User Manual

ACCUR8 CO2-5000

CO2 Monitor with Temperature & Humidity

1.   Introduction

Thank you for purchasing this ACCUR8 product. This user manual is to be considered a component of the device. Read carefully before using the device. Keep in a safe place for future reference. When the device is sold or given to someone else, the user manual must be provided to the new owner/user of the product.

As part of our ongoing policy to improve the design and specification of our products, we reserve the right to change any detail given without prior notice. Tempcon Instrumentation Ltd shall not be responsible for any liability of any nature which may result from the use of any information provided in technical literature.

Errors and technical changes excepted.

2.   General Safety Instructions

Risk of electric shock

Only use the device as described in the manual; otherwise, you run the risk of an electric shock.

• Children must only use the device under adult supervision.

• Disconnect the device from the power supply before starting any cleaning of the device.

• Position your device so that it can be disconnected from the power supply at any time. The power socket should be installed near the device and should be easily accessible as the mains cable plug is used to disconnect the device from the power supply.

• To disconnect the device from the power supply, always pull on the plug. Never pull on the cable.

• Before starting up the device, check the device, the cables and the connections for signs of damage.

• Never use a damaged device or a device with damaged parts.

• Only use the display console in a dry environment and do not touch it with wet or moist parts of your body.

Risk of suffocation/choking

Improper use of this product can result in suffocation, especially for children. The following safety information must be observed at all times.

• Keep packaging materials away from children. They can cause suffocation.

• This product contains small parts that could be swallowed by children. There is a risk of choking.

Risk of fire/explosion

Improper use of this product can cause an explosion. The following safety information must be observed at all times to prevent an explosion.

• Do not expose the device to high temperatures. Excessive heat or improper handling could trigger a short circuit, a fire, or an explosion.

Risk of damage to property

Improper handling can result in damage to the device and/or to the accessories. Always observe the following safety information when using the device:

• Never disassemble the device. In the event of a fault, please contact your retailer.

• Do not expose this device to high temperatures and protect it from water and high humidity.

• Protect the device from severe shocks or excessive vibrations.

• For this device, only use accessories and spare parts that comply with the technical information.

Risk of voltage damage

The manufacturer is not liable for voltage damage through the use of an improper power adaptor.

3.   Packing List

CO2 Monitor Unit

USB cable for Power (standard USB power adaptor plug required)

User Manual

4.   Features at a Glance

Large Display

Touch Button Operation

15° Bevel Design, Easy to Read
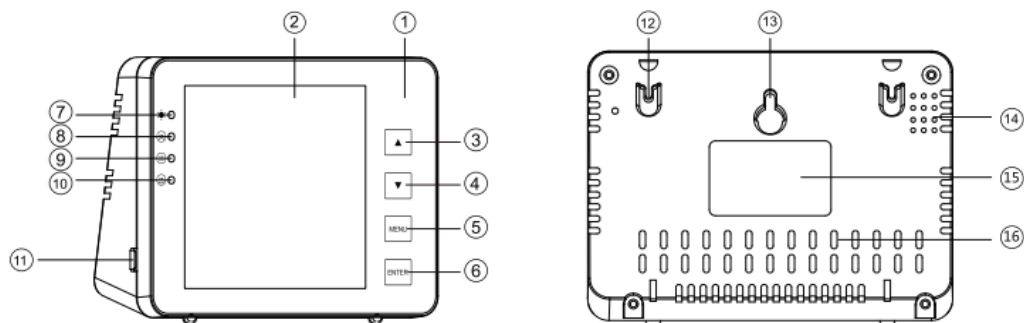
Low Drift NDIR Sensor, Long Lifespan

