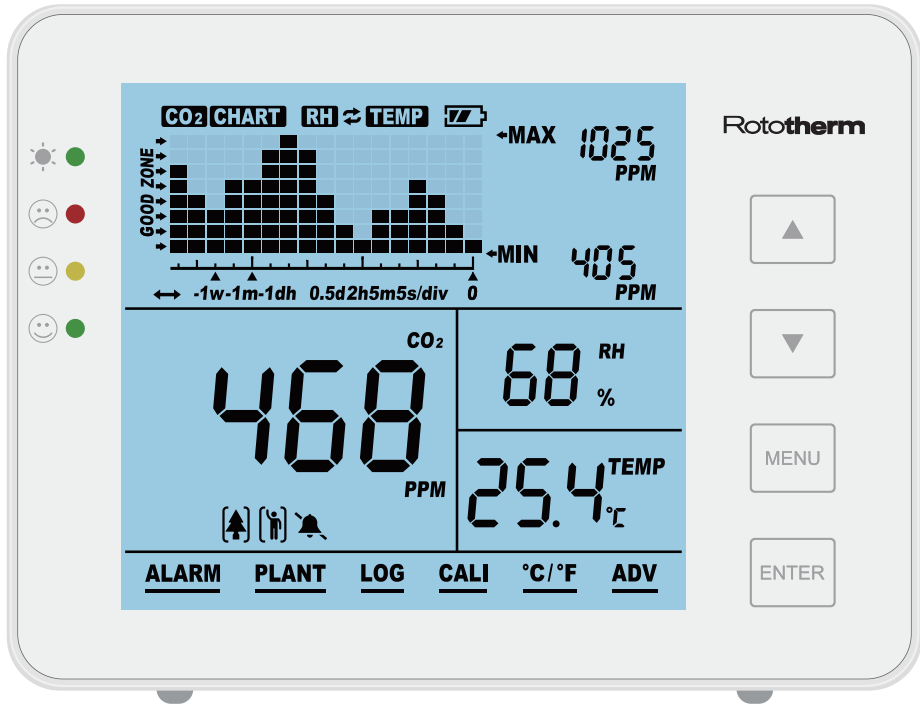
Rototherm

CO2 Monitor-AM60

Instruction Manual



CE RoHS 2.0 REACH

CO2/TEMP/RH

www.rototherm.co.uk

Contents

Getting Started ——— 1
Packing List ——— 1
Features at a Glance ——— 1
Overview ——— 2
General Operation and Settings ——— 3
Restore Factory Defaults ——— 3
Switch On/Off ——— 4
Power Source ——— 5
LCD Display ——— 6
Trend Chart Display ——— 7
Max/Min ——— 8
Main Menu Functions ——— 9
RH/TEMP Calibration ——— 14
Specifications ——— 15
Appendix ——— 17

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

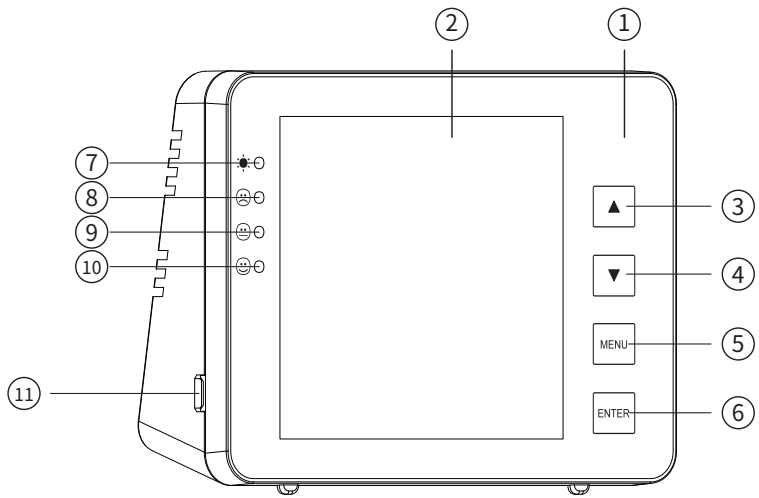
CO2 Monitor Unit
USB Cable for Power
User’ s Manual
AC Adapter (Optional)

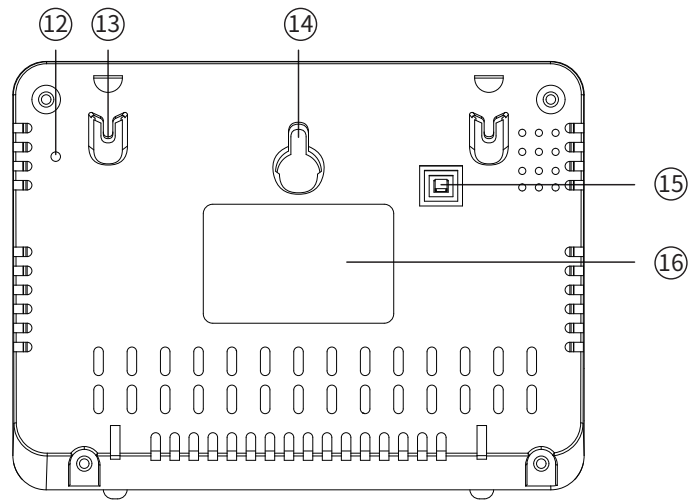
Features at a Glance

- 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
- CO2 Auto-Calibration and Manual Calibration
- Temp and RH Manual Calibration
- Max/Min Value Display in Certain Time
- Built-in Backup Battery

