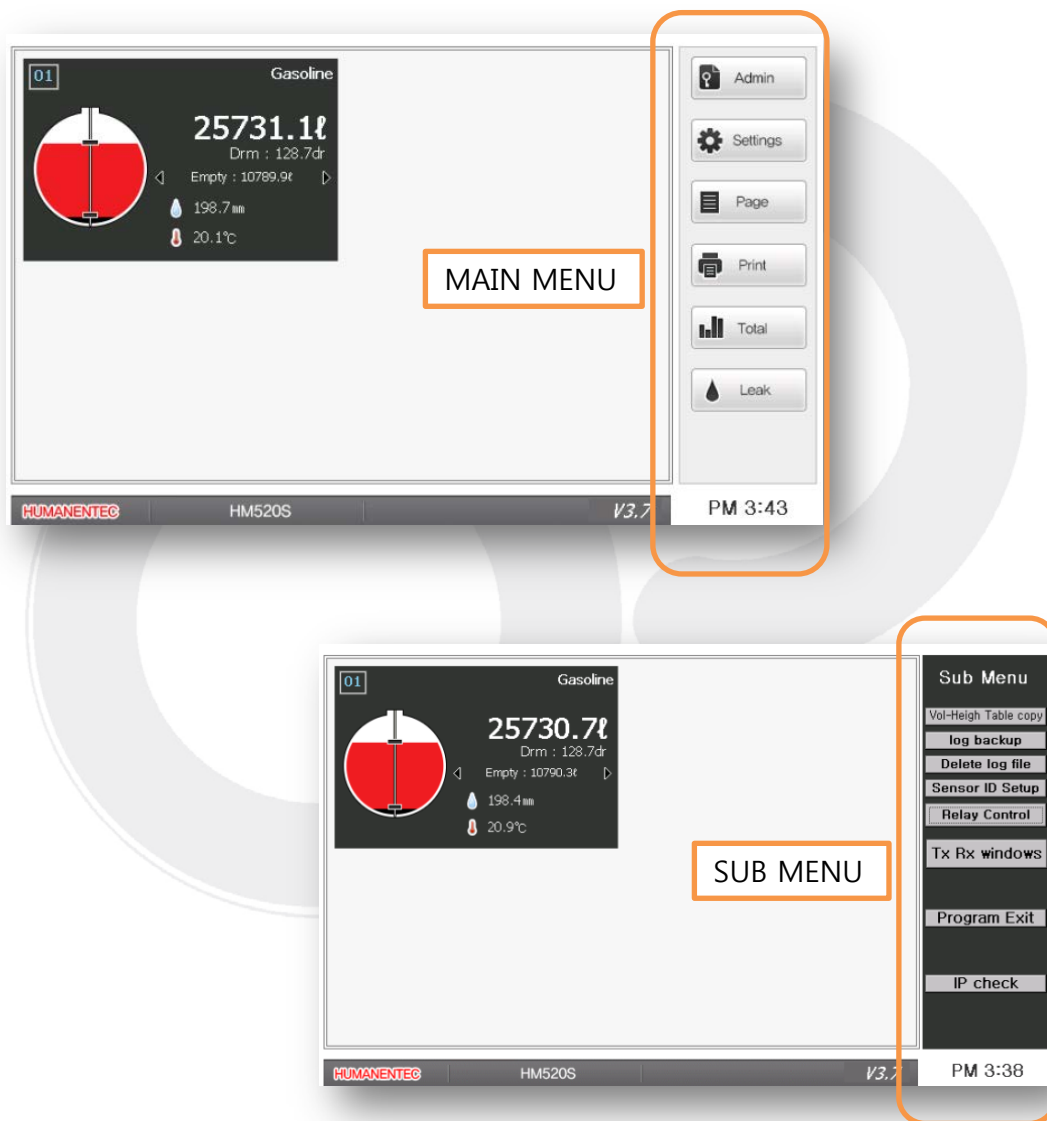


HM720B SOFTWARE MANUAL



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NOTE

1. Instruction

- Thank you for purchasing Tank Level Gauge system. To ensure the safe operation and the proper operation of the HM520S & HM720B, we strongly recommend that you read the following information carefully before use. If you require further information, please contact your local supplier or manufacturer. This Installation and operating manual explains how to operate and maintain the HM520S ,HM720B and software.

2. Warranty

- * Humanentec warrants to the original purchaser that this products will be free from defects in material and/or workmanship under normal use and service for a period of a year from the date of the installation or for a period of 12 months from the date of the purchase whichever comes first.
- * This warranty does not include damage to product or components resulting from abuse, accident, alteration, climatic/environmental conditions, damage beyond normal use, freight damage, mishandling, misuse, or unauthorized repair.
- * This warranty applies only when the product is installed in accordance with Humanentec's specifications and a warranty registration by an authorized distributor.
- * Inquiries with regard to problems with the equipment shall be accepted by our local dealer representative.

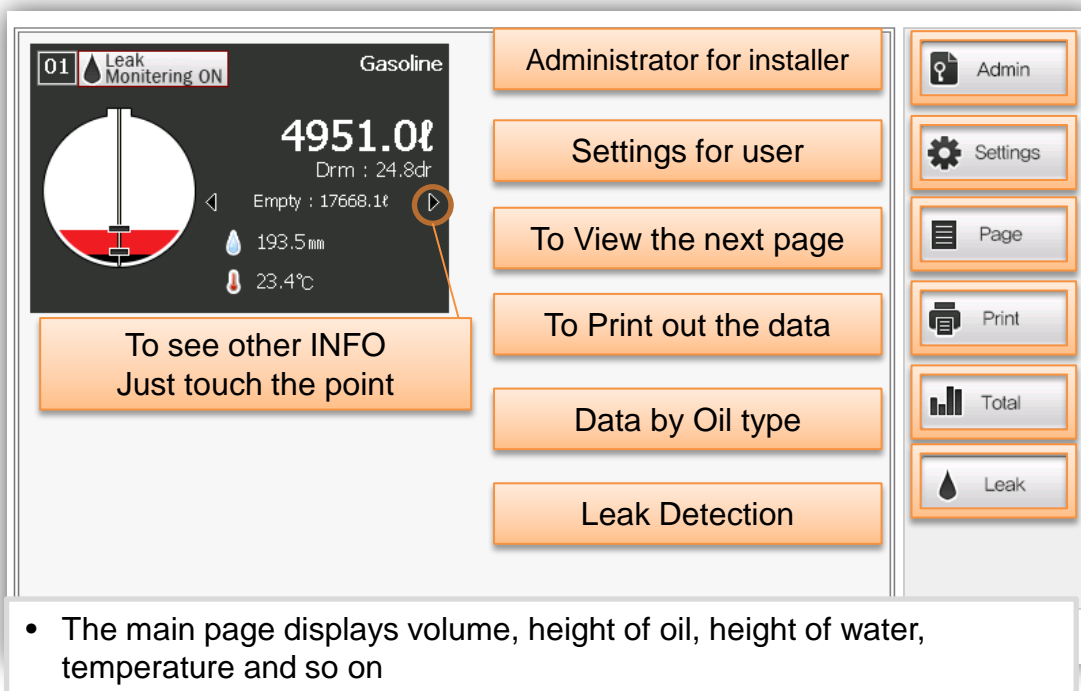
- Whether or not the defective equipment is repaired for free of charge depends on the result of Humanentec's inspection.
- Maximum duty of manufacturer and distributor are limited to the total amount paid by the customer. The limitations or exclusions of warranty have priority over any other warranty expressed explicitly, implicatively, in writing, or orally.

3. Safety notice

Safety notices in this manual detail precautions the user must reduce the risk of personal injury and damage to the equipment by following the instructions written on this manual. The user must read these instructions before installation, operation or maintenance.

- For where hazardous area contained explosive gas, use flameproof enclosures.
- Do not apply large vibration or impact to HM520S that causes physical and transmissional damage. The probe must be handled with extra caution during any transportation and operation at all time.
- If the probe is used out of allowed temperature written in specification, the sealing materials deteriorate quickly therefore probe may not operate in normal condition.
- Do not open junction box cover and products when energized.
- Be sure that the terminal cover and body cover are put on during the operation.
- Do not open junction box cover when energized.
- Do not connect to 250v or greater voltage power
- Please check battery and electrical leakage before plugging in power.

Main page



The main page displays a gas station monitor interface. On the left, a circular gauge shows the oil level, with a red section at the bottom. To the right of the gauge, the following information is displayed: "Gasoline", "4951.0ℓ", "Drm : 24.8dr", "Empty : 17668.1ℓ", "193.5mm", and "23.4°C". A callout box points to a small play button icon on the right side of the gauge, stating: "To see other INFO Just touch the point".

