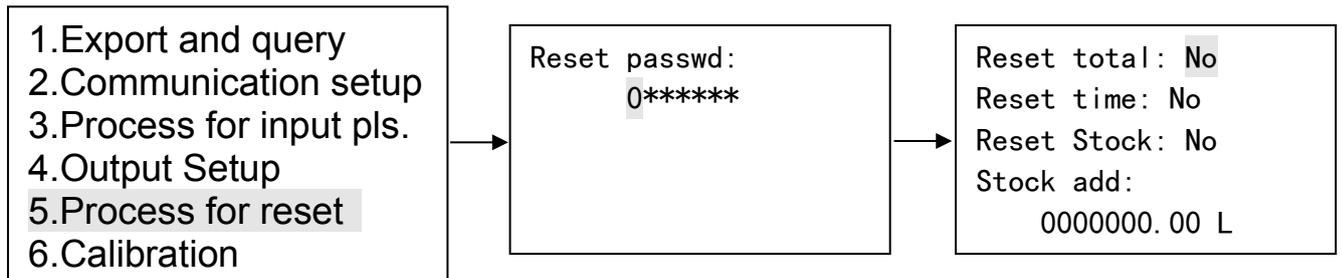
```

1. Current output
2. Frequency output
3. Alarm output1
4. Alarm output2
  
```

2.5 Process for reset

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Process for reset” submenu, Enter the password (password factory default is 000000), then press ENTER key to enter. shown as below.

2.5.1 Total reset



Reset total: The flow total is cleared, right-click the cursor position, the up key changed to "yes" can be cleared.

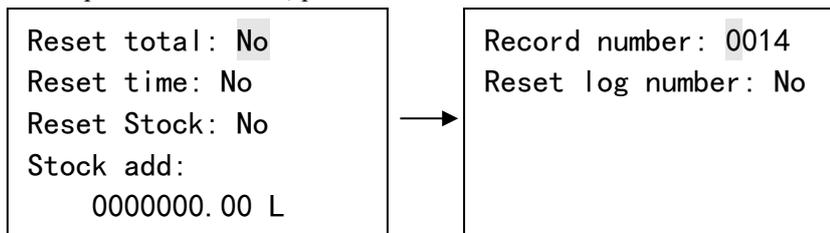
Reset time: The Clear running time, right-click the cursor position, the up key changed to "yes" can be cleared.

Reset Stock: The remaining oil is cleared, right-click the cursor position, the up key changed to "yes" can be cleared.

Stock add: Set fuel loading, setting parameters press Right key to shift cursor, and then press Up/Down key to set the values.

2.5.2 Record cleared

After the above parameters are set, press ENTER to enter record clear submenu. shown as below.

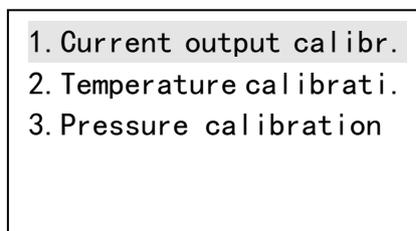


Record number: Equipment start and stop record number, reset only need to change the value of 0000, start and stop recording at this time 0. setting parameters press Right key to shift cursor, and then press Up/Down key to set the values.

Reset log number: Log record is cleared, right-click the cursor position, the up key changed to "yes" can be cleared.

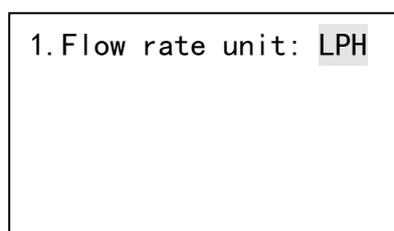
2.6 Calibration

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select "Calibration" submenu, then press ENTER key to enter. This option menu set parameters reserved, no need to set. shown as below.



2.7 Display unit

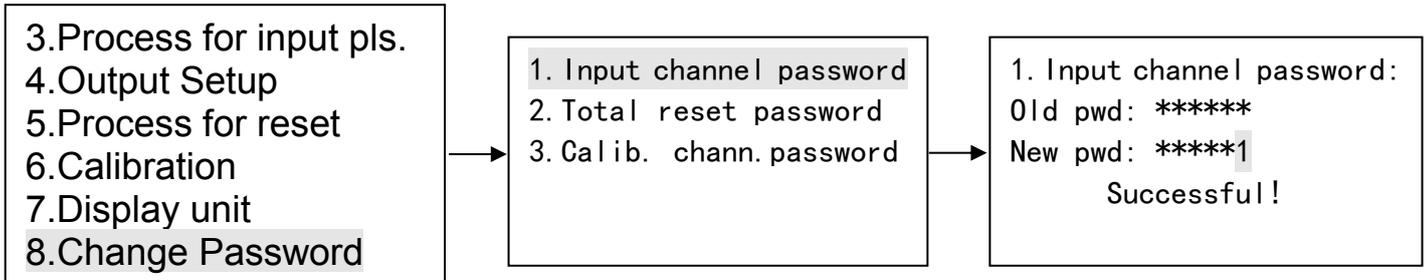
In main menu, press the MENU key to enter the menu interface, press Up or Down key to select "Display unit" submenu, Enter the password (password factory default is 000000), then press ENTER key to enter. shown as below.



