	Carbon Dioxide Monitor	1142

Description

This monitor records levels of carbon dioxide (CO2) and indicates if action is needed to improve air quality within your home.
The ambient temperature is displayed.

Safety Instructions

- Always switch off the electrical supply before commencing installation.
- This product must be connected to an accessible switched connection unit fitted with a 5A fuse.
- This product must be installed in a 35mm 1g back box manufactured to EN 60670-1.
- All products must be installed by a competent/qualified person in accordance with all relevant regulations and legislation, including the current editions of the Building Regulations and BS 7671, the IET Wiring Regulations.
- If this equipment is used in a manner not specified by the manufacturer, protection provided by the equipment may be impaired.

If in doubt, contact a qualified electrician

Product Features

- Provides data on the highest level of CO2 within the previous 24 hours, as well as the average level within the previous 8 and 24 hour periods.
- The levels of CO2 are measured in parts per million (ppm).
- Temperature displayed in Celsius (can be disabled).
- Traffic light to indicate if action is required to improve ventilation.
- Alarm thresholds can be adjusted by the installer.
- CO_2 levels are logged every 10 minutes to calculate the average.
- Fits into a 35mm 1g back box.
- Two-part assembly, mounting plate can be installed at 2nd fix with monitor head installed at later date.

Installation Position

This safety device should be installed in rooms that are continuously occupied and are enclosed spaces, e.g. bedrooms

1. Mounting Height 1.4-1.6m.
2. Mounting position must be easily visible and easily accessible.
3. This monitor must not be positioned in 'dead air space' e.g. within 150mm of the ceiling or an adjacent wall, or where it can be obstructed by furniture or furnishings. It should not be positioned next to a door, window, air vent or within 1m of a potential headboard location.
4. This product fits onto a 1g 35mm mounting box, flush or surface.
5. This product is designed for indoor use under standard atmospheric conditions.

Installation

1. Using a flat screwdriver, press in the two securing clips at the bottom of the monitoring head, whilst easing it away from the mounting plate from the bottom, whilst protecting the monitor head from damage.
2. If the temperature readout is not required, remove the jumper link as indicated on the PCB.
3. This product must be connected to switched connection unit fitted with a 5A fuse that is accessible by the user.
4. The cable used for installation should be solid core with a cross sectional area greater than 1mm^2.
5. Terminate the mains supply cables into the terminals in the mounting plate:
   - L permanent live
   - N neutral
   - ⏚ earth
6. Screw the mounting plate into position, onto the back box.
7. Offer the monitor up to the mounting plate top first and clip into place.
8. This monitor should be protected from dust ingress during all building works.

Adjustments

The ppm threshold for the display changing from green to amber and red can be set by adjusting the DIP switches on the monitor (these settings are also detailed on the PCB):

- Green to Amber threshold 600 to 900ppm
- Amber to Red threshold 200 to 500ppm above Amber threshold

DIP switch settings

Green to Amber	DIP 1	DIP 2	Amber to Red	DIP 3	DIP 4	
600ppm	■	□	+200ppm	□	■	
700ppm	■	■	+300ppm	□	■	default
800ppm	■	■	+400ppm	■	■	
900ppm	■	■	+500ppm	■	■	

Operation

The Carbon Dioxide (CO^2) Monitor displays the current Carbon Dioxide level in parts per million (ppm) and gives clear indication if increased ventilation is needed to improve air quality.

Poor air quality, particularly in continuously occupied and enclosed spaces, e.g. bedrooms, can lead to complaints of drowsiness and headaches.

By pressing the button once the display will cycle to show the 8 hour average, 24 hour average, 24 hour highest and back to the default current level. The background colour of the button will change depending upon the settings – see Adjustments.

If background colour is Amber or Red, ventilation should be increased to improve air quality.

It is recommended that the CO^2 level is checked each morning.

Product Specification			
Voltage	100-240Vac 50Hz	Response Time (T90)	< 2 minutes
Power Rating	300mW	Warm-up Time	30 seconds
CO2 Range	0 – 9999ppm	IP Rating	IP 40
CO2 Accuracy	±40 ppm	Material	Flame Retardant PC/ABS
Display Resolution	1ppm	Terminal Capacity	1 x 1.5mm²
Ambient Operating Temperature	0 – 50°C	Dimensions	86 x 86 x 15mm
Humidity	0 – 95% RH	Mounting Box	1g 35mm (EN 60670-1)

Product Usage Guidance

Item Code:	**1142**
Description:	Carbon Dioxide (CO_2) & Temperature Monitor
Operation:	Monitor levels of carbon dioxide (CO_2) and indicate if action is needed to improve air quality within your home
Location:	Monitor is located in the Master Bedroom
Frequency of Sensor Replacement:	10 years
Frequency of re-calibration:	not applicable

How to use the CO_2 Monitor

This CO_2 Monitor will provide data on the highest level of CO_2 within the previous 24 hours, as well as the average level within the previous 8 and 24 hour periods.

This information will enable you to determine whether any action needs to be taken to improve the air quality in your home. The table below provides guidance on what action should be considered for various concentration levels of CO_2. The levels of CO_2 are measured in parts per million (ppm).

It is advisable to initially check the data daily and take whatever action is necessary to improve the indoor air quality in your home. Once the air quality has reached an acceptable level the frequency of checks can be reduced, it should be remembered that the air quality levels can vary due to many factors, so regular readings should be taken to make sure it is still satisfactory.

It is recommended that the CO_2 level is checked each morning.

Note: CO_2 is present in the internal and external air at concentration levels of around 400 parts per million (ppm). Levels of CO_2 of up to 5,000 ppm are not in themselves a danger to healthy occupants but can be indicative of the presence of high levels of other contaminants that may cause short or more long-term health issues.

How To Improve Air Quality

Your home has openable windows and trickle ventilators to allow you to adjust the fresh air entering each room. Trickle ventilators are adjustable and positioned to encourage ventilation through each room. To allow a flow of air through your home, at least two trickle vents should be opened by similar amounts, particularly if they are in the same room.

CO_2 Level	Action
Green	Normal concentration level, no action required; check monitor is working correctly
Amber	Ventilation required, partially or fully open trickle ventilators or leave room door partially open
Red	Significant ventilation required, open window and leave door fully open

To achieve good air quality throughout your home, the actions identified above should be replicated in all occupied apartments in the dwelling

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