



## CO<sub>2</sub> Sensor AVG TFT

Carbon Dioxide Gas Monitor



### Installation & Operation Manual

Please read this manual carefully and retain for future use.

The CO<sub>2</sub> sensor AVG TFT is carefully designed and tested to monitor levels of carbon dioxide (CO<sub>2</sub>) in the air and used in areas where CO<sub>2</sub> could be a concern. The information contained within should be referenced for typical installation and operation only.

For site specific requirements that may deviate from the information in this guide – contact your supplier.

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# INSTALLATION

## Planning

Your new CO<sub>2</sub> sensor is carefully designed and tested to monitor levels of carbon dioxide (CO<sub>2</sub>) in the air and used in areas where CO<sub>2</sub> could be a concern.

The device will measure and display the CO<sub>2</sub> value in ppm (parts-per-million) with digital display indications. This data is refreshed every 3 seconds.

Your device will also monitor, record and display the average concentration of carbon dioxide over an 8 and 24 hour period also giving you the maximum concentration recorded over 24 hours. This data is refreshed every 10 minutes.

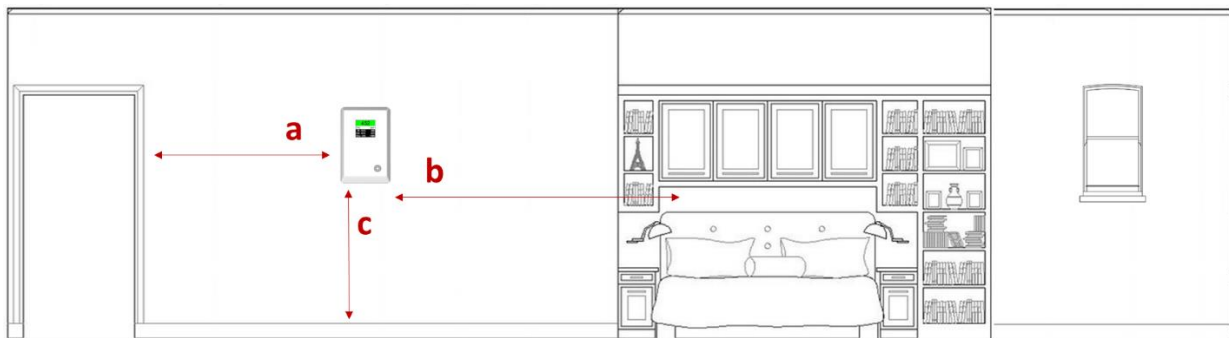
The information contained within this guide should be referenced for typical installation and operation only. For site specific requirements that may deviate from the information in this guide – contact your supplier.

### Carbon Dioxide Gas

Carbon dioxide (Chemical formula-CO<sub>2</sub>) is a colourless gas with a density about 60% higher than that of dry air. It occurs naturally in earth's atmosphere as a trace gas where the natural concentration is about 0.04% (410ppm).

## Typical Positioning

A carbon dioxide monitor requires a free flow of air to operate correctly, it should therefore not be located in a space that is likely to restrict the free movement of air.



- Avoid positioning near draft areas i.e. doorways, windows and ventilation openings as this may give the occupant false CO<sub>2</sub> readings.
- Avoid obstructions such as furniture, blinds and curtains etc.
- Mount between 1.4 – 1.8m above floor level. A carbon dioxide detector head (or monitor if integrated) should not be sited within 1m of the expected location of a bed-head.

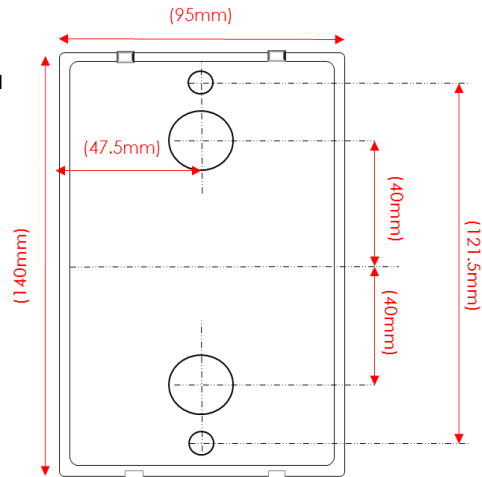
If you are in doubt or require further information, contact us.

