

# Smart Digital-Process Gas Detector

# DA-770

## Auto-Suction Type



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# CONTENTS

■ 1. Introduction	3
1. Introduction	3
2. Features	3
3. Specification	4
■ 2. Parts and Discription	5
1. Parts Discription	6
2. Board discription	7
■ 3. Display Discription	8
1. Warming up Time	8
2. DA-770 MAIN	9
3. IP Setting	10
4. MENU	11
5. Chart	12
6. Calibration value setup	13
7-1. Data history(When using internal HMI memory)	14
7-2. Data history(When using external USB memory)	15
8. Sensor Setup	16
9. Manager Setup	17
■ 4. Dimension	18

**Best Detectors,  
Best Service**

## 1. Introduction

### 1. Introduction

The Oxygen Analyzer is a product that can measure oxygen concentrations quickly and quickly in a variety of locations, including a firing furnace, secondary battery laboratory, process quality control, and TMS.

Continuous measurements can be made using the BLDC motor.

### 2. Feature

- Automatic suction: Continuous measurement using a micro pump
- Various signal outputs: 4-20mA, 2 Step-Relay, RS-485
- Optical sensors are available in the presence of flammable gases
- Oxygen concentration can be measured in various environments because it is not affected by other gases
- Data LOG USB Backup

### 3. Specification

Sortation	Contents
Gas	Oxygen
Detection Principal	Optical
Range	0.00 ~ 100%
Response Time	T90(within 15 seconds)
Gas Sampling	Suction Type
Input Power	AC 110 ~220 V (2.4W)
Sample Gas Volume	0.2 L/min ~ 3 L/min
Accuracy	≤ ±0.5% / Full Scale
Output Signal	4-20mA DC/F.S
Display	7" TFT LED (800 X 480)
Alarm Indication	Alarm 1 - AL1 LCD (YELLOW)
	Alarm 2 - LCD (RED)
	Fault Alarm - LCD FAULT(RED)
Setting of Alram Value	AL2/AL1 2 stages Alarm-User can optionally set
Alarm Delay Time	0~99 seconds with user adjustable
Alarm Clearing	Manually or Automatically
Alarm Output	2 Step Alarm Relay Contact
Operating Temperature	-10℃ ~ 60℃
Operating Humidity	5 ~ 95%RH (Non-Condensing)
How to install	Tabletop type
Inhalation of gas	Female 1/4"
Output Option	RS-485
USB Host	USB 2.0 (data log download)

## 2. Parts and Discription



## 1. Parts discription

### ① Cover Case

▷ It protects the sensor, pump, and PCB boards mounted inside from external shocks and environmental changes.

### ② Flow Meter

▷ It indicates the flow rate of sample gas and you can adjust the flow rate to the position of the ball.

### ③ Display(7" TFT 800X480)

▷ It displays the gas concentration values and setting parameters measured by the sensor.

### ④ USB PORT

▷ USB PORT only for DATA LOG BACKUP

### ⑤ Motor Power Switch

▷ Motor Power ON/OFF Switch

### ⑥ Sample Gas Out

Sample gas vent port(1/4")

### ⑦ Alarm Terminal + RS485 Terminal

▷ Fault, Alarm1, Alarm2 Relay output, terminal for data communication

### ⑧ 4-20mA Terminal(mA+, mA-)

▷ Terminal connecting 4-20mA output.