Overview

Drawing Sketch and Components List





Item	Description	Item	Description
①	Front Panel	⑨	Orange Condition Indicator
②	LCD	⑩	Green Condition Indicator
③	UP Button	⑪	USB Port
④	Down Button	⑫	Hole for Buzzer
⑤	Menu Button	⑬	Hole for Rope
⑥	Enter/OK Button	⑭	Hole for Screws
⑦	Battery Indicator	⑮	ON/OFF Switch
⑧	Red Condition Indicator	⑯	Label

General Operation and Settings

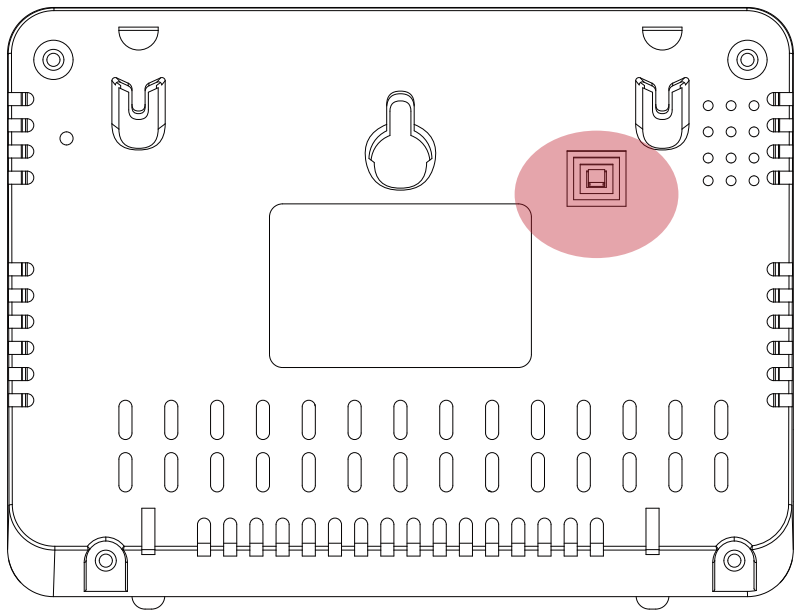
- Press down the switch on the back to activate this monitor. After 3 minutes' warm-up, your device is ready for use. See details in Page 4.
- Use the provided USB cable to connect the device for charging. See detail in Page 5.
- Use ▲ and ▼ buttons to switch timeline and CO2/RH/TEMP. The trend chart displays the history records for any of the three parameters. See detail in Page 7.
- Press MENU once will bring up the main menu. To select the function, press MENU / ▼ button. See detail in Page 9.
- Select PLANT to switch human and plants modes. See detail in Page 10.
- Enter ALARM to switch alarm and mute . See detail in Page 10.
- Select ADV to change the high/low alarms for human and plant. See detail in Page 13.
- Enter °C/°F to switch temperature units ˚C and ˚F. See detail in Page 12.

Restore Factory Defaults

In Detection Panel , hold ENTER for 4 seconds until an audible beep is heard.

Switch On/Off

Press down the switch to activate this monitor, wait for 3 minutes for warm-up.
Press the switch again to switch it off.



Switch on:

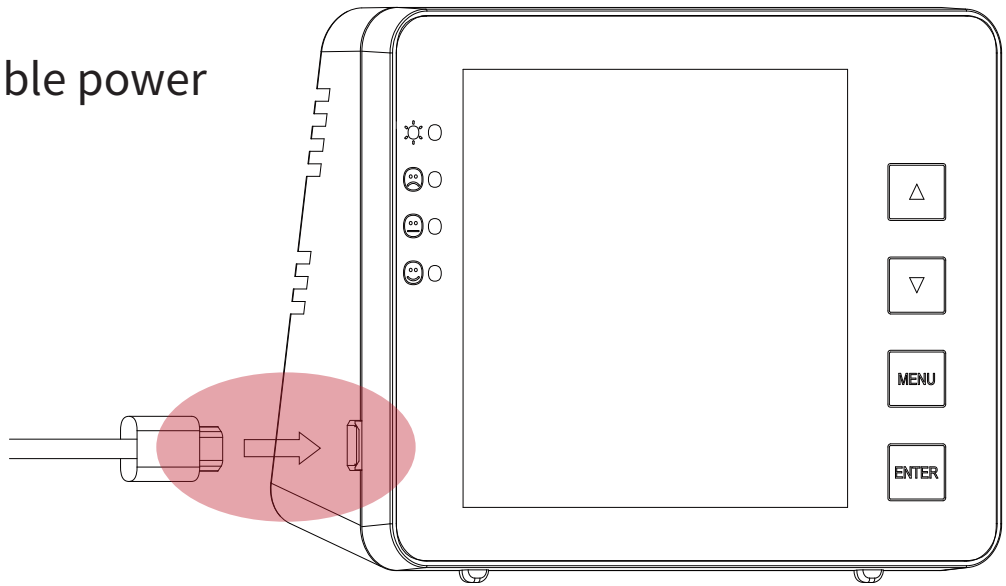
Switch off:

Switch it off if you don't use it for more than 1 week.