On the right side of the main display, there are five orange buttons stacked vertically:

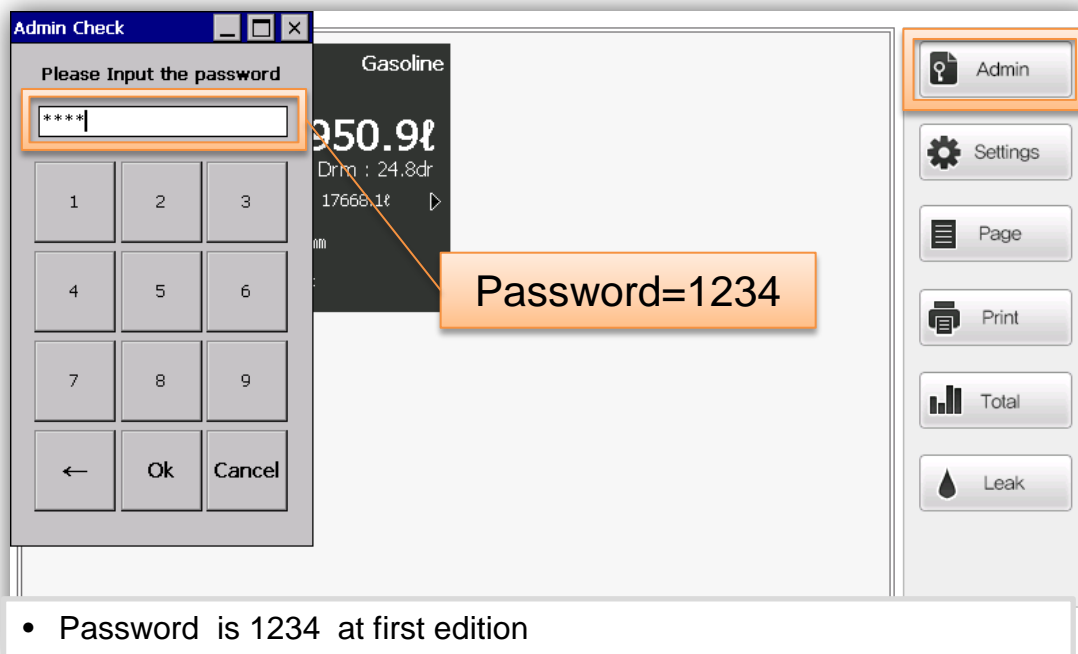
- Administrator for installer
- Settings for user
- To View the next page
- To Print out the data
- Data by Oil type
- Leak Detection

On the far right, there is a vertical sidebar with a grey background, containing several buttons with icons:

- Admin (with a user icon)
- Settings (with a gear icon)
- Page (with a document icon)
- Print (with a printer icon)
- Total (with a bar chart icon)
- Leak (with a drop icon)

- The main page displays volume, height of oil, height of water, temperature and so on

Admin Password

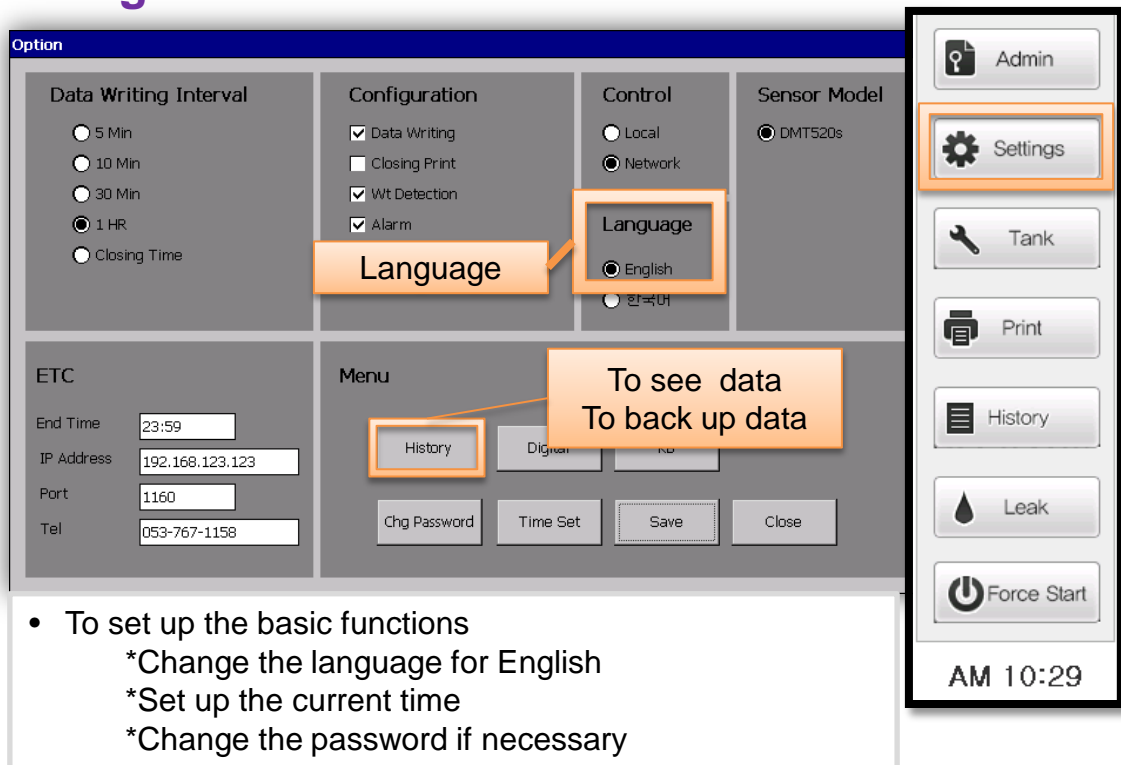


The "Admin Check" dialog box is overlaid on the main page. It has a title bar that says "Admin Check" and a subtitle "Please Input the password". Below the subtitle is a password input field containing four asterisks "****". Below the input field is a numeric keypad with buttons for digits 1 through 9, a back arrow, and "Ok" and "Cancel" buttons. A callout box points to the numeric keypad, stating: "Password=1234".

The background shows the same main page interface as the previous screenshot, but the "Admin" button in the sidebar is highlighted with an orange border.

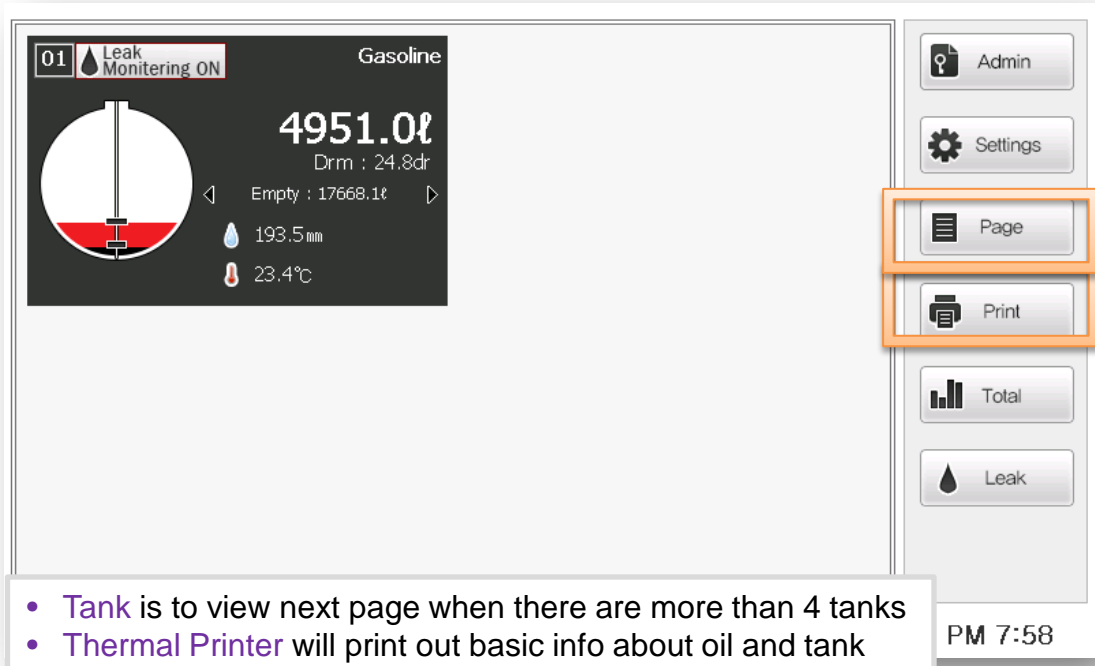
- Password is 1234 at first edition

Settings



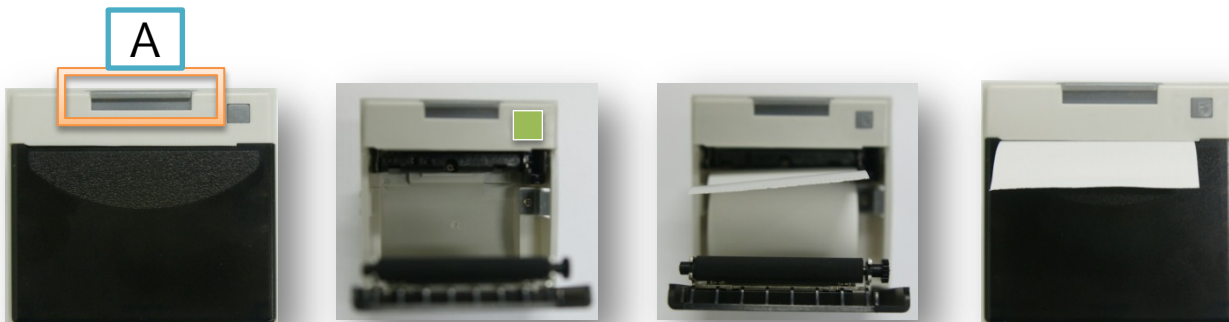
- To set up the basic functions
 - *Change the language for English
 - *Set up the current time
 - *Change the password if necessary