This device is designed for surface mounting using 2 mounting screws (not supplied) and **MUST** be installed by a competent person. Mark the location of the two holes needed on the wall using the back plate as a template.

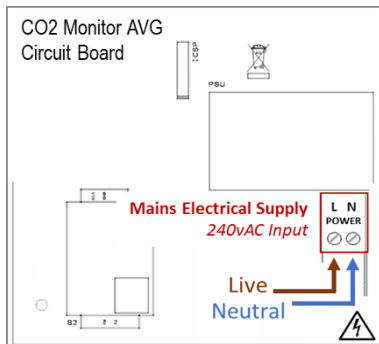
Removing the back plate gives access to the circuit board.

Do not attempt to remove the Circuit Board!  
This will void any warranty you may hold.

There are also two pre-fractured areas for wiring access.



## Wiring



A 240VAC Live and Neutral electrical supply should be connected to the terminal marked [POWER] as shown.

Internally fused at 500mA.

External fuse ratings must exceed 500mA.

When mains supply is connected, the device will power up for 60 seconds and CO<sub>2</sub> levels will then be displayed.

## Specification

Power Supply	100-240VAC, 50-60Hz (Max 1.7 VA without load)
Target Gas Sensor Type	NDIR: Intelligent Infrared CO <sub>2</sub> Module
Digital Display Type	Thin Film Transistor (TFT)
Typical Sensor Measuring Range Accuracy @ 25°C (77 F)	400 ~ 5000ppm ± 50ppm ± 3% reading value
CO <sub>2</sub> Signal Update	Every 3 seconds
Average/24hr Max Signal Update	Every 10 minutes
CO <sub>2</sub> Warm Up Time	One minute / 60 Seconds
Yellow Screen Indicator (Moderate CO <sub>2</sub> Air Quality)	1000-1299 ppm
Red Screen Indicator (Poor CO <sub>2</sub> Air Quality)	1300+ ppm
Operating Conditions	-32 - 122 F; (0 - 50°C) 0 - 95%RH, Non Condensing
Storage Conditions	-32 - 122 F; (0 - 50°C)
Net Weight	202.6g 7.15oz
Dimensions	95(W)x140(H)x30(D)mm 3.7(W)x5.5(H)x1.2(D)inch

# OPERATION

## First Power Up

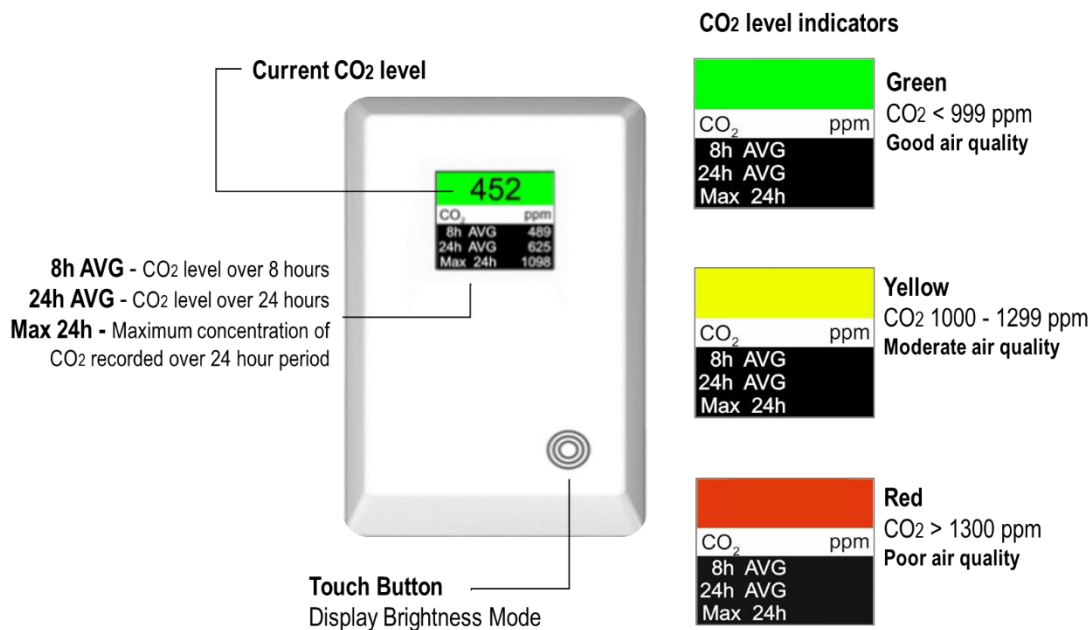
Turn your device on.