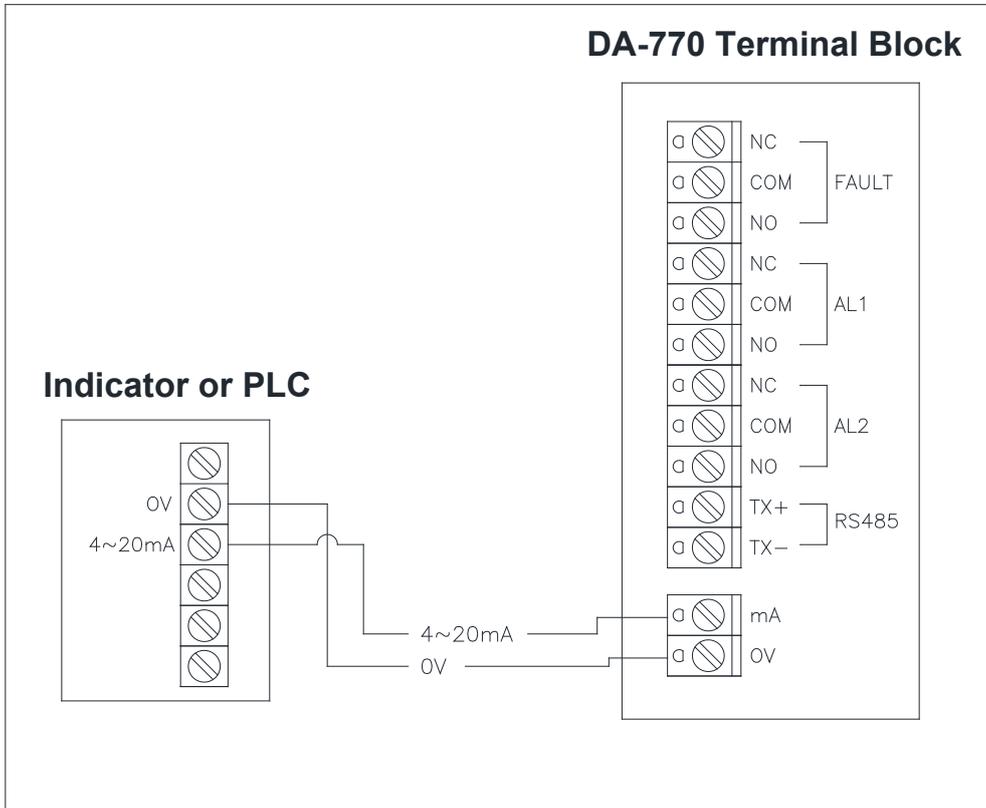
### ⑨ Sample Gas Inlet

Sample gas inlet port(1/4")