Tank & Print



- Tank is to view next page when there are more than 4 tanks
- Thermal Printer will print out basic info about oil and tank

Printer paper replacement



- 60mm Thermal Printer will print out basic info about oil and tank
 - Green light will flash when there is no paper
1. Button(A) needs to be pressed for opening the black cover
 2. Insert right size(60mm or less) of paper correctly in the printer
 3. Close the cover of it
 4. Printer is ready for use

History

History								
	#idx	Time	TankNum	Oil(mm)	Gross(L)	Net(L)	Temp.	Water(mm)
2014-2-3.txt	8	0:0	800	1,234.123	20,482.9	19,994.4	41.5	0.0
2014-2-4.txt	8	0:5	800	1,234.123	20,482.9	19,994.4	41.5	0.0
2014-2-5.txt	8	0:10	800	1,234.123	20,482.9	19,994.4	41.5	0.0
2014-2-7.txt	8	0:15	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:20	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:25	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:30	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:35	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:40	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:45	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:50	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	0:55	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:0	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:5	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:10	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:15	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:20	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:25	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:30	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:35	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:40	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:45	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:50	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	1:55	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:0	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:5	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:10	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:15	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:20	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:25	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:30	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:35	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:40	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:45	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:50	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	2:55	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	3:0	800	1,234.123	20,482.9	19,994.4	41.5	0.0
	8	3:5	800	1,234.123	20,482.9	19,994.4	41.5	0.0

Admin
Settings
Tank
Print
History
Leak
Force Start

AM 10:29

- To see history of oil management for certain period

Leak detection

Leak Test Result

Tank 1	Start Time	Gross	End Time	Gross	difference	Result
Tank 1						

- Backup to USB: To save data on USB
- History: To see data on screen immediately
 - ✓ Leak detection related information/history is available
 - ✓ USB 1.1 port compatible device required
 - ✓ HM700B only stores the data for 90days
 - ✓ If necessary, data backup is required for user's purpose

AM 10:29

Administrator

Administrator

01 Total Num	1
02 Mode	1
03 Alarm	1
04 Print Mode	1
05 Port	1
06 Detect Wt	1
07 Market Tp	1
08 Office	Test
09 Port 2	3

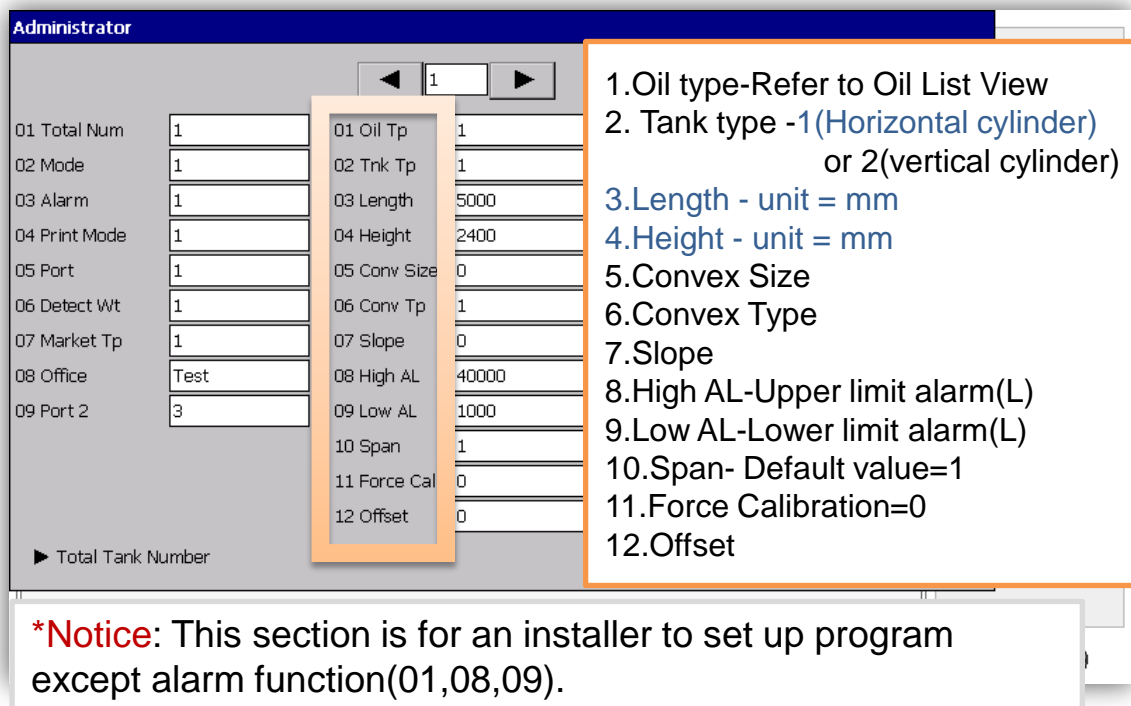
12 Offset

► Total Tank Number

1. Total Number of sensors
2. Mode- Default value=1
3. Alarm- Default value=1(for use)
4. Print Mode -Default value=1(for use)
5. Port -Default value=1
6. Detecting water in a tank –Default value=1
7. Market type -Default value=1
8. Office name or Oil station name
9. Port2 –Default value=3

***Notice:** This section is for an installer to set up program except 08 area(08).

Administrator

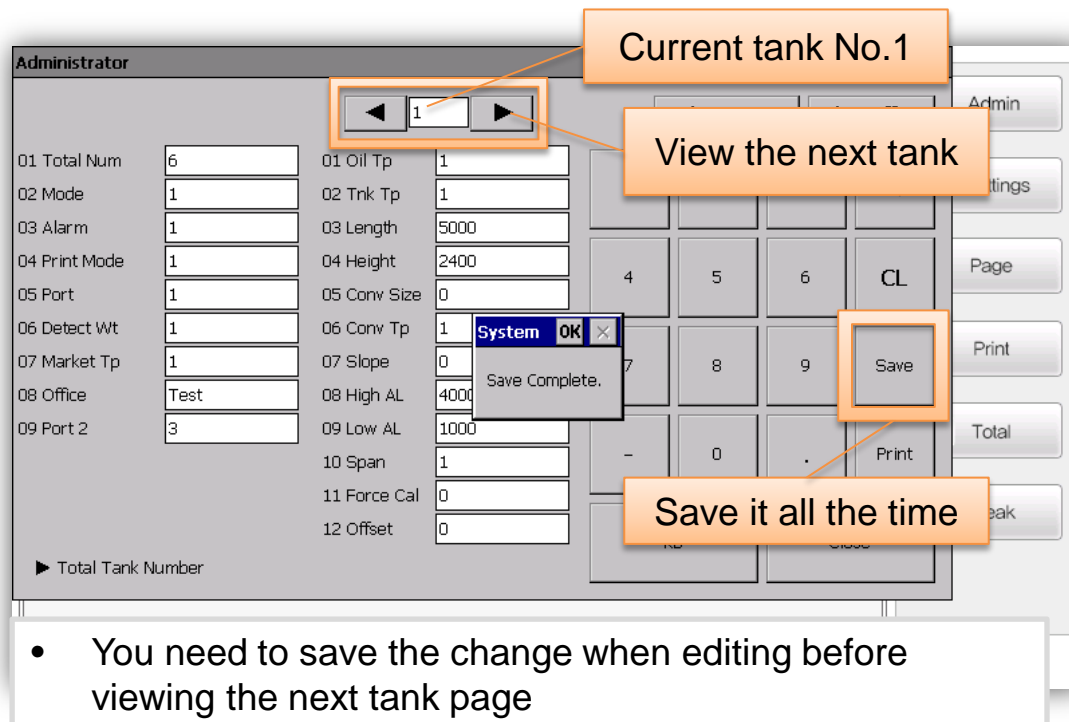


Administrator

1. Oil type-Refer to Oil List View
 2. Tank type -1 (Horizontal cylinder) or 2 (vertical cylinder)
 3. Length - unit = mm
 4. Height - unit = mm
 5. Convex Size
 6. Convex Type
 7. Slope
 8. High AL-Upper limit alarm(L)
 9. Low AL-Lower limit alarm(L)
 10. Span- Default value=1
 11. Force Calibration=0
 12. Offset

***Notice:** This section is for an installer to set up program except alarm function(01,08,09).

Save



Administrator

Current tank No.1

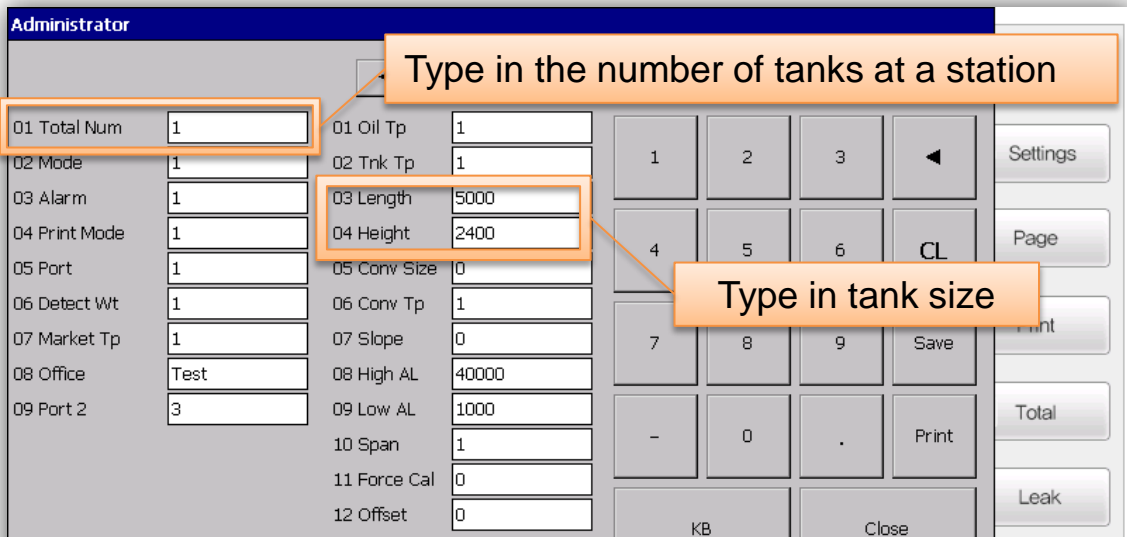
View the next tank

Save Complete.