Power Source

Plug in USB power

When the device is ON, plug in USB cable power



Battery

Battery indicator

Charging: flashing green indicator

Fully charged: steady green indicator

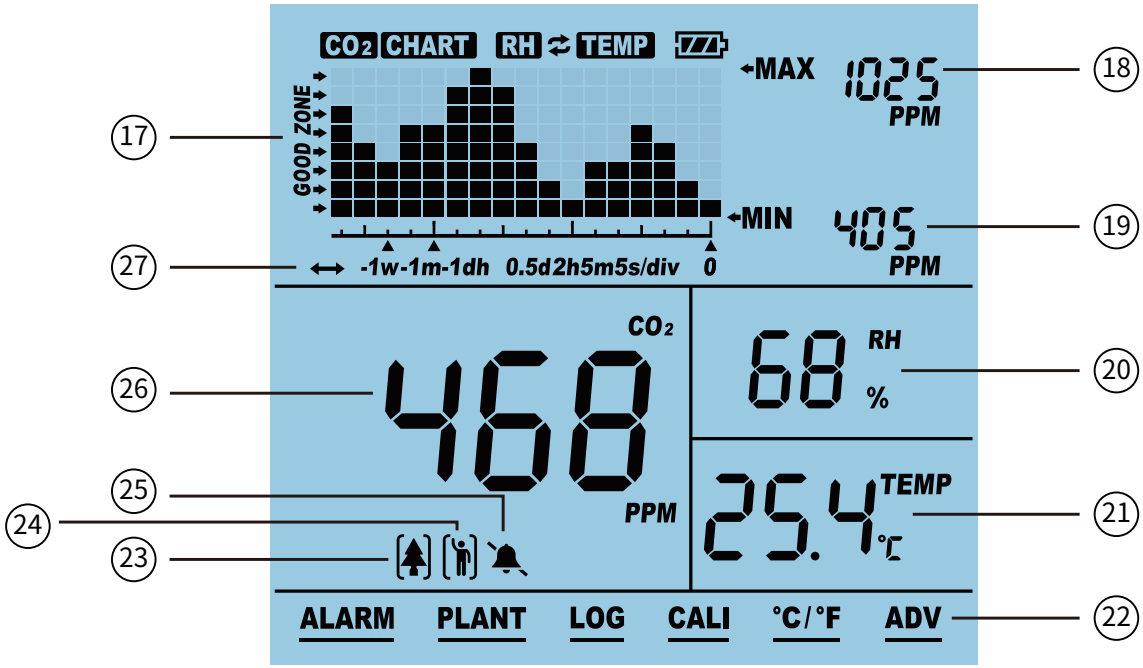
Battery recharging

When the device is ON, plug in USB cable power

Charging time: 6 hours (Charge extra 30 minutes after the indicator turning from red to green)