### ⑩ AC Power Switch

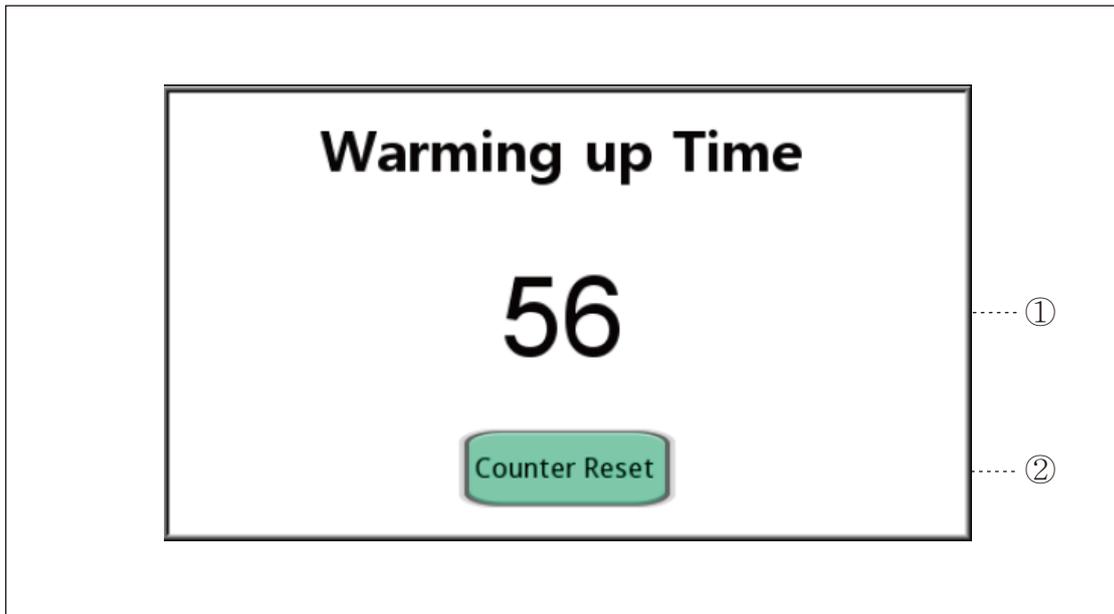
▷ AC Power ON/OFF Switch

2. Board Discription



### 3. Display Discription

#### 1. Warming up Time



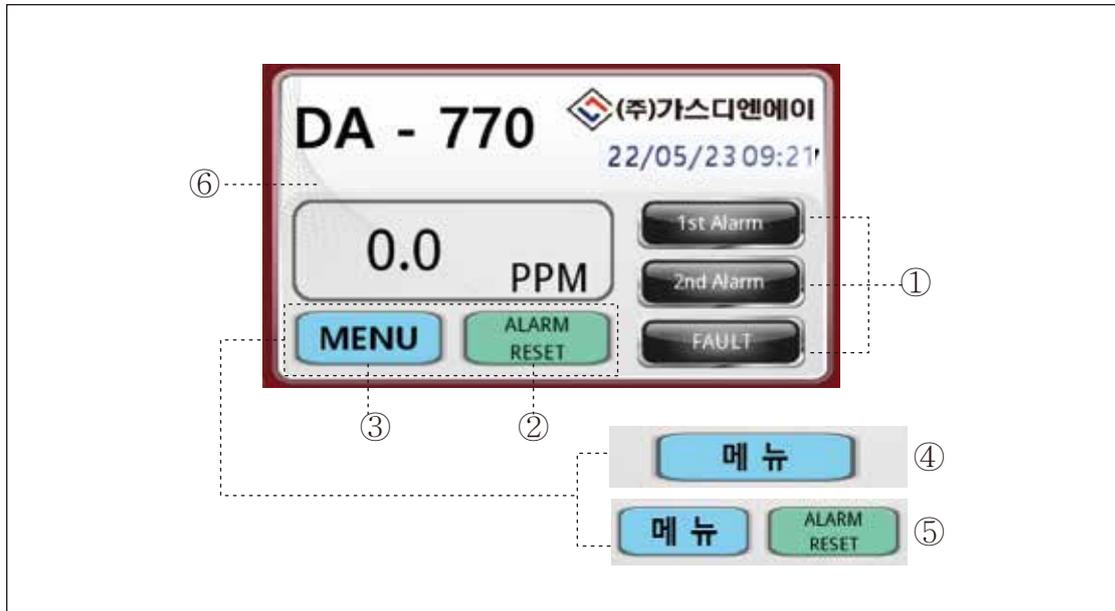
① **Warming up Time**

▷ It shows the number of warm-up time at first boot. When the value reaches zero, it automatically switches to the main screen.

② **Counter Reset**

▷ Force the number to initialize to zero and switch to the main screen.

## 2. DA-770 MAIN



### ① Relay Alarm Display

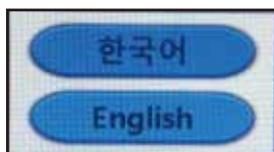
▷ The lamp is operated by the primary and secondary settings of the sensor alarm. In case of failure, the lamp operates on the fault

### ② Alarm Reset

▷ It resets the lamp operation for the alarm and fault. However, it is used when manually selecting it in the Reset setting.

### ③ Menu

- ▷ Go to the selectable screen for the settings, data history, and chart for the detector.
- ▷ Press the MENU button select a language and enter



### ④ Enable Menu Button

▷ When selecting the AUTO mode in the setting alarm reset mode, only the menu button is activated.

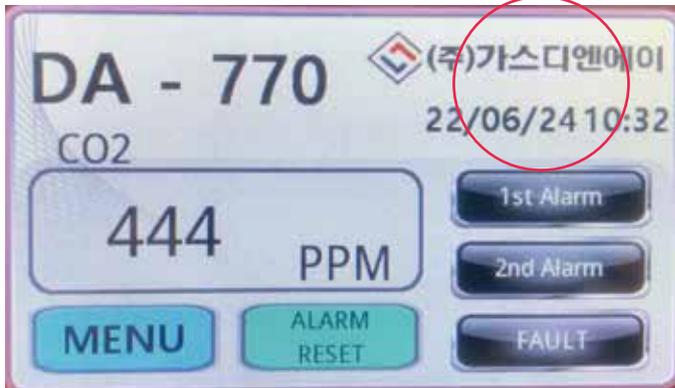
### ⑤ Menu and Alarm Reset

▷ When selecting the MANUAL mode in the setting alarm reset mode, the menu and the Alarm Reset button are activated.

### ⑥ Gas

▷ It is an indication of the gas being detected.

### 3. IP Setting



Press the company logo for 5 secs.