Audible Alarm

Chart with Variable Time Zoom Levels

CO2/ Humidity /Temperature Sensors

Auto-Calibration and Manual Calibration

Max/Min Values Displayed on Screen

5.   Overview

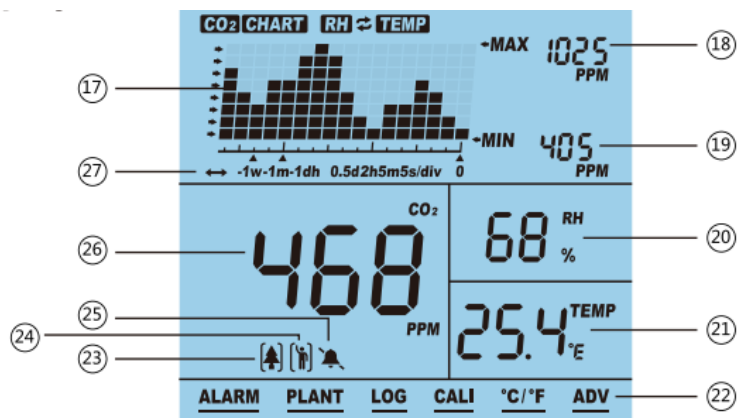| Item	Description	Item	Description
①	Front Panel	⑨	Good Level
②	LCD	⑩	Low Level
③	▲ Button	⑪	USB Port
④	▼ Button	⑫	Hole for Rope
⑤	MENU Button	⑬	Hole for Screws
⑥	ENTER Button	⑭	Hole for Buzzer
⑦	Power Indicator	⑮	Label
⑧	High Level	⑯	Hole for Sensors

6.   General Operation and Settings

1. Use the provided USB cable to connect the device. Once the countdown is complete, your device is ready to use.
2. Use the Up and Down buttons to switch timeline and CO2/HUMIDITY/TEMP. The trend chart displays the history records for any of the three parameters. See details on Page 4.
3. To restore factory defaults, hold the Enter button for 3 seconds until an audible beep is heard.
4. Pressing the Menu button once will bring up the main menu. To select the function, press Menu/Down button. See details on Page 5.
5. Select 'Plant' to switch between human and plant modes. See detail on Page 5.
6. Select 'ADV' to change the high/low alarms for human and plant modes. See details on Page 6.
7. Enter ALARM to switch between alarm and mute. See details on Page 6.
8. Enter °C/°F to select temperature units °C or °F. See details on Page 7.

7.   Operating Instructions

1. When first unboxing, plug in the unit with the provided USB cable.
2. Once successfully connected, the power indicator and three LEDs flash one by one.
3. The 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.
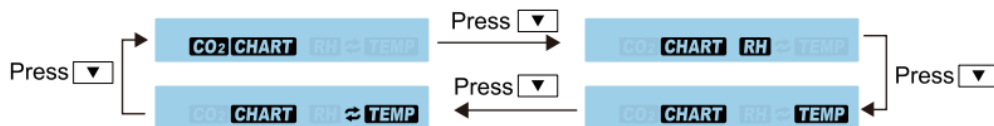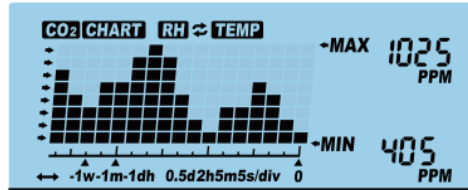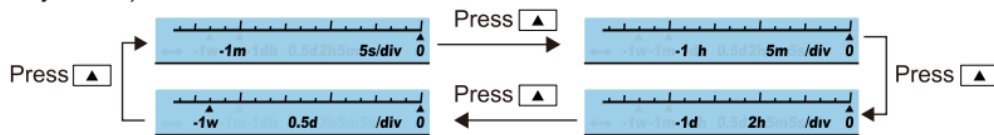
8.   LCD Display

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 ℃ / ˚F	27	Time per Division- indicates the chart's span of time
22	Main Menu		

9.   Trend Chart Display

The chart below displays the past readings for any of the three parameters (CO2/Humidity/Temperature). There are four modes that can be toggled by using the Up button: CO2, Temp, Humidity, and Cycle (automatically cycles through CO2/Temp/ Humidity).

