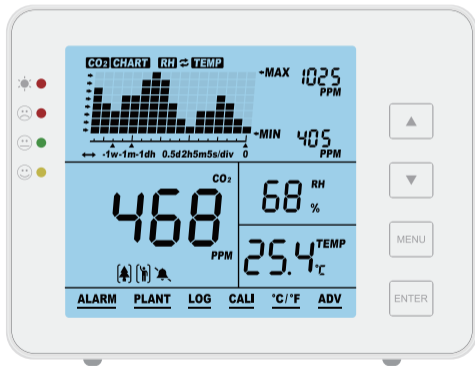


# CO2 Monitor-SA1200P

## Instruction Manual



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## **Getting Started**

Thanks for purchasing our desktop CO2 monitor! This product is used to monitor CO2 concentration, RH, and temperature for indoor air quality monitoring.

## **Packing List**

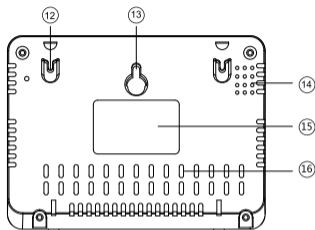
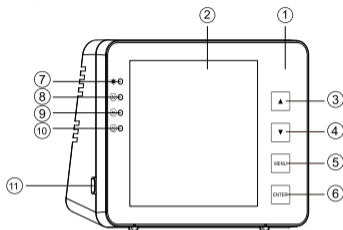
CO2 Monitor Unit  
USB Cable for Power  
User's Manual  
AC Adapter (Optional)

## **Features at a Glance**

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













# Overview

## Drawing Sketch and Components List



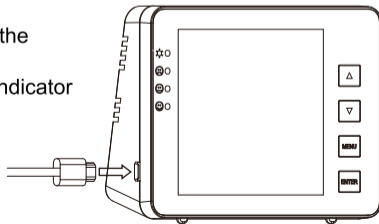
Item	Description	Item	Description
①	Front Panel	⑨	Good Level
②	LCD	⑩	Low Level
③	▲ Button	⑪	USB Port
④	▼ Button	⑫	Hole for Rope
⑤	MENU Button	⑬	Hole for Screws
⑥	ENTER Button	⑭	Hole for Buzzer
⑦	Power Indicator	⑮	Label
⑧	High Level	⑯	Hole for Sensors

## General Operation and Settings

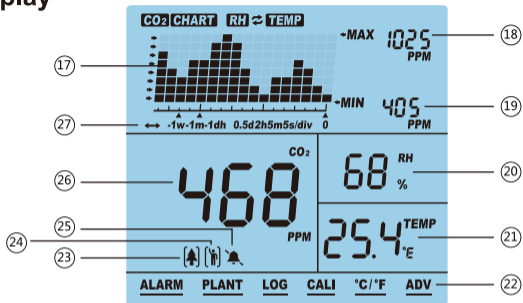
- Use provided USB cable to connect the device. Once the countdown is complete, your device is ready to use. See detail in Page 3.
- Use  and  buttons to switch timeline and CO2/RH/TEMP. The trend chart displays the history records for any of the three parameters. See detail in Page 5.
- To restore factory defaults, hold  for 3 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 11.

## 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 and 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.



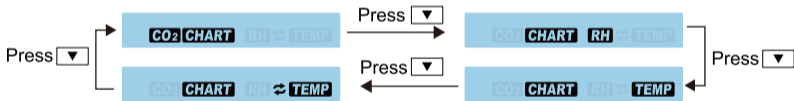
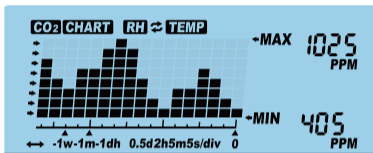
## LCD Display



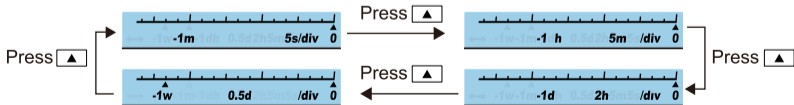
Item	Name	Item	Name
①7	CO <sub>2</sub> /RH/TEMP Chart	②3	Plant Mode
①8	Max Reading of Chart	②4	Human Mode
①9	Min Reading of Chart	②5	Audible Alarm On/Off
②0	RH Reading	②6	CO <sub>2</sub> Reading
②1	Temperature Reading °C / °F	②7	Time per Division- indicates the chart's span of time
②2	Main Menu		

## Trend Chart Display

The below chart displays the past readings for any of the three parameters (CO2/RH /Temp). There are 4 modes that can be toggled by using  key: CO2, TEMP, RH, and Cycle(automatically cycles through CO2/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:

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

## Max/Min

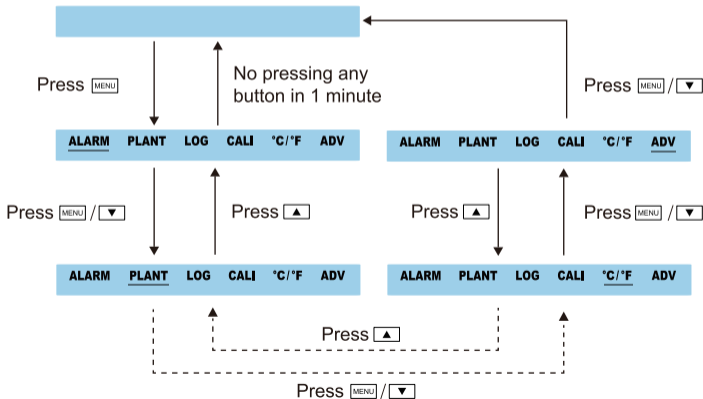
At the top right corner of the display, there are two numerical indicators: MAX and MIN.As the Zoom Level is changed, the MAX and MIN values will reflect the maximum and minimum values on the chart of the selected parameter(CO2, RH and Temp).



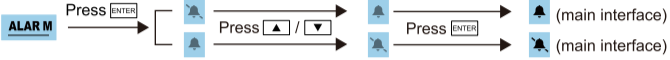


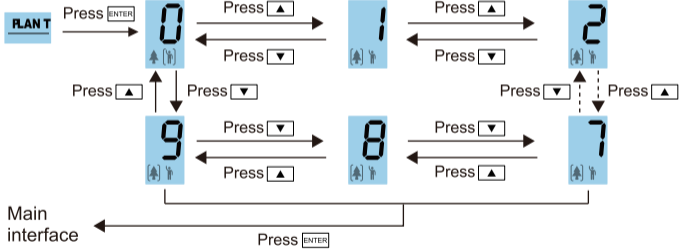


# Main Menu Functions

ALARM PLANT LOG CALI °C/°F ADV

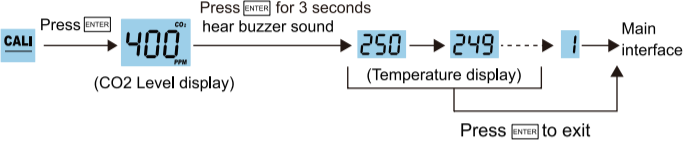
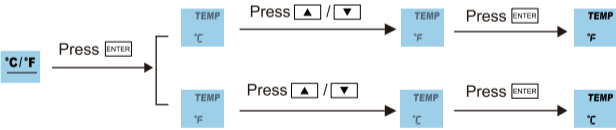
The Main Menu functions can be activated by pressing **MENU**. Pressing **▼** / **MENU** once will bring up the main menu, with an underlining flashing bar indicating the current choice.



To select the function, press **ENTER** when it is underlined by the flashing bar. Note that after 1 minute if nothing is pressed, the Main Menu will disappear and 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 and high alarm are 800 and 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 and low alarms in Page 14.</p>

Function	Description
LOG	<p>Press <b>ENTER</b></p> <p><b>LOG</b></p> <p><b>GO2 CHART</b></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> <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> (Temperature display) → <b>1</b> → Main interface</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</b> °C → Press <b>▲</b> / <b>▼</b> → <b>TEMP</b> °F → Press <b>ENTER</b> → <b>TEMP</b> °F</p> <p>Press <b>ENTER</b> → <b>TEMP</b> °F → Press <b>▲</b> / <b>▼</b> → <b>TEMP</b> °C → Press <b>ENTER</b> → <b>TEMP</b> °C</p> <p>Use this function to toggle between Celsius ( °C ) and 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 and low alarm values of human mode (0) as well as the first option of plant mode (1). High and 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 °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	0.1°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, 0.1% Max/Min display
Operating Voltage	DC(5±0.25)V
Dimension	120*90*35mm
Weight	170g ( 6.0oz) device only, not including AC adapter

## Appendix

No.	Refers	Low/High Alarm	Adjustable
0,	FOR Human	800-1200ppm	Yes
1,	FOR Customized Plant	600-900ppm	Yes
2,	FOR Bean	600-900ppm	No
3,	FOR Chillies	800-1000ppm	No
4,	FOR Cucumber	1000-1500ppm	No
5,	FOR Grape	800-1400ppm	No
6,	FOR Orchid	800-1400ppm	No
7,	FOR Potato	1200-1800ppm	No
8,	FOR Strawberry	800-1200ppm	No
9,	FOR Tomato	800-1200ppm	No