Working time: ⩾12 hours

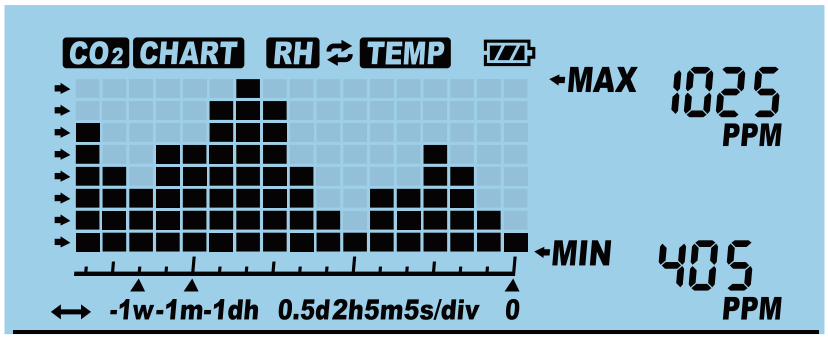
LCD Display

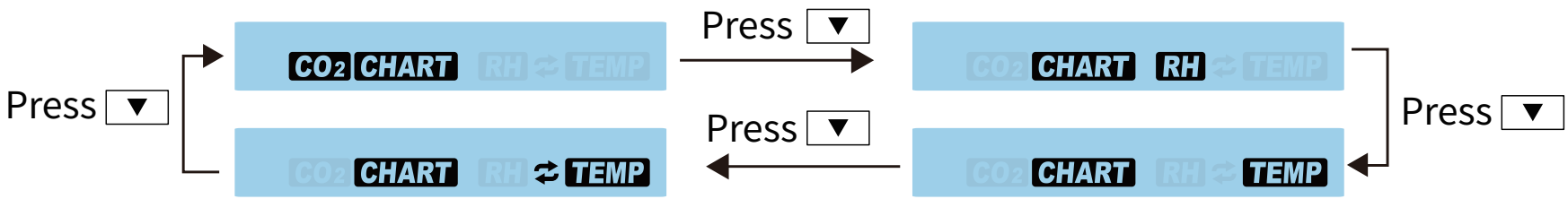


Item	Name	Item	Name
⑰	CO2/RH/TEMP Chart	㉓	Plant Mode
⑱	Max Reading of Chart	㉔	Human Mode
⑲	Min Reading of Chart	㉕	Audible Alarm On/Off
⑳	RH Reading	㉖	CO2 Reading
㉑	Temperature Reading ˚C / ˚F	㉗	Time per Division- indicates the chart’ s span of time
㉒	Main Menu		

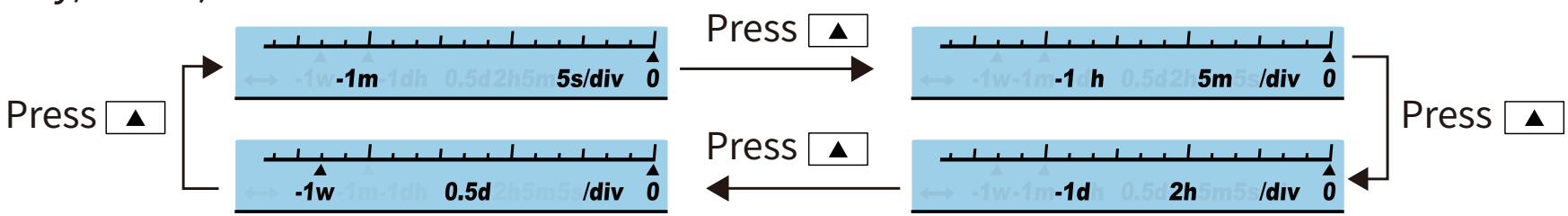
Trend Chart Display

The below chart displays the past readings for any of the three parameters (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