Save it all the time

- You need to save the change when editing before viewing the next tank page

Administrator



Administrator

Type in the number of tanks at a station

01 Total Num 1

01 Oil Tp 1

02 Mode 1

02 Trnk Tp 1

03 Alarm 1

03 Length 5000

04 Print Mode 1

04 Height 2400

05 Port 1

05 Conv Size 0

06 Detect Wt 1

06 Conv Tp 1

07 Market Tp 1

07 Slope 0

08 Office Test

08 High AL 40000

09 Port 2 3

09 Low AL 1000

10 Span 1

11 Force Cal 0

12 Offset 0

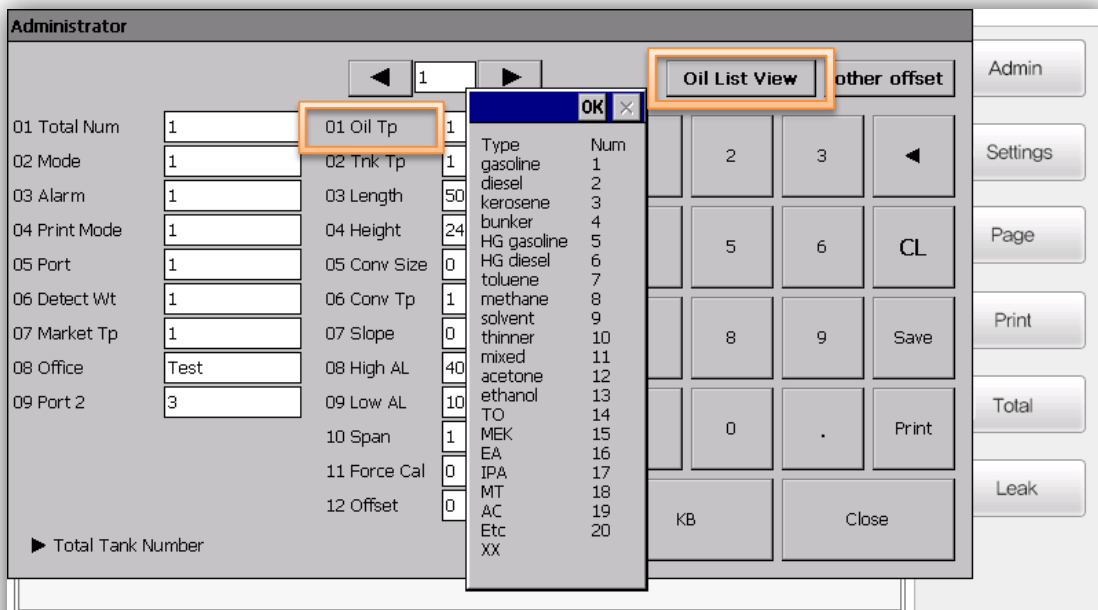
Type in tank size

KB Close

Settings Page Print Total Leak

- This section is only for local dealer / technician, not for users
- Please consult with installer or manufacturer
- Type in appropriate numbers at each space

Oil list view



Administrator

Oil List View

01 Total Num 1

01 Oil Tp 1

02 Mode 1

02 Trnk Tp 1

03 Alarm 1

03 Length 50

04 Print Mode 1

04 Height 24

05 Port 1

05 Conv Size 0

06 Detect Wt 1

06 Conv Tp 1

07 Market Tp 1

07 Slope 0

08 Office Test

08 High AL 40

09 Port 2 3

09 Low AL 10

10 Span 1

11 Force Cal 0

12 Offset 0

► Total Tank Number

OK X

Oil List View

other offset

2 3

5 6 CL

8 9 Save

0 . Print

KB Close

Settings Page Print Total Leak

- Insert in number of oil type from the list

00

Alarm

Administrator

Oil List View other offset Admin Settings

01 Total Num 1 01 Oil Tp 1

02 Mode 1 02 Trnk Tp 1

03 Alarm 1 03 Length 5000

04 Print Mode 1 04 Height 2400

05 Port 1 05 Conv Size 0

06 Detect Wt 1 06 Conv Tp 1

07 Market Tp 1 07 Slope 0

08 Office Test 08 High AL 40000

09 Port 2 3 09 Low AL 1000

10 Span 1

11 Force Cal 0

12 Offset 0

► Total Tank Number

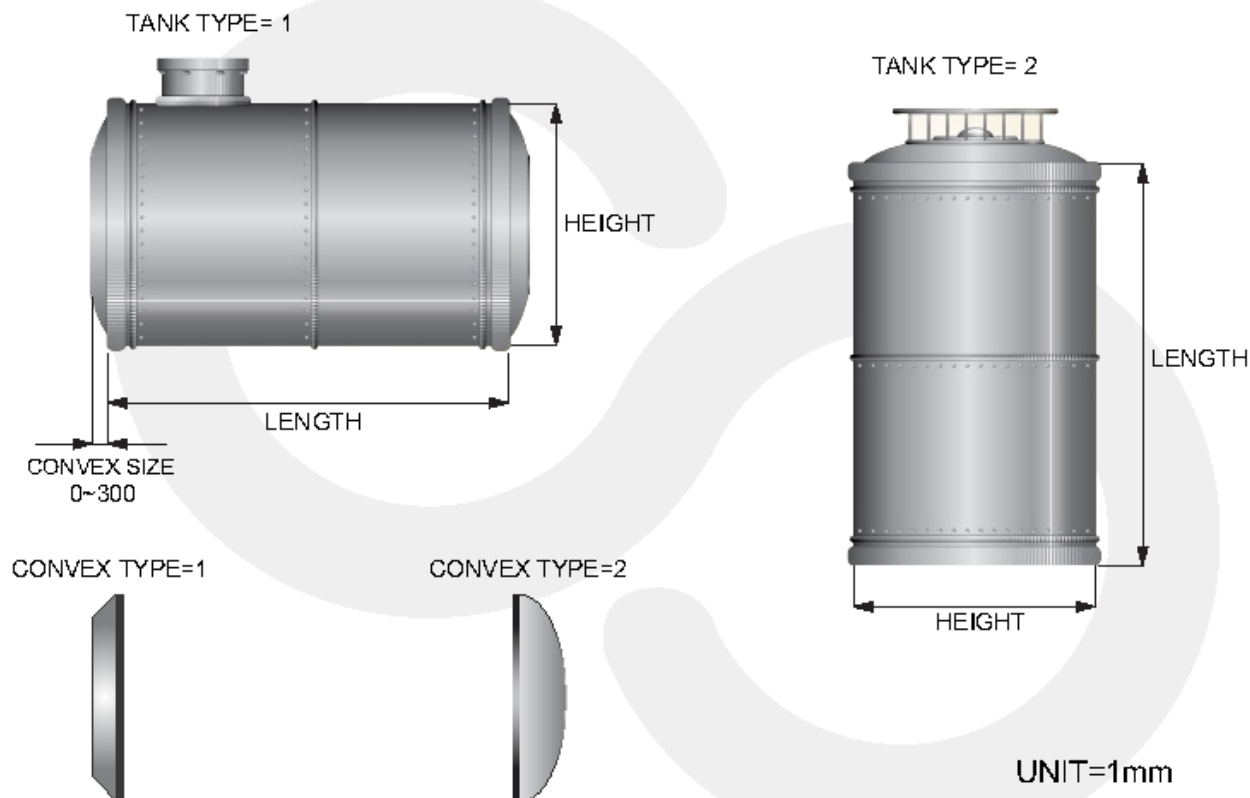
KB Close Leak

Type in limit of amount for alarm

Example
Upper limit =40,000(L)
Lower limit =1,000(L)