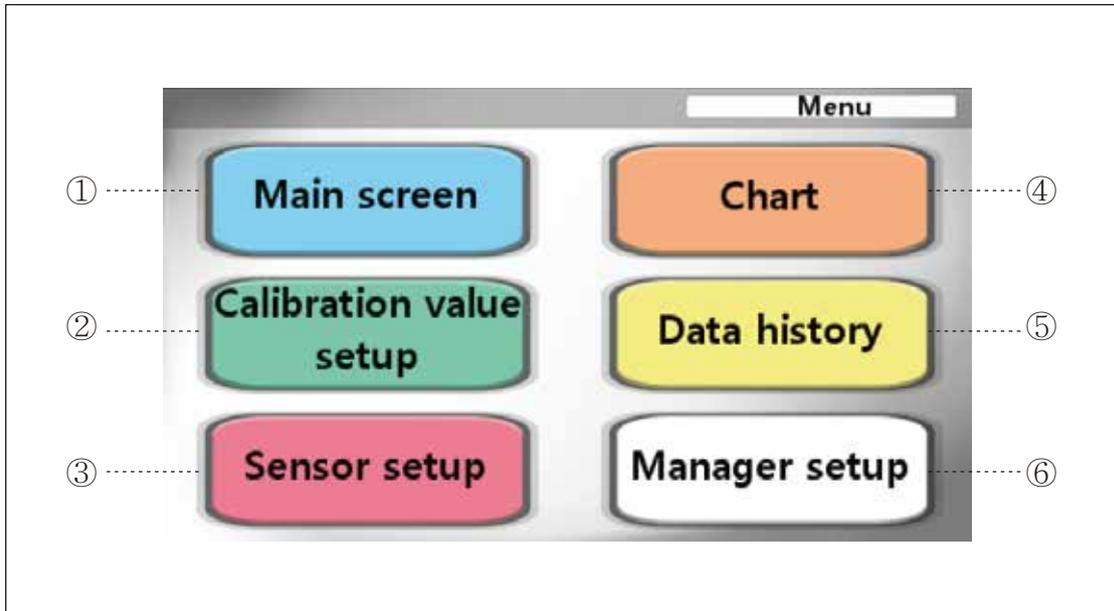


Press password "111111" and press "OK"



Set the IP address assigned to the site and press the "OK" button

## 4. MENU



### ① Main Screen

▷ It is moved to the main screen of the DA-770

### ② Calibration Value Setup

▷ It is moved to the screen that calibrates analog ZERO and SPAN.

### ③ Sensor Setup

▷ It is moved to the screen where the user can change the settings for the detector.

### ④ Chart

▷ It is moved to a screen composed of a chart graph format by the concentration value.

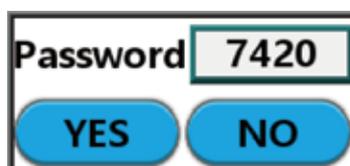
### ⑤ Data history

▷ It is moved to the screen that analyzes the data on the concentration value by time.

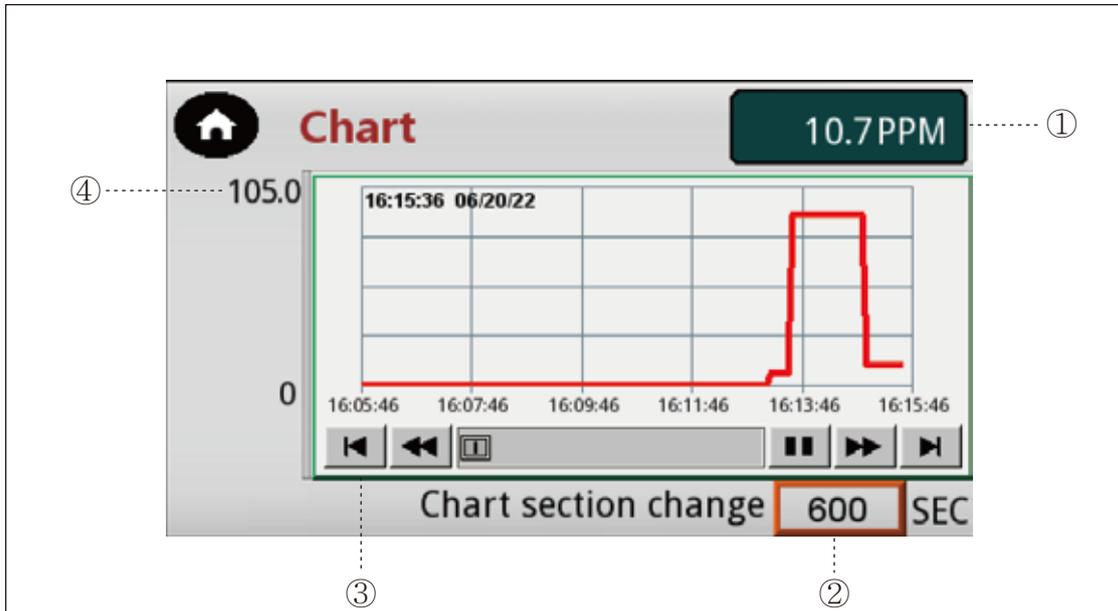
### ⑥ Manager setup

▷ It is moved to the administrator-only setting screen, not the user's permission.