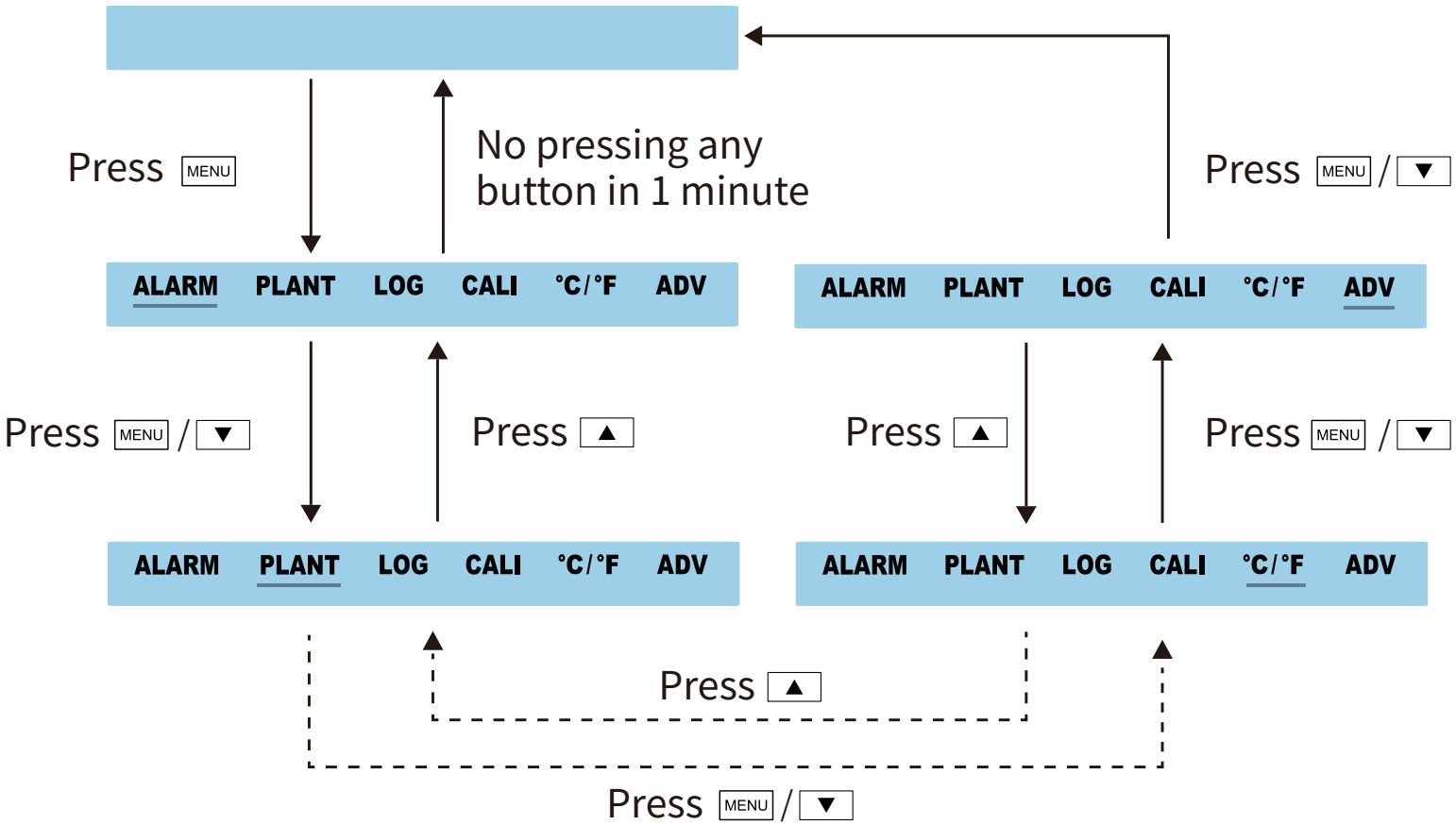
Max/Min

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).

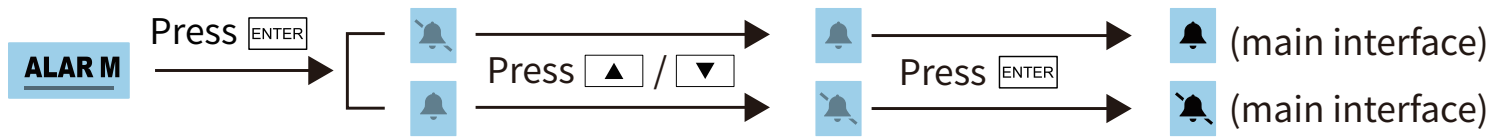
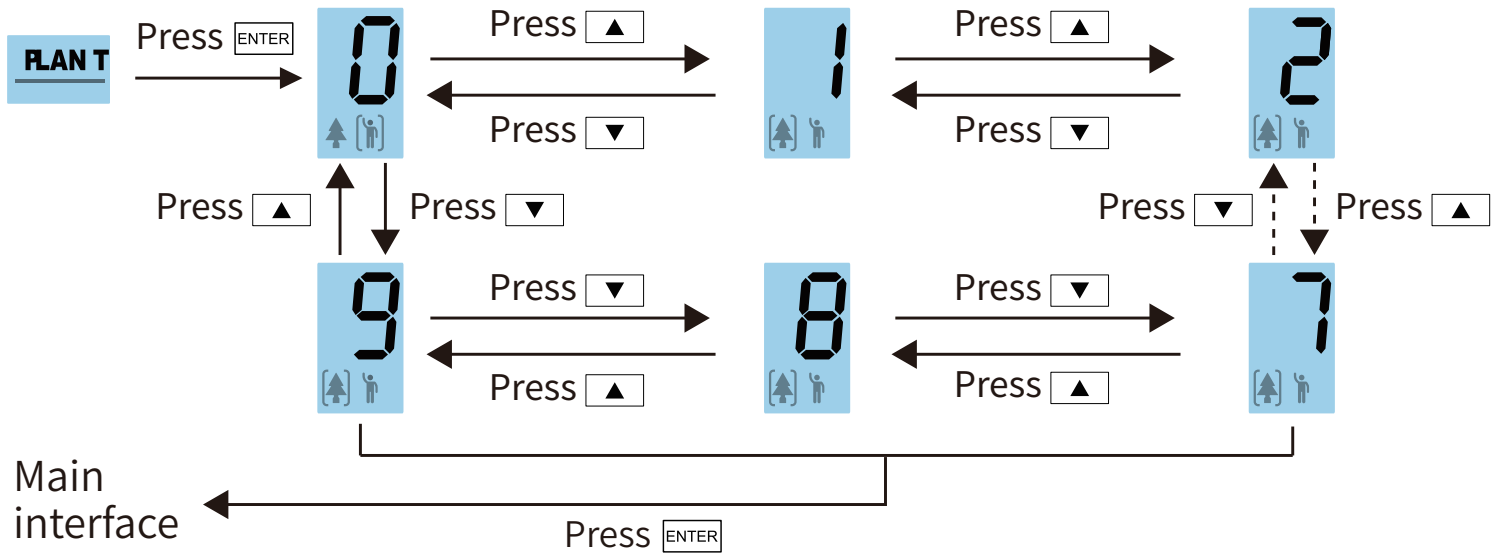
Main Menu Functions