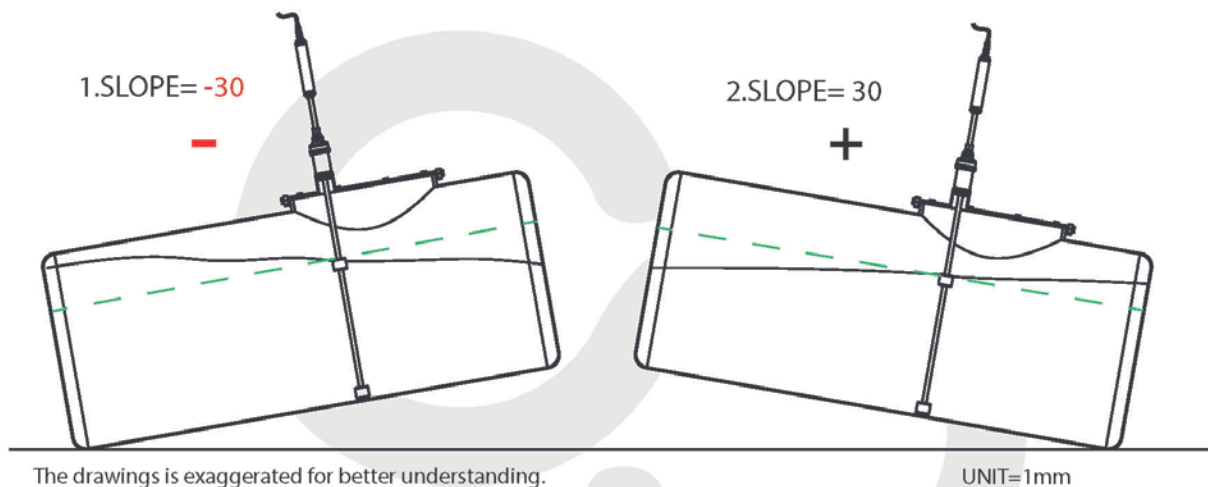
- Type in the amount for alarms

Tank Type



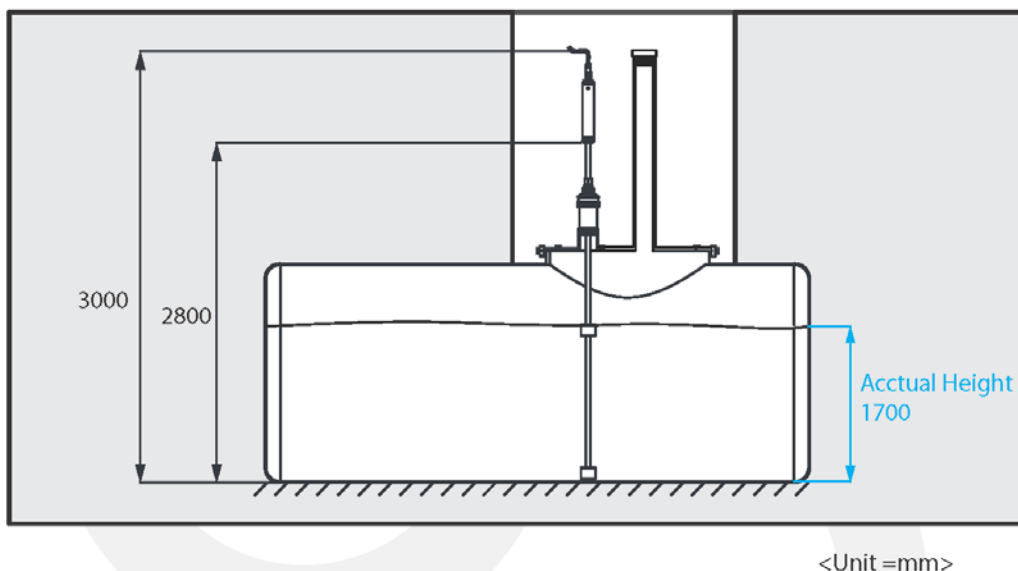
SLOPE

Example



OFFSET

How to decide OFFSET value



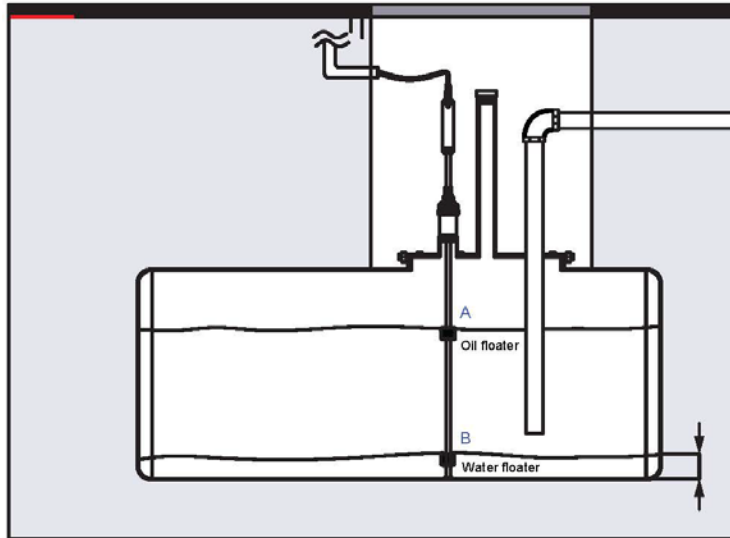
Example)

Actual Height = 1700mm
 Detected Oil Height = 1600mm
 Actual Height - Oil Height = OFFSET value (mm)
 1700- 1600 = **100**

Actual Height = 1700mm
 Detected Oil Height = 1800mm
 Actual Height - Oil Height = OFFSET value (mm)
 1700- 1800 = **-100**

OFFSET

How to decide OFFSET value for water floater



Actual Height=100mm

<Unit =mm>

Example)

Actual Height = 100mm

Detected water Height = 50mm

Actual Height - water Height = OFFSET value (mm)

$$100-50 = 50$$

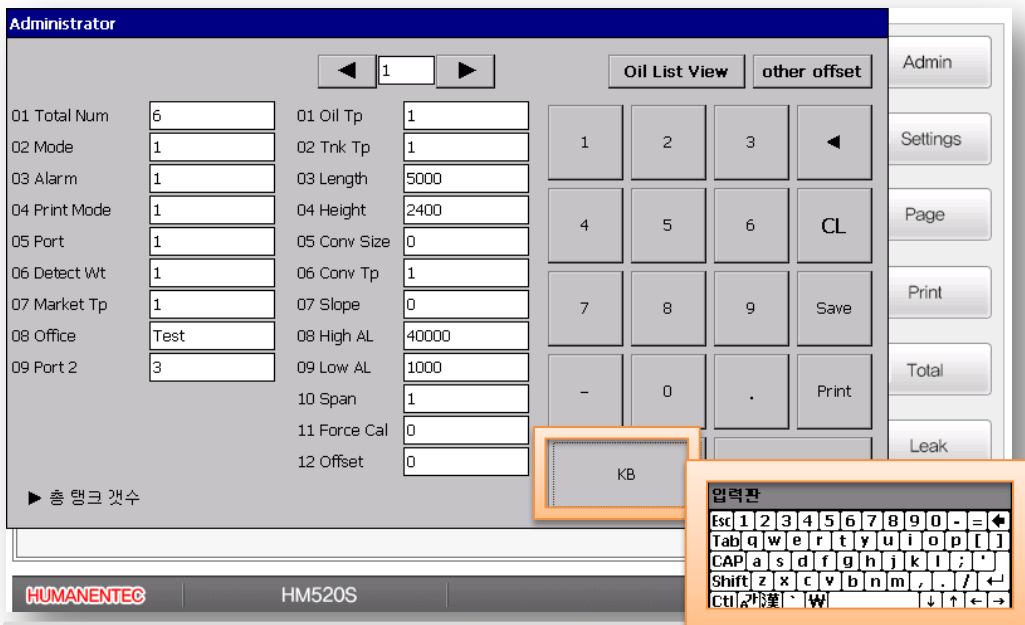
Actual Height = 100mm

Detected water Height = 150mm

Actual Height - water Height = OFFSET value (mm)

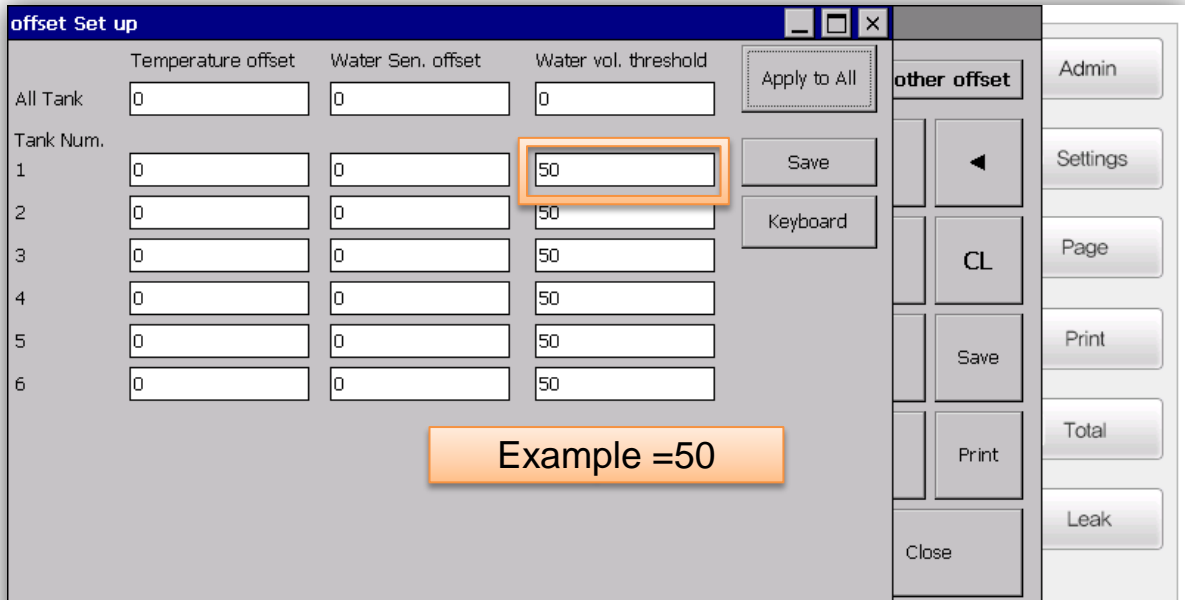
$$100-150 = -50$$

KB = Keyboard



Mobile phone pen will be handy to type on keyboard

Water volume threshold



The screenshot shows the 'offset Set up' window with the following data:

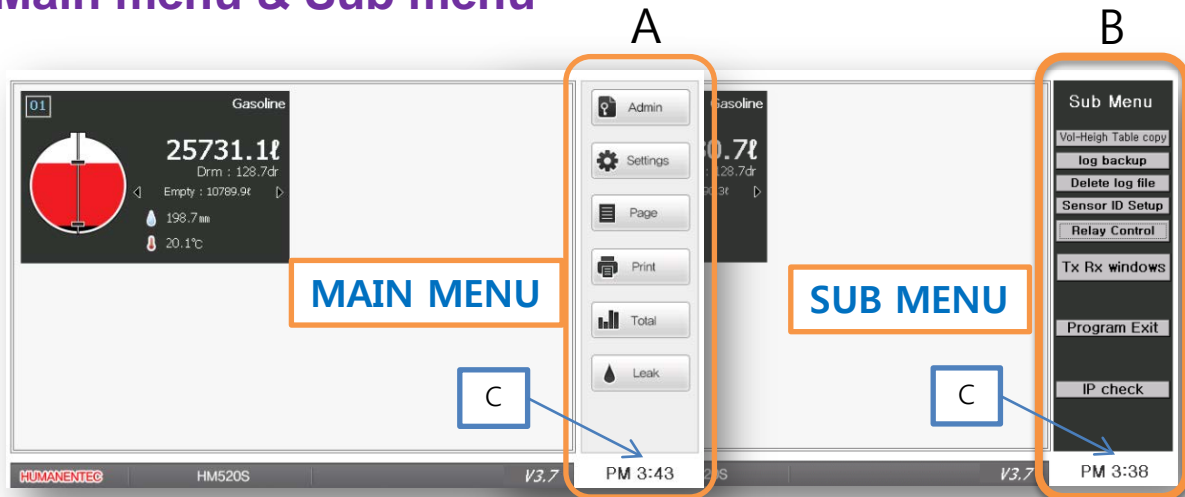
	Temperature offset	Water Sen. offset	Water vol. threshold
All Tank	0	0	0
Tank Num.			
1	0	0	50
2	0	0	50
3	0	0	50
4	0	0	50
5	0	0	50
6	0	0	50

Buttons visible: Apply to All, Save, Keyboard, other offset, Admin, Settings, Page, Print, Total, Leak, Close.

Example =50

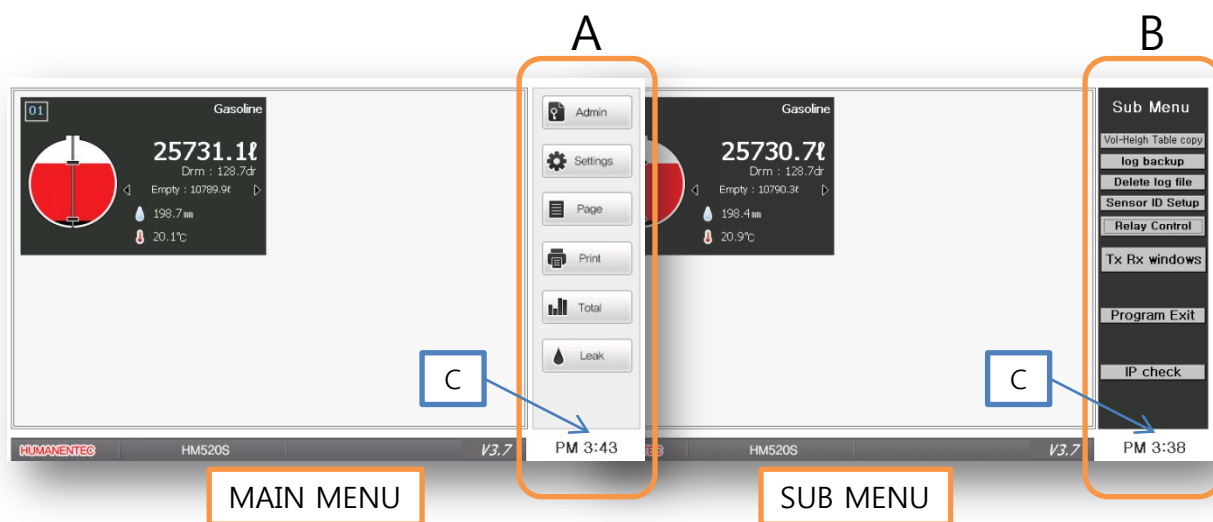
- Water volume threshold
Default=50 means that water floater shows its value when it is greater than 50

Main menu & Sub menu



- MAIN MENU(A) or SUB MENU(B) Will show up when 'C' button were pressed
- 'C' area is hidden button between 'TIME' and the block of menu for SUB MENU

Main menu & Sub menu



- MAIN MENU(A) or SUB MENU(B) Will show up when 'C' button were pressed
- 'C' area is hidden button between 'TIME' and the block of menu for SUB MENU.

Sub menu

- **Volume-Height table copy-** When you use manually measured DATA for oil volume.
- **Log back up** – It is for back up the log file on USB memory stick
- **Delete log file-** It deletes all of log files
- **Sensor ID setup-** Sensor ID can be changed through the software
- **Program exit-** It close down HM720B software to browse Windows CE
- **Tx Rx windows** – It checks the communication signal between sensors and console.
- **IP check** –It displays IP address for Remote view mode.