▷ Initial Password : 7420



## 5. Chart



### ① Current Concentration Value

▷ Displays the current concentration value for comparison with the chart.

### ② Setting the chart interval time

▷ You can check the time units displayed in the chart according to the set time zone. The time unit consists of SEC units, and the first time the product is booted is every one minute (expressed as a value of 0 from boot to change the setting) After that, when changing in the section setting, it appears as the changed time zone.

### ③ Chart

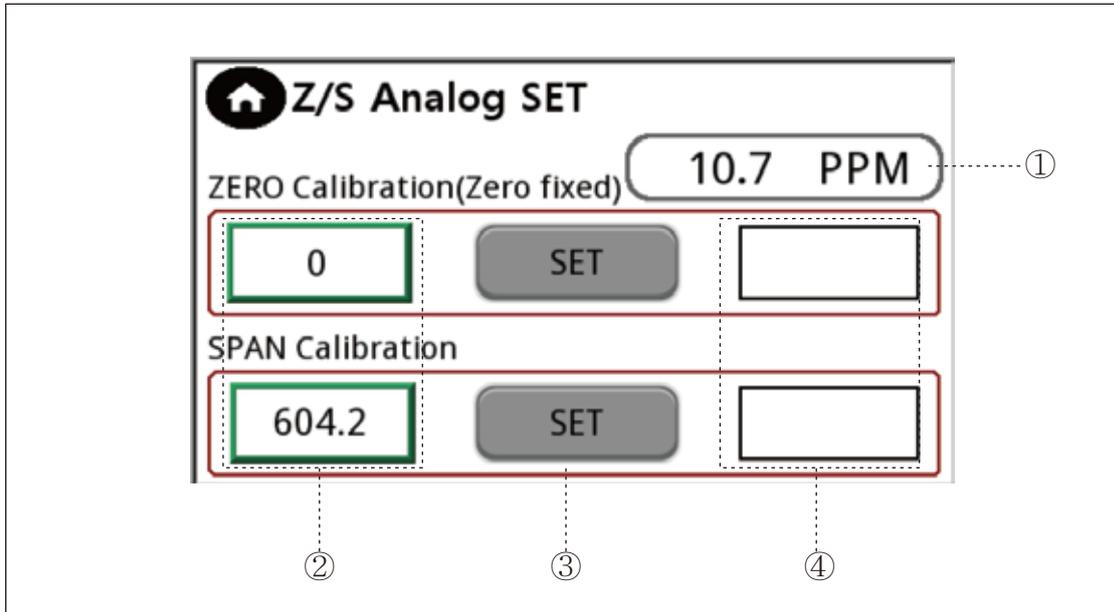
▷ It is expressed in graph form according to the concentration value. The data period measurement time is 5 seconds, and the time to check the past data is about 1 hour and 20 minutes.

### ④ Chart Concentration Maximum Representation

▷ It shows the maximum value for checking the concentration value on the chart.

## 6. Calibration Value Setup

It is a screen that can calibrate ZERO and SPAN according to the current concentration value. Calibration should be performed according to the current concentration value and Check ZERO and SPAN values.

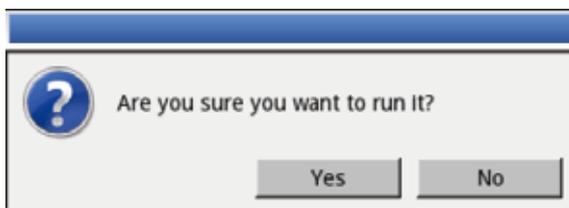


① It is the concentration value that appears now.

▷ This is where the concentration value for sensor calibration is set. When you click the button on the concentration value notation, the keypad appears on the screen. The current value appears on the keypad, and you can enter a value to change it.

② The ZERO calibration setting is a fixed zero value, and only the SPAN calibration setting needs to be adjusted.