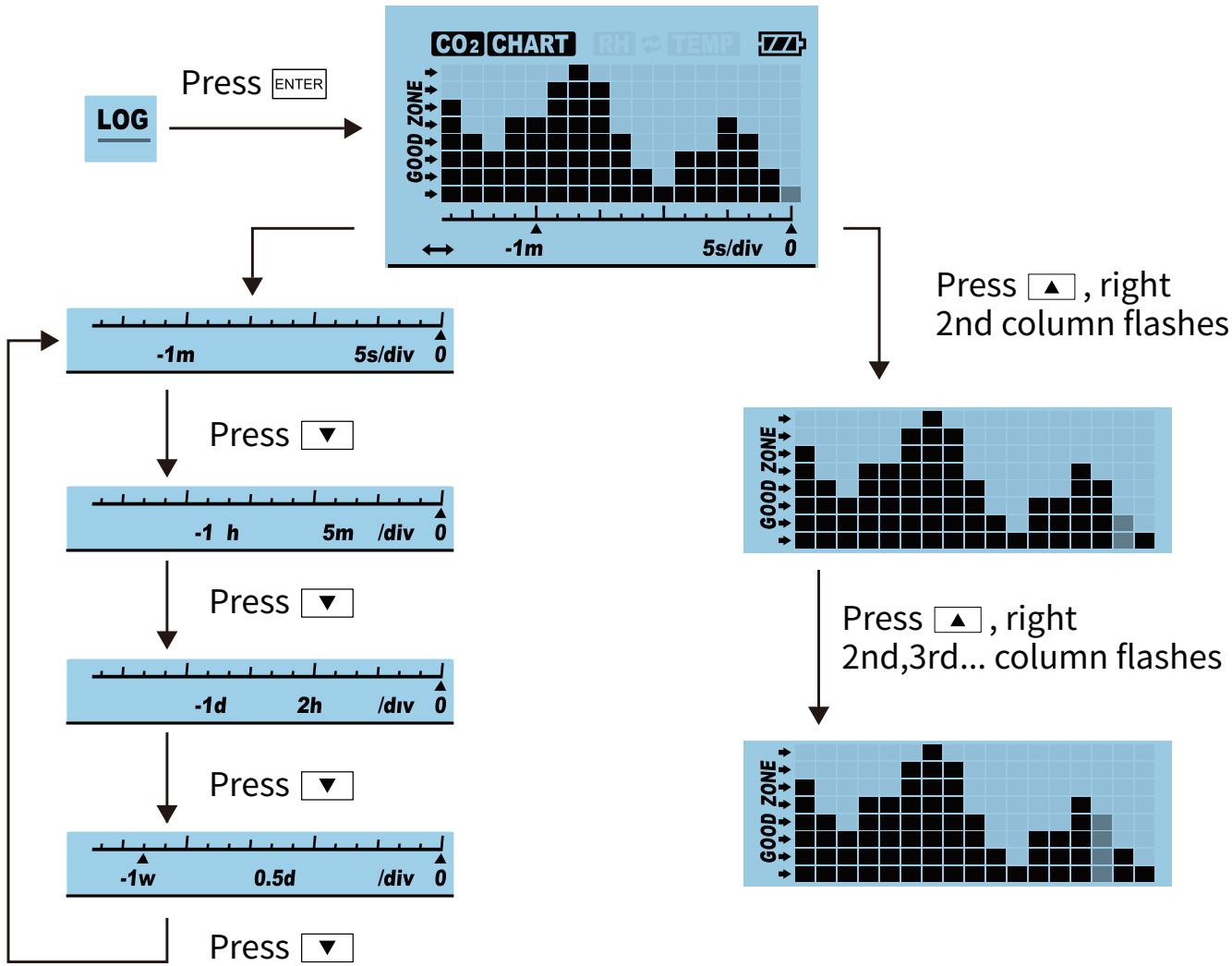


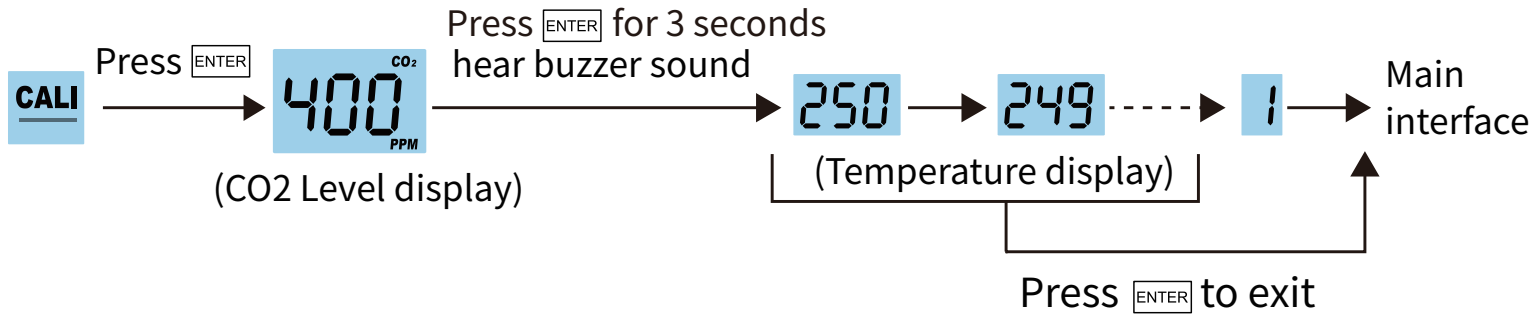
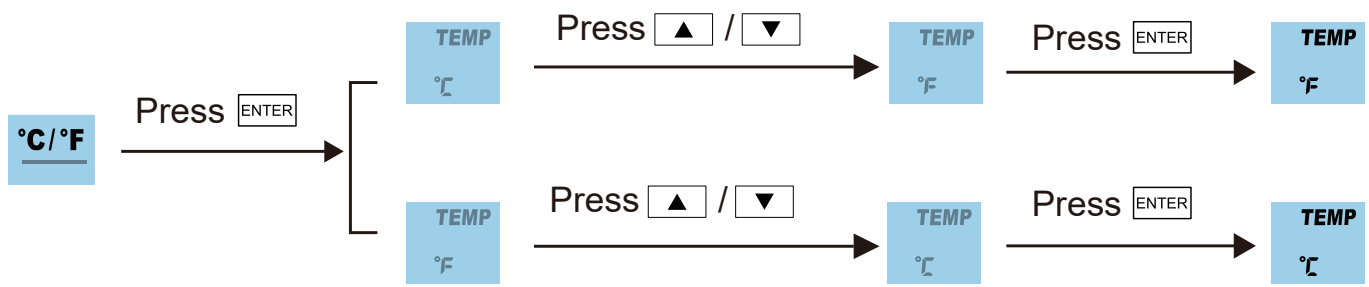
The Main Menu functions can be actived by pressing MENU . Pressing ▼ / MENU once will bring up the main menu, with an underlining flashing bar indicating the current choice.

