



## KANE-CO2

# Indoor Carbon Dioxide Monitor

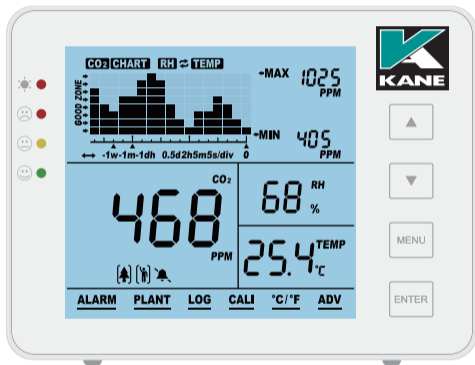
## Instruction Manual

Inventory No: MAN00134

Rev.: 0.00000

January 2021

**RoHS**  
Compliant



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## Getting Started

Thank you for purchasing our desktop KANE-CO2 monitor. This product is used to monitor CO2 concentration, humidity(RH) & temperature(TEMP) for indoor air quality monitoring

### Contents:

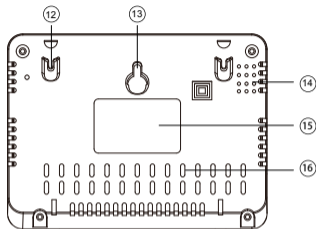
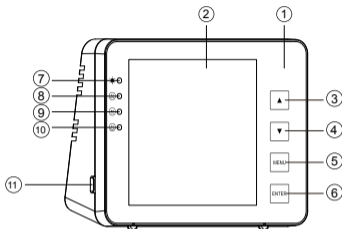
- CO2 Monitor Unit
- USB Cable for Power
- User Manual
- AC Adapter (Optional)

### Features:

- Large Display
- Touch Button Operation
- 15° Bevel Design, Easy to Read
- Low Drift NDIR Sensor, Long Lifespan
- Audible & Visible Alarm
- Chart with Variable Time Zoom Levels
- CO2/RH/Temperature Monitor Tracer
- Auto-Calibration & Manual Calibration
- Max/Min Value Display in Certain Time













# Overview

## Drawing Sketch & Components List



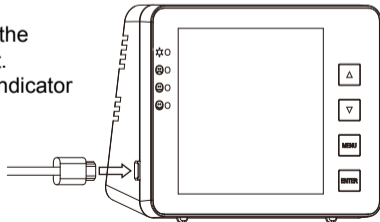
Item	Description	Item	Description
①	Front Panel	⑨	Good Level
②	LCD	⑩	Low Level
③	▲ Button	⑪	USB Port
④	▼ Button	⑫	Hole for Rope
⑤	MENU Button	⑬	Hole for Screws
⑥	ENTER Button	⑭	Hole for Buzzer
⑦	Power Indicator	⑮	Label
⑧	High Level	⑯	Hole for Sensors

## General Operation & Settings

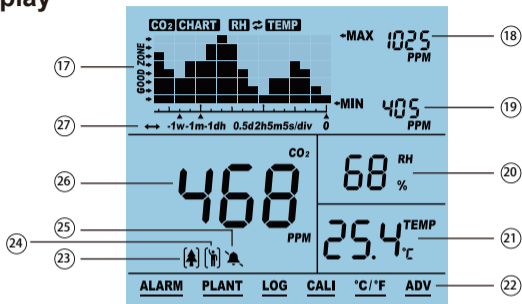
- Use provided USB cable to connect the device. Once the countdown is complete, your device is ready to use. See detail in Page 3.
- Use  &  buttons to switch timeline & CO2/RH/TEMP. The trend chart displays the history records for any of the three parameters. See detail in Page 5.
- To restore factory defaults, hold  for 4 seconds until an audible beep is heard.
- Press  once will bring up the main menu. To select the function, press  /  button. See detail in Page 7.
- Select **PLANT** to switch human  and plants  modes. See detail in Page 8.
- Select **ADV** to change the high/low alarms for human  and plant . See detail in Page 11.
- Enter **ALARM** to switch alarm  and mute . See detail in Page 8.
- Enter **°C/°F** to switch temperature units °C and °F. See detail in Page 10.