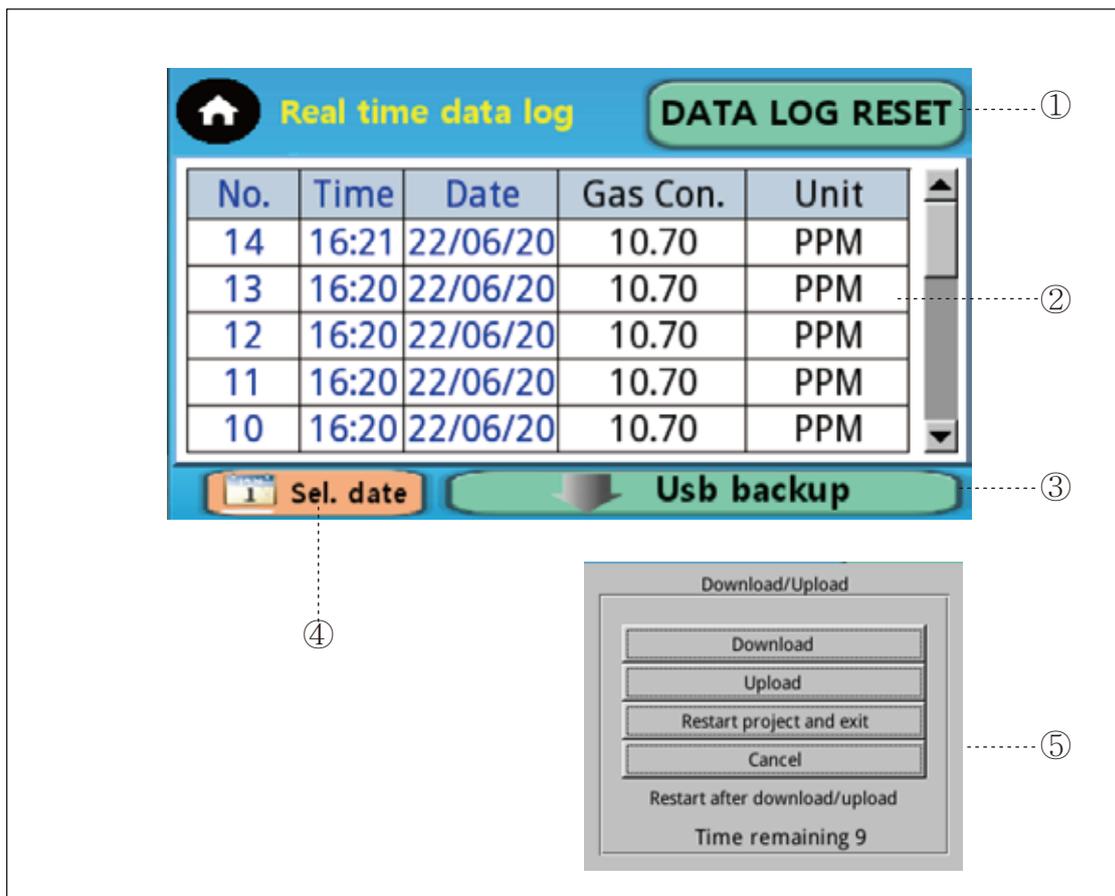
③ After setting the concentration value to be calibrated, it is the final calibration button, and you can select OK in the reconfirmation message.



④ The results after ZERO and SPAN calibration are shown.



## 7-1. Data history (when using internal HMI memory)



### ① DATA LOG RESET

▷ Not only data that appears in real time, but also data records stored inside are deleted. If data is reset, historical data cannot be backed up.

### ② DATA LOG

▷ It is a screen that stores data by date and time in real time. Data is stored in 15 seconds.

### ③ USB Backup

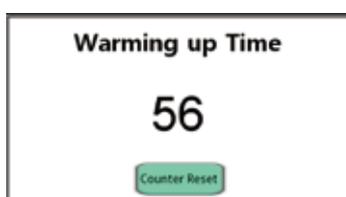
▷ The past history data may be loaded into an Excel file using USB.  
Connecting method (USB port terminal - system recognition (cont. 4)  
- click the usb backup button) USB path (USB / datalog / DA-770 LOG / Excel file)  
Backup files load up to 10 days of data to store in internal memory.

### ④ Select a date

▷ You can check the date of the past history by selecting it in real time.