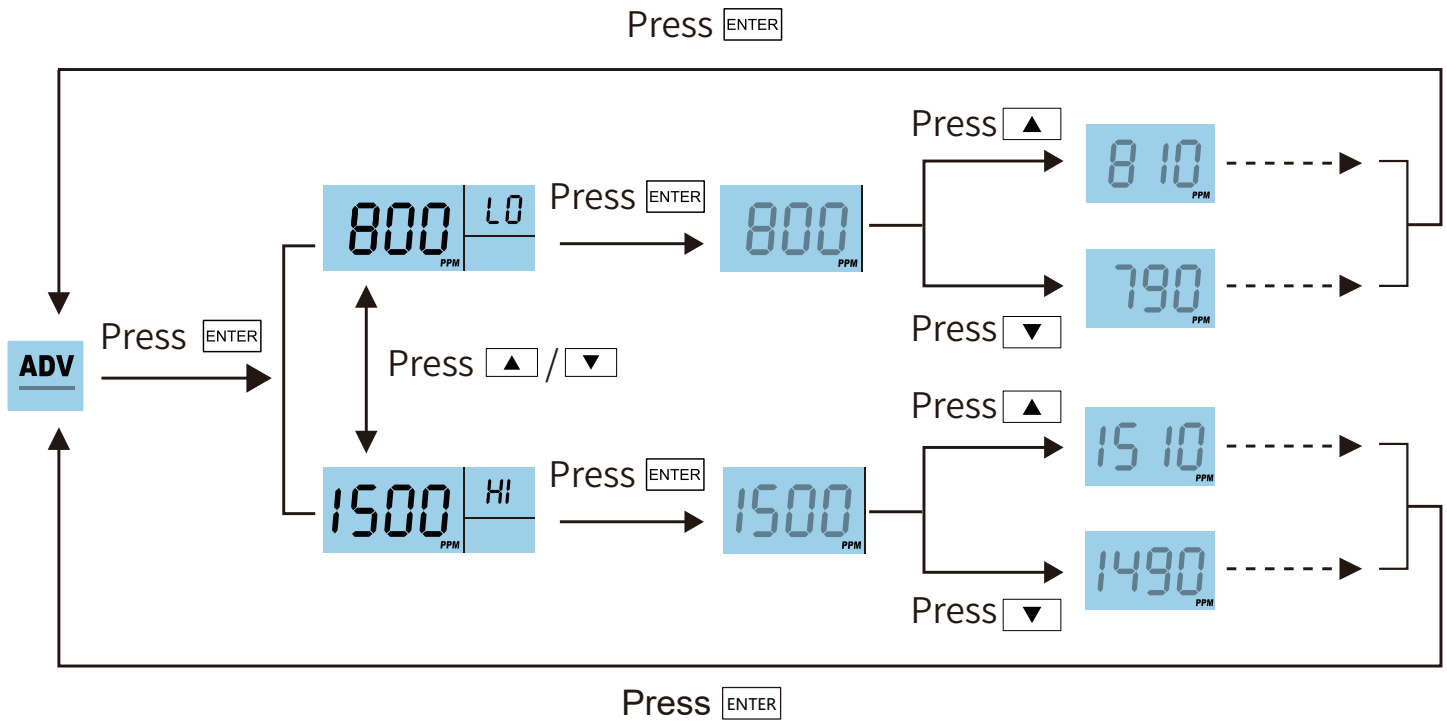


To select the function, press ENTER when it is underlined by the flashing bar. Note that after 30 seconds if nothing is pressed, the Main Menu will disappear and the device will revert to the normal state.