## Operating Instructions

1. When first unboxing, plug in the unit with the provided USB cable as shown on the right.
2. Once successfully connected, the power indicator & 3 LEDs flash one by one.
3. Main display shows a countdown from 10. Once the countdown is complete, your product is ready to use. No initial setup or calibration is needed




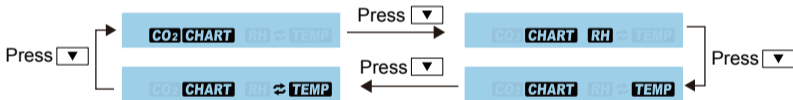
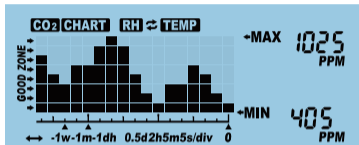
## LCD Display




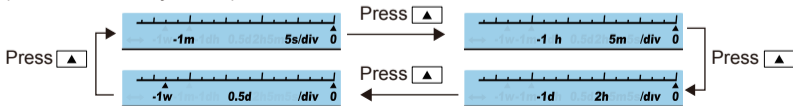
Item	Name	Item	Name
17	CO2/RH/TEMP Chart	23	Plant Mode
18	Max Reading of Chart	24	Human Mode
19	Min Reading of Chart	25	Audible Alarm On/Off
20	RH Reading	26	CO2 Reading
21	Temperature Reading °C / °F	27	Time per Division - indicates the chart's span of time
22	Main Menu		

## Trend Chart Display

The below chart displays the past readings for any of the three parameters (CO<sub>2</sub>/RH /TEMP). There are 4 modes that can be toggled by using  key: CO<sub>2</sub>, TEMP, RH, & Cycle(automatically cycles through CO<sub>2</sub>/TEMP/RH)



Press  will toggle the available Zoom Levels for each parameters. (Minute/Hour/Day/Week)



Below is a table that shows the available Zoom Levels for all parameters CO2/RH/TEMP, as well as the duration of each division for corresponding Zoom Levels:

<b>Zoom Level (Time Span)</b>	<b>Time per Division</b>
1M (minute)	5sec /div
1H (hour)	5m / div
1D (day)	2h / div
1W (week)	0.5d / div

## **Max / Min**

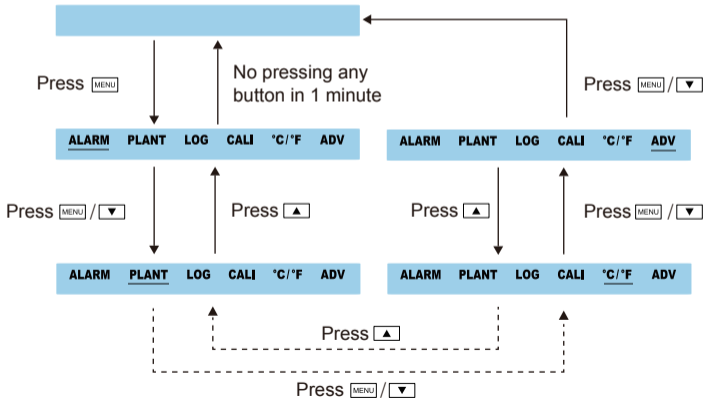
At the top right corner of the display, there are two numerical indicators: MAX & MIN. As the Zoom Level is changed, the MAX & MIN values will reflect the maximum & minimum values on the chart of the selected parameter (CO2, RH & TEMP).



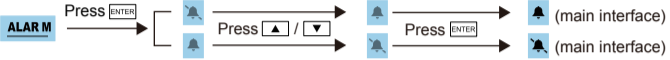


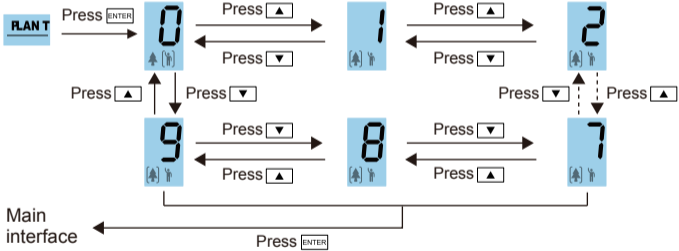


# Main Menu Functions

ALARM PLANT LOG CALI °C/°F ADV

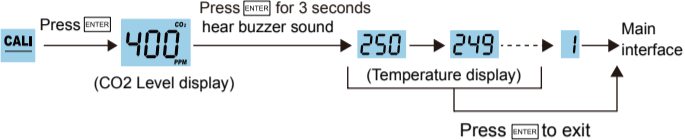

The Main Menu functions can be activated by pressing **MENU**. Pressing **▼** / **MENU** once will bring up the main menu, with an underlining flashing bar indicating the current choice.



To select the function, press **ENTER** when it is underlined by the flashing bar. Note that after 30 seconds if nothing is pressed, the Main Menu will disappear & the device will revert to the normal state.