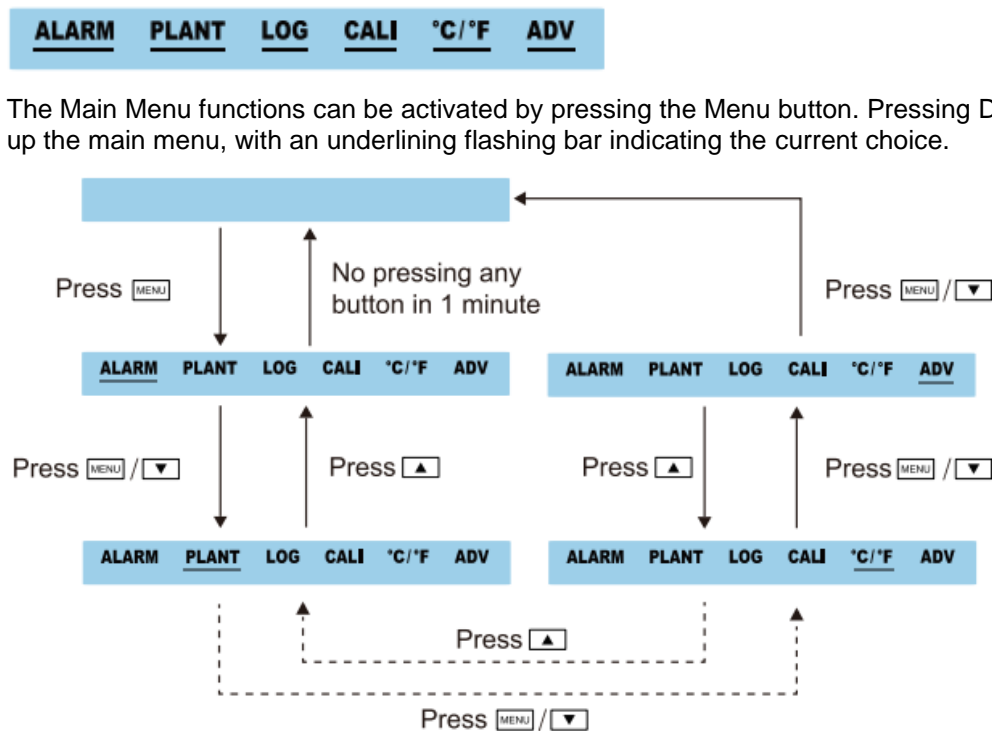Press ▼ will toggle the available Zoom Levels for each parameters.(Minute/Hour/ Day/Week)

The table below shows the available Zoom Levels for all parameters CO2/ Humidity/ 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

10.   Max/Min

At the top right corner of the display, there are two 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 (C02, Humidity and Temp).

11.   Main Menu Functions

| ALARM | PLANT | LOG | CALI | °C/°F | ADV |

The Main Menu functions can be activated by pressing the Menu button. Pressing Down/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 one minute 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 CO_2 level exceeds preset CO_2 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 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.

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 ($^\circ$℃) and Fahrenheit ($^\circ$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)

12. Specifications

Typical test conditions: Ambient Temp: 23 ± 3°C, humidity=50%-70%, Altitude= 0-10 metres

Operating Temperature	32°F - 122°F (0°C - 50°C)
Storage Temperature	-4°F - 140°F (-20°C - 60°C)
Operating & storage humidity	0-95% (non-condensing)

CO2 Measurement

Measuring range	(0-5000)ppm
Display resolution	1ppm (0-1000); 5ppm (1000-2000); 10ppm (>2000)
Accuracy	(0-3000)ppm: ± 50ppm ± 5% of reading. (>3000)ppm: ± 7% of reading
Repeatability	20ppm at 400ppm
Temp compensation	±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

Temperature Measurement

Operating temperature	32°F - 195°F (0°C ~90°C)
Display resolution	0.1°F (0.1°C)
Response time	<20 minutes (63%)

Humidity Measurement

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 device only

13.   Appendix

No.	Refers	Low/High Alarm	Adjustable
0,	FOR Human	800-1200ppm	Yes
1,	FOR Customised 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

14.   Service

Please contact us for any questions regarding the product or claims, preferably by email.
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ACCUR8 is a registered trademark of Tempcon Instrumentation Ltd

15.   EC Declaration of Conformity

Tempcon Instrumentation Ltd has issued a declaration of conformity in accordance with applicable guidelines and corresponding standards. The full text of the EC declaration of conformity is available on request from the address above.

16.   Disposal

Dispose of the packaging materials properly, according to their type, such as paper or cardboard. Contact your local waste-disposal service or environmental authority for information on the proper disposal.

Do not dispose of electronic devices in the household rubbish! Used electronic devices must be collected separately and recycled in an environmentally friendly manner.

Do not dispose of batteries and rechargeable batteries with the household waste. After they are used, the batteries can be returned to our point of sale or to a nearby location (for example, retailers or municipal collecting points).

Batteries and rechargeable batteries are marked with a symbol of a crossed-out dustbin and the chemical symbol of the pollutant. "Cd" stands for Cadmium, "Hg" stands for mercury and "Pb" stands for lead.

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