Function	Description
ALARM	
	When ALARM display , an audible alarm will sound if the CO2 level exceeds preset CO2 alarm value; means MUTE.
PLANT	
	Select number 0 to enter human mode. 0 is defaulted as human mode, unchangeable. The preset Low and high alarm are 800 and 1500ppm. 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 17.

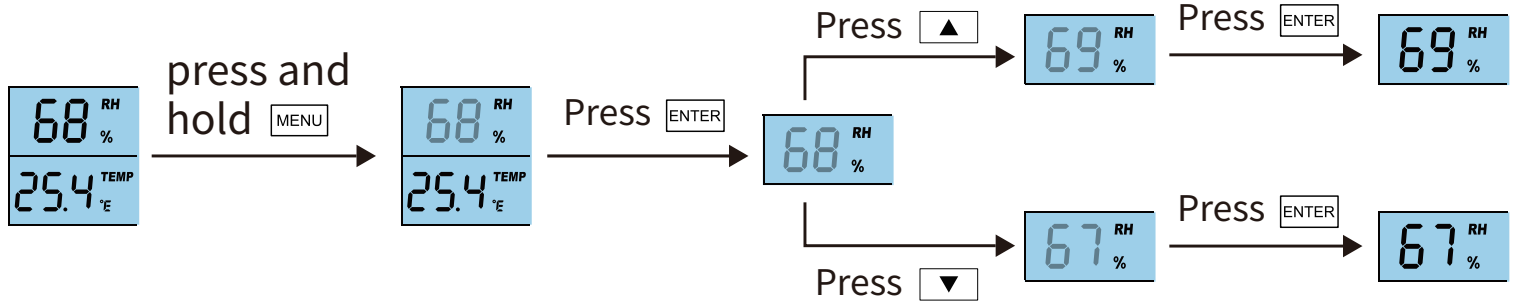
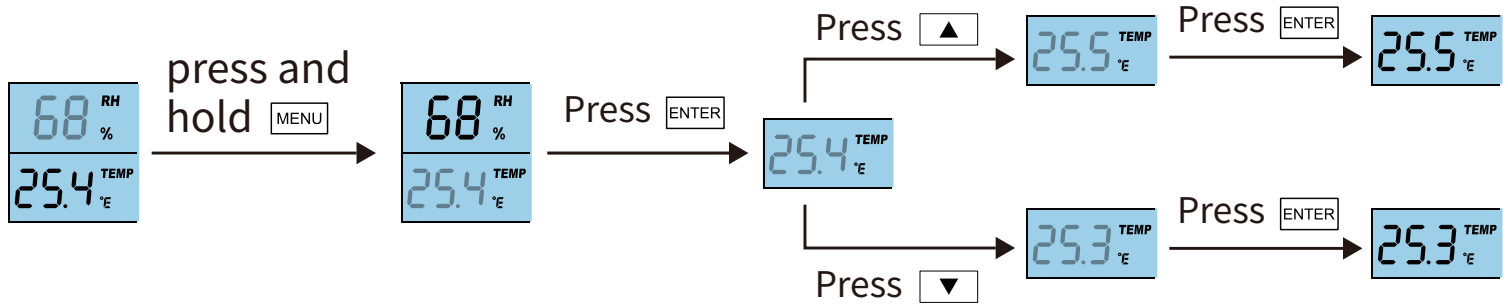
Function	Description
LOG	
	This function allows the user to see historical data records.

Function	Description
CALI	
	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 CO2. Wait till the CO2 reading is stable, follow above steps for calibration. After calibration leave it 10 minutes before normal use.
°C / °F	
	Use this function to toggle between Celsius (°C) and Fahrenheit (°F) for the temperature display.

Function	Description
ADV	 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)

RH/TEMP Calibration

This function allows the user to calibrate the temperature or humidity manually.
(RH=Humidity; TEMP=Temperature)
In the detection mode, press and hold MENU for 3 seconds to bring up an underlining flashing bar of RH.

Function	Description
RH	
TEMP	

Specifications

Typical test conditions: Ambient Temp: 23±3°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)
CO2 Measurement	
Measuringe range	(0-5000)ppm
Display resolution	1ppm (0-1000); 5ppm (1000-2000); 10ppm (>2000)
Accuracy	(0~3000)ppm: ± 50ppm ± 5% of reading (take the Maximum)
	(＞3000)ppm: ± 7% of reading
Repeatability	20ppm at 400ppm
Temp compensation	±0.1% of reading per °C ±2 ppm per °C, referenced to 25°C
Response time	＜2 min for 63% of step change or ＜ 4.6 min for 90% step change
Warm-up time	<20 seconds

Temperature Measurement	
Operating temperature	32°F ~ 195°F (0°C ~90°C)
Display resolution	1°F / 0.1°C
Response time	<20 minutes (63%)
RH Measurement	
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	190g

Appendix

No.	Refers	Low/High Alarm	Adjustable
0	FOR Human	800-1500ppm	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

Rototherm

The British Rototherm Company Ltd
Kenfig Industrial Estate
Margam
Port Talbot
SA13 2PW
United Kingdom
www.rototherm.co.uk
Tel: +44 (0)1656 740551