Function	Description
ALARM	 <p>When ALARM display , an audible alarm will sound if the CO2 level exceeds preset CO2 alarm value;  means MUTE.</p>
PLANT	 <p>Select number 0 to enter human mode. 0 is defaulted as human mode, unchangeable. The preset Low &amp; high alarm are 800 &amp; 1200ppm. Enter "ADV" to adjust them if necessary. In plant mode, it allows user to select between types of plants for optimal setting by using  /  cycles through 1~9. See number references with corresponding alarm settings in high &amp; low alarms in Page 14.</p>

Function	Description
LOG	<p>Press <b>LOG</b> → Press <b>ENTER</b> → <b>CO<sub>2</sub> CHART</b> (GOOD ZONE, -1m, 5s/div, 0)</p> <p>Press <b>→</b>, right 2nd column flashes</p> <p>Press <b>→</b>, right 2nd,3rd... column flashes</p> <p>Press <b>↓</b></p> <p>Press <b>↓</b></p> <p>Press <b>↓</b></p> <p>Press <b>↓</b></p> <p>Press <b>↓</b></p>
This function allows the user to see historical data records.	

Function	Description
CALI	 <p>Press <b>ENTER</b> → <b>400</b><sup>CO<sub>2</sub></sup><sub>PPM</sub> (CO<sub>2</sub> Level display) → Press <b>ENTER</b> for 3 seconds hear buzzer sound → <b>250</b> → <b>249</b> → <b>1</b> → Main interface</p> <p>(Temperature display)</p> <p>Press <b>ENTER</b> to exit</p> <p>Before calibration, run this device for at least 20 minutes with windows open or in outdoor environment with portable battery source to reach an atmosphere with 400ppm CO<sub>2</sub>. Wait till the CO<sub>2</sub> reading is stable, follow above steps for calibration. After calibration leave it 10 minutes before normal use.</p>
°C / °F	 <p>Press <b>ENTER</b> → <b>TEMP °C</b> / <b>TEMP °F</b></p> <p>Press <b>▲</b> / <b>▼</b> → <b>TEMP °F</b> / <b>TEMP °C</b></p> <p>Press <b>ENTER</b> → <b>TEMP °F</b> / <b>TEMP °C</b></p> <p>Use this function to toggle between Celsius ( °C ) &amp; Fahrenheit ( F°) for the temperature display.</p>

Function	Description
ADV	<p style="text-align: center;">Press <input type="button" value="ENTER"/></p> <p style="text-align: center;">Press <input type="button" value="ENTER"/></p>
	<p>Use this function to set high &amp; low alarm values of human mode (0) as well as the first option of plant mode (1). High &amp; low alarms for options 2-9 under plant mode are not adjustable. See details in Page 14. (Appendix)</p>

## Specifications

Typical test conditions: Ambient Temp:  $23 \pm 3^{\circ}\text{C}$ , RH=50%~70%, Altitude= 0~10 meters

Measurement	Specifications
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Operating & storage RH	0-95%(non-condensing)
<b>CO2 Measurement</b>	
Measuring range	(0-5000)ppm
Display resolution	1ppm (0-1000); 5ppm (1000-2000); 10ppm (>2000)
Accuracy	(0~3000)ppm: $\pm 50\text{ppm} \pm 5\%$ of reading (take the Maximum)
	(>3000)ppm: $\pm 7\%$ of reading
Repeatability	20ppm at 400ppm
Temp compensation	$\pm 0.1\%$ of reading per $^{\circ}\text{C}$
Response time	<2 min for 63% of step change or < 4.6 min for 90% step change
Warm-up time	<20 seconds

<b>Temperature Measurement</b>	
Operating temperature	32°F ~ 195°F (0°C ~90°C)
Display resolution	1°F / 0.1°C
Response time	<20 minutes (63%)
<b>RH Measurement</b>	
Measuring range	5~95%
Accuracy	±5%
Display resolution	1% Main interface display, 1% Max/Min display
Operating Voltage	DC(5±0.25)V
Dimension	120*90*35mm
Weight	170g ( 6.0oz)

# EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:-  
The KANE-CO2 is in conformity with the relevant Union harmonization legislation below:

Directive	Title
201430EU	Electromagnetic Compatibility (EMC)
201165EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

The following harmonised standards and technical specifications have been applied:

## Certification

The KANE-CO2 is tested to the following standards

## EMC

EN61326-1:2013

## Safety

EN61010-1:2010 + A1:2019

## RoHS

IEC62321-2:2013, IEC62321-1:2013, IEC62321-3-1:2013,  
IEC62321-5:2013, IEC62321-4:2013, IEC62321-7-2:2017,  
IEC62321-7-1:2015, IEC62321-6:2015

Signed for on behalf of:-

Kane International Ltd. 07th January 2021

Paul Morrison Engineering Manager



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