Volume-Height table

1. USB memory needs to be connected to HM720B USB slot

2. Click "A" that you want to copy

3. Click "B" for the execution

4. Click "C" for YES

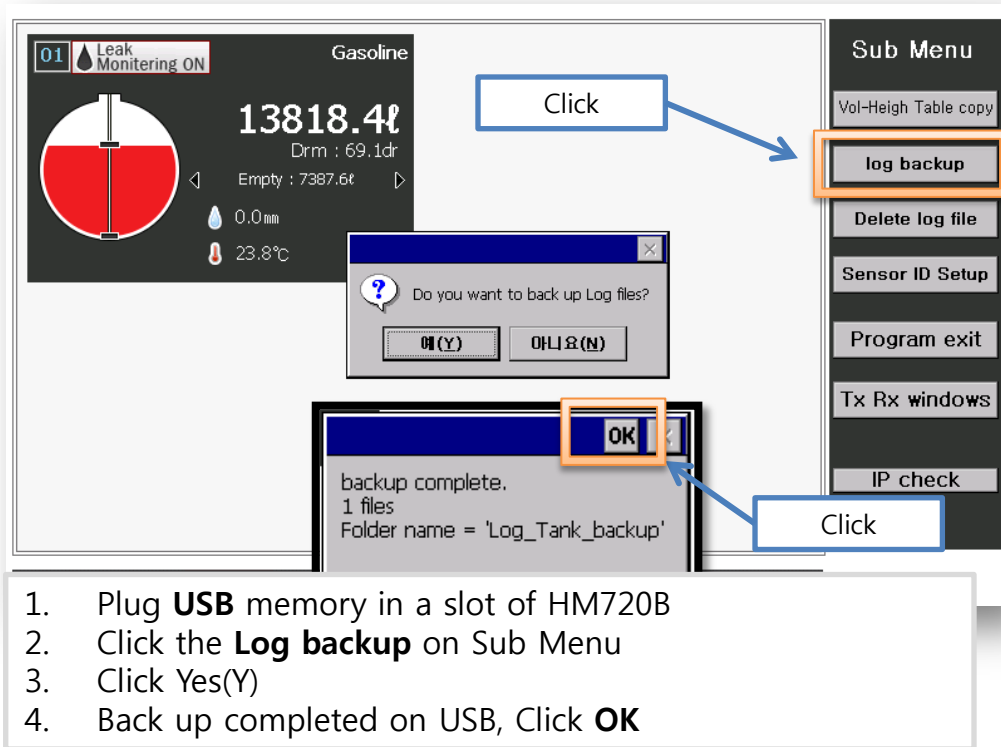
height_table1

Example of **height_table1**

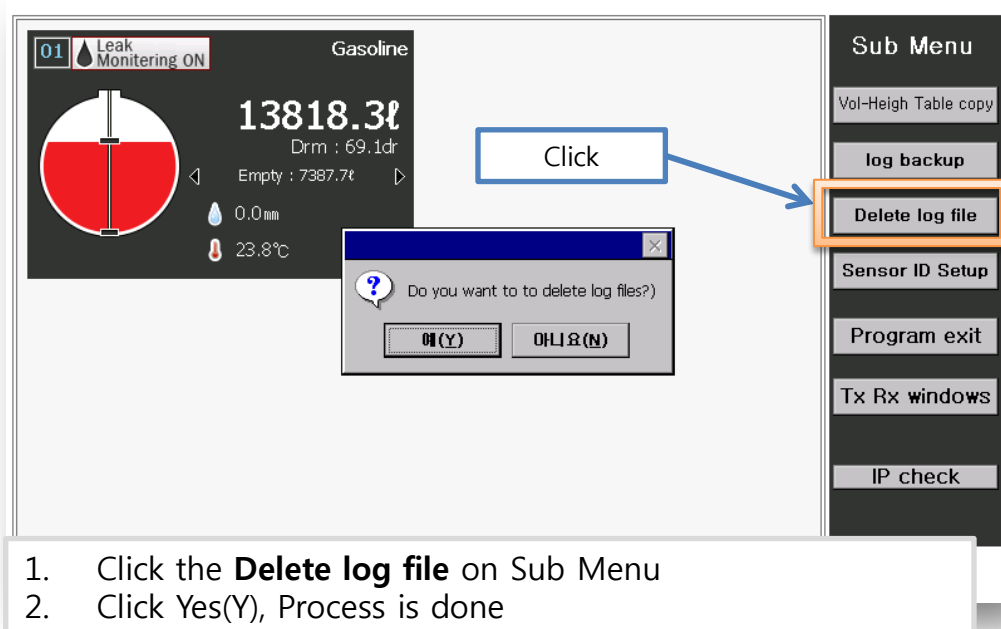
height_table1.txt
height_table2.txt
height_table3.txt
height_table4.txt
.
.
.

5. **Vol-Height table** is all set for TANK 1
6. Turn off and on the console(HM720B) to apply new settings
7. **height_table2.txt** is for TANK 2
8. File name has to be same form like 'height_table3.txt'

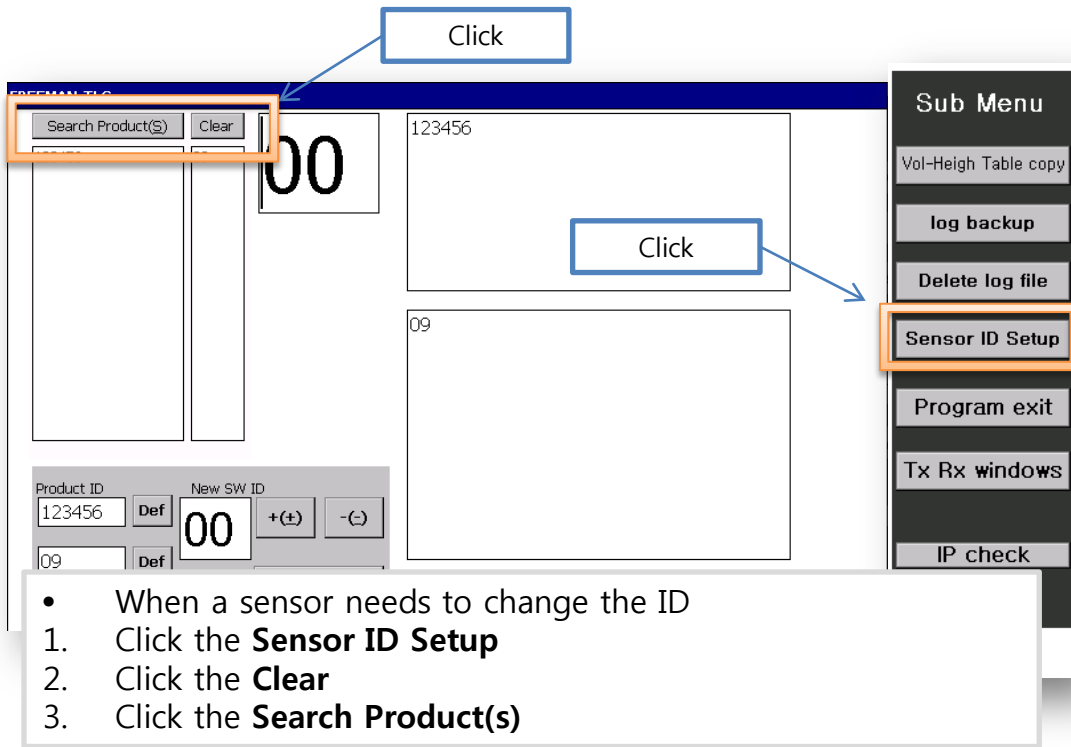
Log backup



Delete log file



Sensor ID setup

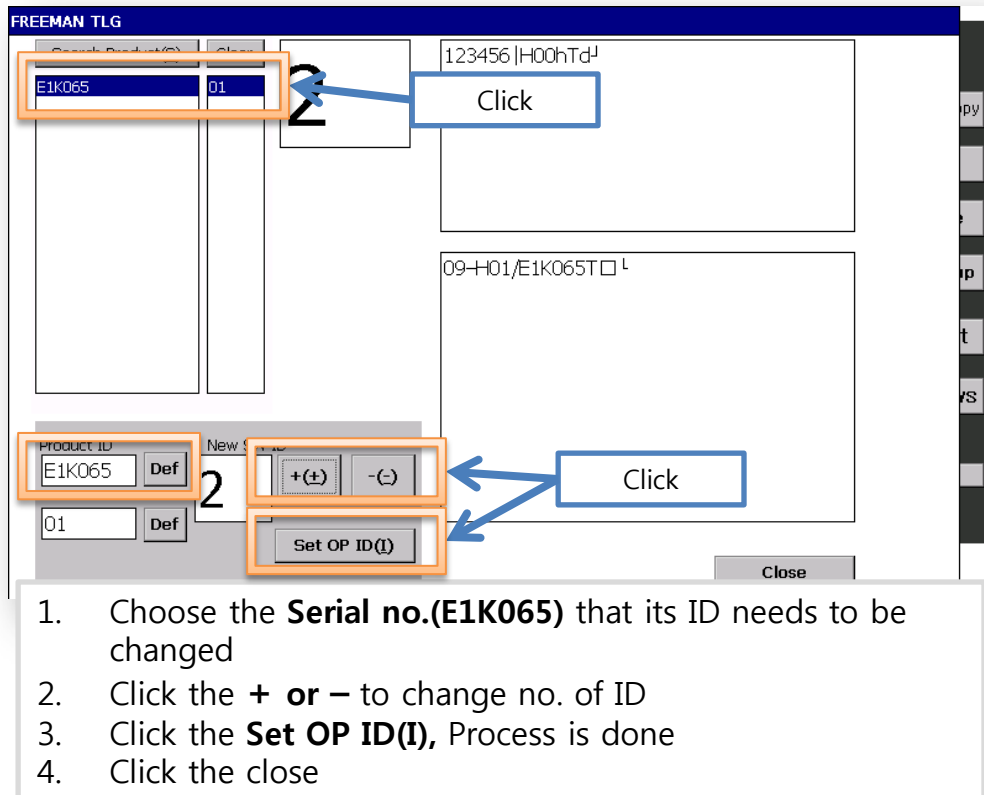


Click

Click

- When a sensor needs to change the ID

1. Click the **Sensor ID Setup**
2. Click the **Clear**
3. Click the **Search Product(s)**

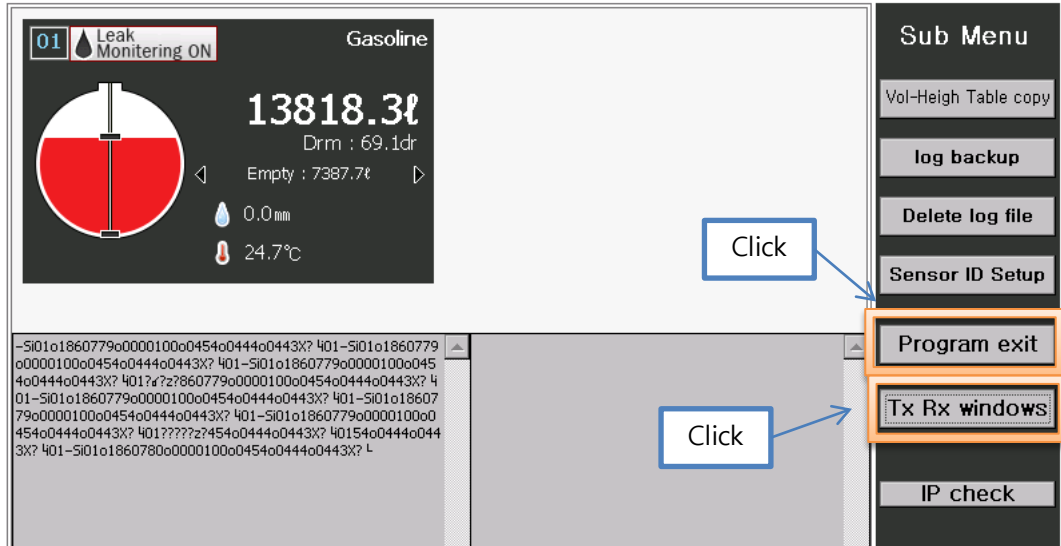


Click

Click

1. Choose the **Serial no.(E1K065)** that its ID needs to be changed
2. Click the **+** or **-** to change no. of ID
3. Click the **Set OP ID(I)**, Process is done
4. Click the close

Program exit & Tx Rx windows



- **Program exit**- It closes down HM720B software to browse Windows CE
- **Tx Rx windows** – It checks the communication signal between sensors and console.