- Supply 240VAC mains to the [L N POWER] terminal.
- After initial warm up (60 seconds) the screen will show CO<sub>2</sub> level in the area.

Turn your device off.

- Remove or Switch Off the mains power supply.

## Screen Explanation



## Screen Brightness

By pressing and holding the touch button for 3 seconds allows the user to select 5 brightness modes. Hold to enter brightness mode and press to scroll through the following modes.



**Auto-adjustment** (device will adjust itself according to the level of light in the area).



**Minimum Brightness**



**Medium Brightness**



**Maximum Brightness**



**Display screen OFF**

- Press the touch button to illuminate screen for 10 seconds.
- If air quality reaches moderate or poor CO<sub>2</sub> status, the screen will automatically set to Auto-adjustment mode.

Simply release the touch button and after 5 seconds the selected mode will be set.

## End of Life

This indicates that the device requires immediate replacement.

The gas monitoring elements are expected to last for 10 years from initial installation and power up depending on environmental factors.

Contact your supplier.



## General Maintenance

Keep your detector in good working order follow these basic principles;

- DO carefully remove any accumulated dust from the outer enclosure once a month.
- NEVER use detergents or solvents to clean your device – this may permanently or temporarily damage the gas sensing elements.
- NEVER spray air fresheners, hair spray, paint or other aerosols near the device.
- NEVER paint the device. Paint will seal vents and interfere with the device.



High concentrations of alcohol found in many products may damage, deteriorate or affect the gas sensing elements – such as; wine; deodorants; stain removers; thinners etc.

Our CO<sub>2</sub> monitors are designed to automatically recalibrate using background CO<sub>2</sub> levels. For maintenance purposes, our monitors should be exposed to fresh air frequently to aid with this recalibration procedure.



## IMPORTANT WARNING STATEMENTS

Please take the time to thoroughly read this user's guide which should be retained for future reference.

The expected lifetime of the gas sensor elements is 10 years upon initial power up.

The device will display a message to indicate its end of life and should immediately be replaced.

It is recommended that this device be commissioned upon installation and serviced annually.

Do not apply lighter gas or other aerosols to the device – this will cause extreme damage.

High concentrations of alcohol found in many products may damage, deteriorate or affect the gas sensing elements.

This device is designed to monitor carbon dioxide gas only. It is NOT designed to detect smoke, fire or other gases and should NOT be used as such.

Never ignore your device when in alarm.

This device requires a continual supply of electrical power – it will not work without power.

This device should not be used to substitute proper installation, use and/or maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

This device does not prevent dangerous gasses from occurring or accumulating.

Actuation of your alarm indicates the presence of dangerous levels of CO<sub>2</sub>.

This unit may not fully safeguard individuals with specific medical conditions. If in doubt, consult a doctor/physician.

Your product should reach you in perfect condition, if you suspect it is damaged, contact your supplier.

### Manufacturer's Warranty

Warranty coverage:

The manufacturer warrants to the original consumer purchaser, that this product will be free of defects in material and workmanship for a period of three (3) years from date of purchase. The manufacturer's liability hereunder is limited to replacement of the product with repaired product at the discretion of the manufacturer. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material or workmanship. This warranty extends to the original consumer purchaser of the product only.

Warranty disclaimers:

Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and intended operational purpose, are limited in duration to the above warranty period. In no event shall the manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion. This warranty does not affect your statutory rights.

Warranty Performance:

During the above warranty period, your product will be replaced with a comparable product if the defective product is returned together with proof of purchase date. The replacement product will be in warranty for the remainder of the original warranty period or for six months – whichever is the greatest.



Information on waste disposal for consumers of electrical & electronic equipment.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Please contact your supplier or local authority for details of recycling schemes in your area.

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