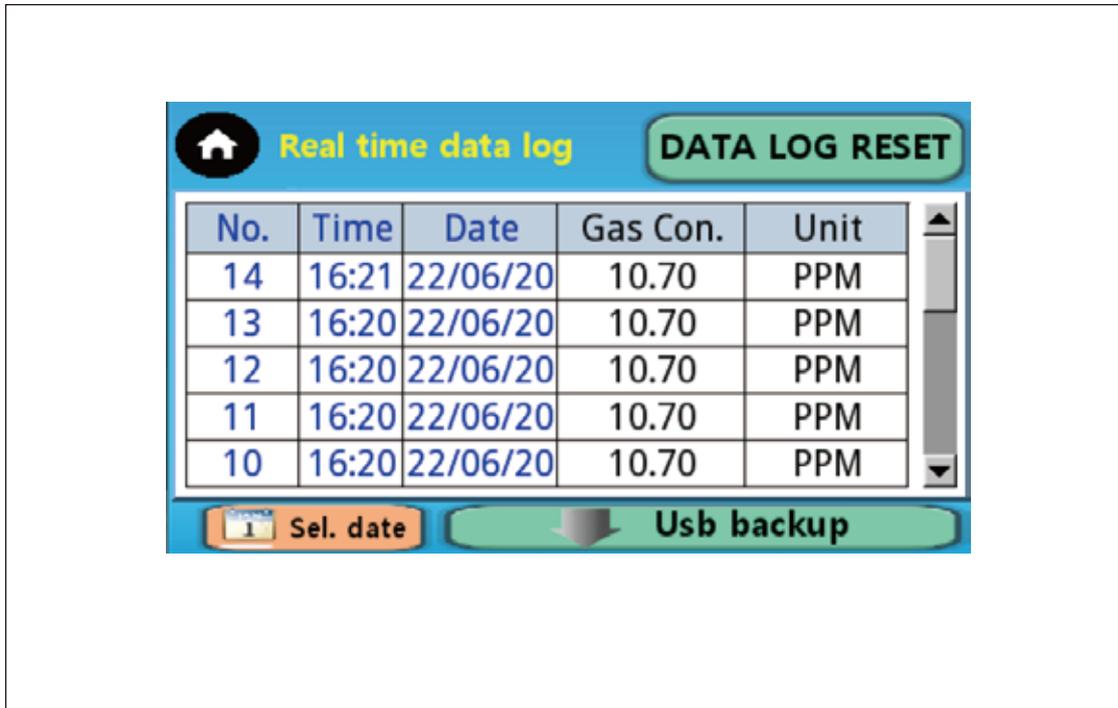
### ⑤ USB Connect System

▷ When USB is connected, the system window must appear before it can be connected. the system window disappears after 10 seconds of cancellation



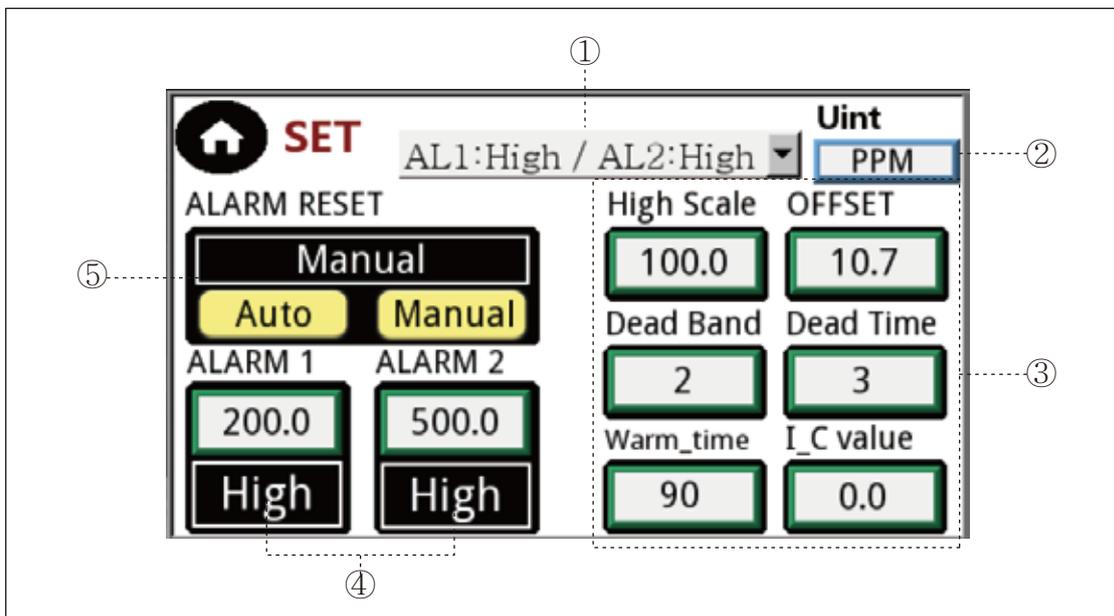
※ If there is no (u) indication on the warm-up time screen after power-on, the data log is stored using the internal HMI memory.