Flowrate unit selection, unit support LPH、LPM、GPM. Press UP button to change the unit, enter to save and exit.

2.8 Change Password

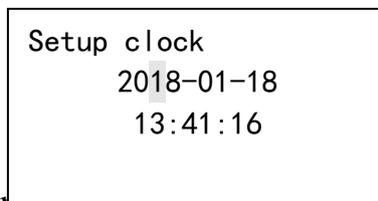
In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Change Password” submenu, then press ENTER key to enter. shown as below.



Press Right key to shift cursor on Input channel, press ENTER key to enter setup password menu, input old and new passwords, and then press ENTER key, it will display “Successful!”. The setup method of calibrate and total reset password is the same as that of Input channel password.

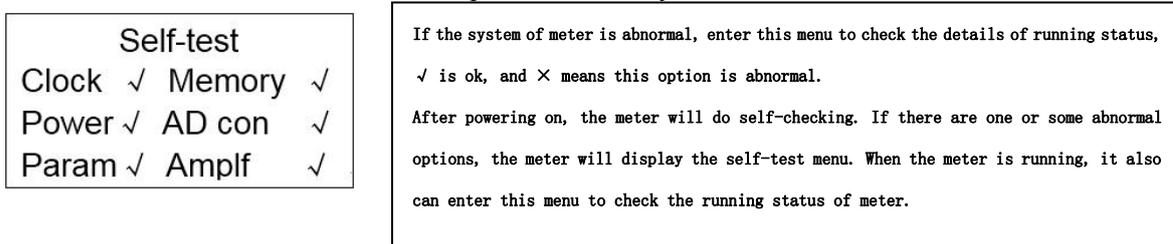
2.9 Data and time

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Change Password” submenu, then press ENTER key to enter. Setting parameters press Right key to shift cursor, and then press Up/Down key to set the values. shown as below.



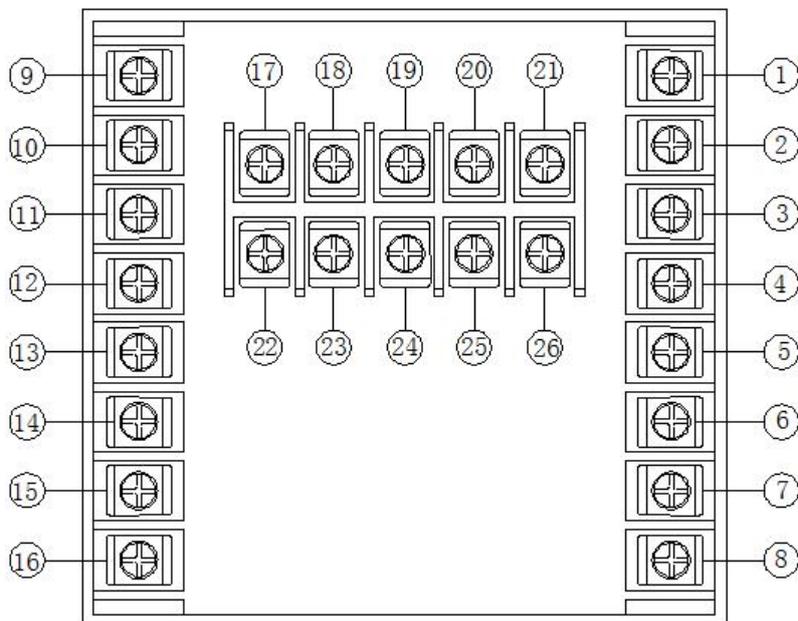
2.10 Self-test information

In main menu, press the MENU key to enter the menu interface, press Up or Down key to select “Self-test information” submenu, then press ENTER key to enter.



3.0 Wirings

3.1 Wiring Terminals



Terminals Definition

No.	Definition	No	Definition
1	Alarm 1 normally-closed	14	Out Sensor signal
2	Alarm 1 normally-open	15	Blank
3	Alarm 1 common contact	16	Blank
4	Alarm 2 normally-closed	17	Power supply GND
5	Alarm 2 normally-open	18	Power supply +24V
6	Alarm 2 common contact	19	Blank
7	AC220V N	20	Blank
8	AC220V L	21	Blank
9	IN Sensor Power +	22	Blank
10	IN Sensor Power -	23	Blank
11	IN Sensor signal	24	Blank
12	Out Sensor Power +	25	Blank
13	Out Sensor Power -	26	Blank