IP check

- **IP check** –It displays IP address for Remote monitoring mode
- Remote Monitoring requires Ethernet connection(Internet wired)
- Please refer to **Remote Monitoring** section in the manual

Ethernet connection

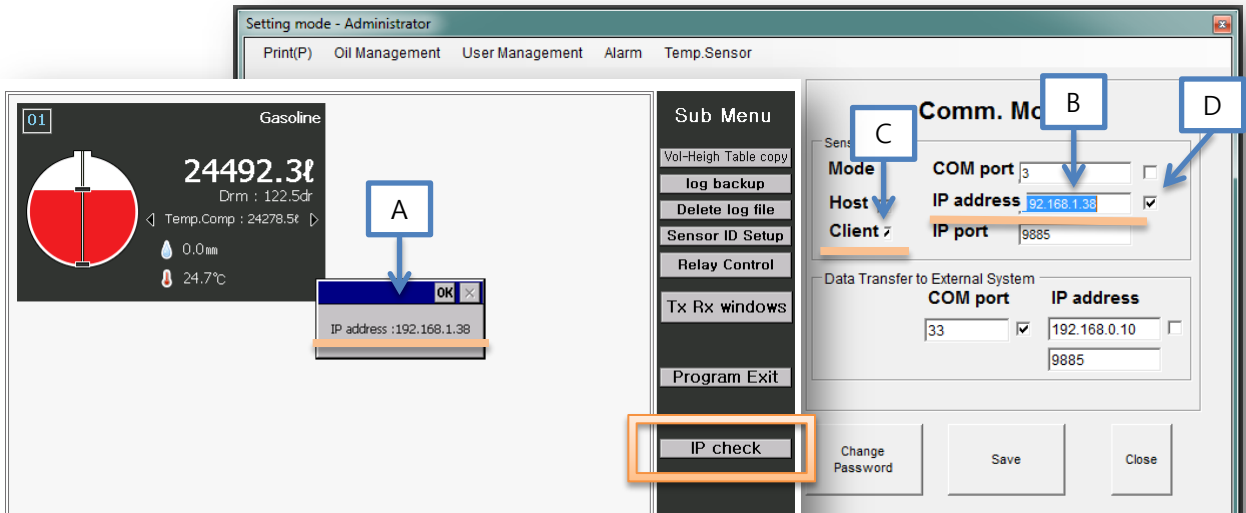


- Ethernet line must be linked to each **console**(HM700B) and **PC**(HM600C) for Remote Monitoring.

- **Caution!** PC software(HM620C software) needs to be preinstalled for **remote monitoring**

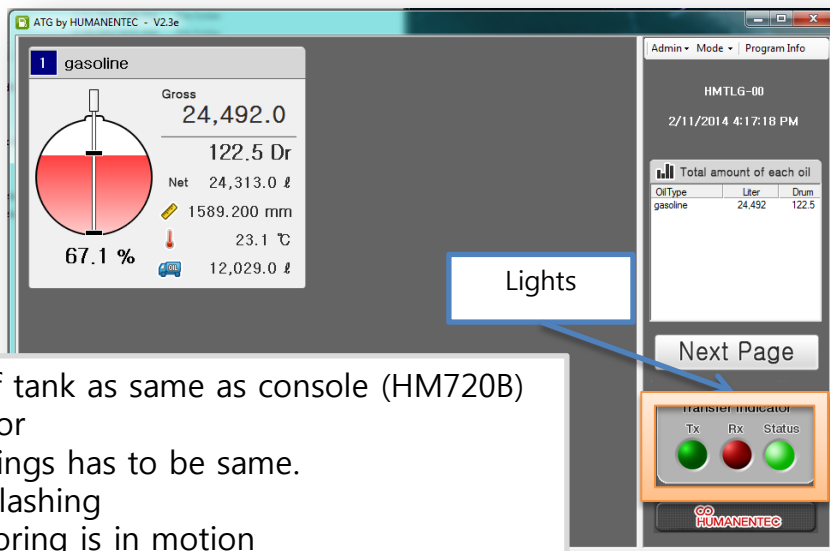
Remote Monitoring (from headquarter)

PC(HM600C) & Console(HM700B)



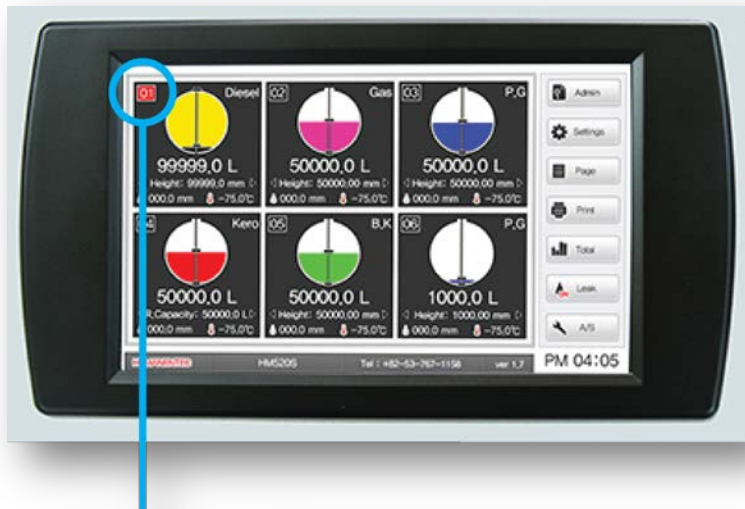
- Remote monitoring is for When you want to remotely manage your gas station from other office.
- IP address is for Data Linkage between PC(HM620C) and Console(HM720B)
 1. Check the **IP address** by clicking **IP check** button
 2. Type in (A) **IP address** in space (B). IP address (A) and (B) must be same
 3. (C) and(D) needs to be ticked
 4. IP port must be **9885** on both of software HM700B and HM600C.

- **Notice!** PC software(HM620C software) needs to be preinstalled for **remote monitoring**



5. Edit the size of tank as same as console (HM720B) on administrator
6. And other settings has to be same.
7. Lights will be flashing
8. Remote Monitoring is in motion

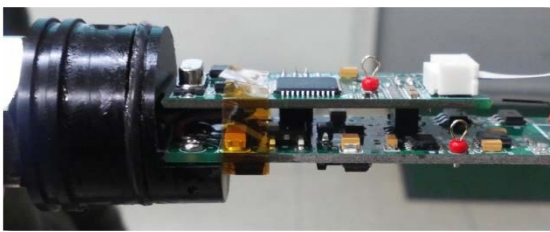
Communication Error



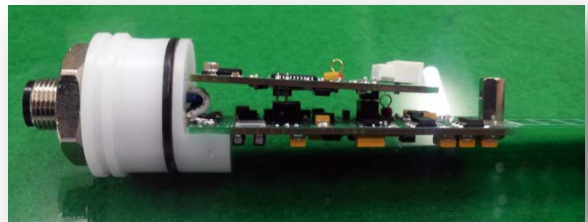
Red light blinking
That means that there is COMMUNICATION ERROR.

- When one sensor displays same value even though oil is consumed.
 1. Oil/ Water floater might be stuck to ladder or something
 - ① Pull out the sensor
 - ② Check if the value of Oil/water floater changes as it moves
 - ③ If it still has the same problem please check the connection of sensor digital boards
 2. Digital boards connection causes a problem
 - ① Check the connection of two boards

Good

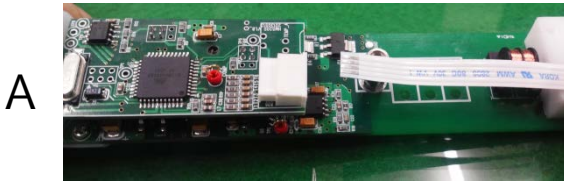


Bad



Temp. Error

- Temperature connection problem-
 - ① Check the connection of temp. cable
 - ② Follow the process of A,B,C



Please make sure that the cable holder is shortened

Signal Error

When significant changes in the **value of water/oil floater** displays on monitor

1. Oil/Water floater offset value needs to be checked on administration
2. Oil/Water floater might be stuck to ladder or something
 - ① Pull out the sensor
 - ② Check if the value of water floater changes as it moves
 - ③ If it still has the problem please see no.3 as below.
3. Digital signal problem
 - This is for to get rid of any magnetism on unnecessary part of sensor



- ① Please follow the process 1,2,3 a couple of times
- ② Check the water floater value if it is OK after the process.

Caution! Floaters must not be close to Head of sensor **within 10cm**

HM720B to PC

Data Linkage from console to PC



- PC software(HM620C software) needs to be preinstalled for **data linkage**
- Console(720B) and PC should be linked by cable
- Console(RS285) to PC(USB)
- Example of cable : RS232 to USB cable



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