## 7-2. Data history (when using external USB memory)



※ If there is no (u) mark on the warm-up time screen after power-on, save the data log using an external USB memory.  
If you want to use data log recording, you must plug an external USB memory into a USB port. (Maximum USB memory capacity: 32GB)

## 8. Sensor setup



### ① ALARM TYPE

- ▷ High and Low settings for ALARM 1 and 2
- High - Alarm above set value / Low - Alarm below set value

### ② data log unit indication

- ▷ Unit input for display in the data history log should be specified at initial boot time

### ③ High Scale

- ▷ 20mA setting compared to Full Scale

#### OFFSET

- ▷ Adjusting errors for measurements

#### Dead Band

- ▷ Invalid range for alarm return recognition

#### Dead Time

- ▷ Time elapsed from alarm recognition until relay output change is recognized

#### Warming Time

- ▷ Specify the time for the initial current to stabilize

#### Initial current value

- ▷ Current value that appears at warm-up time

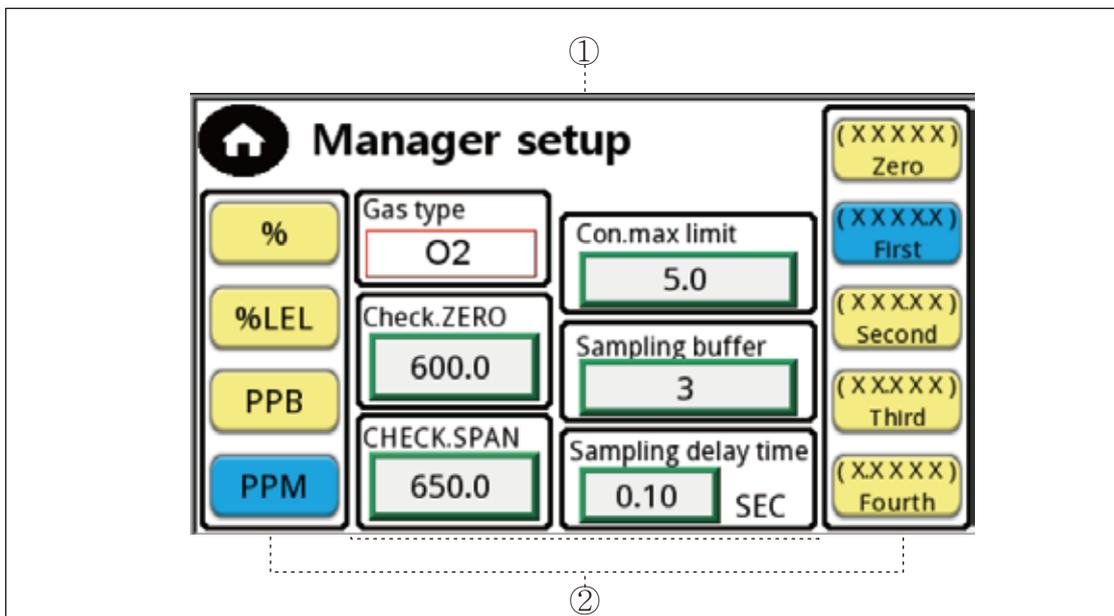
### ④ ALARM Setting

- ▷ Set numerical values for ALARM1/2
- ex) ALARM TYPE H&H on AL1, if the display value is more than 23 when setting the numerical value, AL1 action

### ⑤ Alarm Reset and Automatic Control

- ▷ AUTO - Motor control is operated at all times. When the value rises and ALARM occurs, it is automatically released when it returns to a normal value.
- ▷ MANUAL - Press the motor button to operate. When the value rises and returns to the normal value after ALARM occurs, the user must RESET it on the main screen.

## 9. Manager setup



### ① Gas type

- ▷ It is a button to input the name of the gas being measured for each channel .

#### Check Zero

- ▷ It is a button to input the name of the gas being measured for each channel .

#### Check Span

- ▷ Range limit setting during span calibration.  
Calibration is performed when the gas concentration is higher than the set value.

#### Con.max limit

- ▷ This is a setting that adds an additional maximum density value above the High Scale value.

#### Number of sampling buffers

- ▷ Users can use the range from 1 to 50 .  
Just calculate the average value as many as the number of sampling buffers.

#### Sampling delay time

- ▷ Users can use it in the range of 0.00 ~ 3.00sec.  
ex) 1 msec when 0.00 sec is set Sampling  
10 msec at 0.01 sec setting Sampling

### ② Unit.

- ▷ Gas unit setting .  
The color of the presence or absence of operation is displayed in blue .  
Decimal display  
Gas concentration decimal place setting .  
Operation status is displayed in blue color .

**Dimension**

