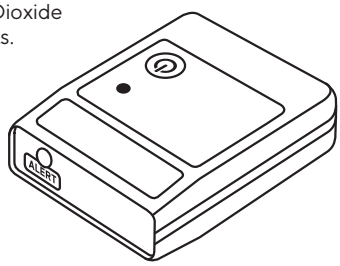
Welcome to your new Personal Air Quality Alert level warning device which is one of the family of Personal Alert devices manufactured in the UK by Pambry Electronics Ltd. The other devices relate to Noise Level, Noise Dose and Nitrogen Dioxide /Ozone ($NO_2$/$O_3$ - Outdoor) measurements.




## Key Features

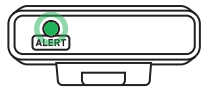
- Self-contained unit
- Simple to use
- Long battery life
- Optical and Vibration alert
- Photoacoustic sensor technology PASens®
- Automatic self-calibration

## What is it?

Your device is a small battery powered unit that measures the INDOOR levels of Carbon Dioxide ($CO_2$) in real time and indicates whether the Air Quality in your environment is acceptable or too poor (ie. safe or not safe). **In this latter case you should take steps to remove yourself to cleaner air environment or to use breathing apparatus**. As the unit measures real time levels, it can also be used to determine when this apparatus is NO LONGER required.

## How does it work?

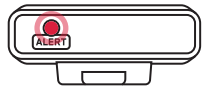
The Air Quality measurement is made by the built-in sensor and processed by the battery powered internal electronics control unit.




When $CO_2$ levels are above the pre-programmed thresholds averaged over the 60 second sampling period, the **ALERT** lamp changes from **GREEN** to **AMBER** or **RED**.

Each transition of the **ALERT** lamp to **AMBER** or **RED** also triggers the vibrate alert for approximately 15 seconds. This can be suspended by a short press of the Power button.

**ALERT** Lamp colour alerts are automatically suspended should the Air Quality level improve and the $CO_2$ concentration value fall below the **AMBER** level.

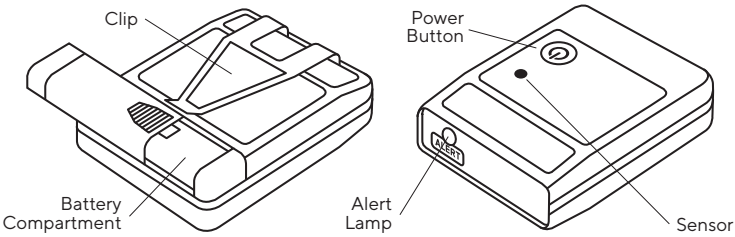



Battery life is in excess of 150h and a Low battery indication is shown by very short **RED** flashes of the **ALERT** lamp.

## How do I use it?

Using the device is simplicity itself. Carefully insert your battery into the battery compartment (located at the rear of the unit) taking note of the polarity markings. A quality AA (LR6) alkaline type battery is recommended.

Press the Power button on the front face and wait for **ALERT** lamp to illuminate and flash **GREEN**.




Clip the device onto your clothing and keep it exposed to your environment. Do **NOT** place in your pocket as this will adversely affect the readings and block the line of sight of the **ALERT** warning lamp.

The device constantly checks the Air Quality levels and respond accordingly to the measured $CO_2$ levels (see section "How does it work?").

**IF ANY OF 2 (AMBER OR RED) WARNING STATES PERSIST, IT IS IMPERATIVE YOU OBTAIN AND USE SUITABLE BREATHING PROTECTION. ALTERNATIVELY REMOVE YOURSELF TO A CLEANER AIR ENVIRONMENT**

After use, press and hold the power button until the **ALERT** lamp goes out.

# User Manual

PED-1721-CO2




# Personal Air Quality Alert – $CO_2$ (Indoor)

## Technical Specification

| | | |
|---|---|---|
| Measuring range: | 400 to 5000 ppm | |
| Accuracy: | ±50 AQI | |
| Sample rate: | 30s (first result after 5 seconds) | |
| $CO_2$ threshold levels: | **ALERT Lamp Colour** | **$CO_2$ Level ppm** |
| | GREEN | Less than 1000 |
| | AMBER | Greater than 1000 |
| | RED | Greater than 5000 |
| Calibration: | Automatic in fresh air once per week | |
| Warning lamp: | Multi coloured LED, Red, Green, Amber | |
| Warning lamp indicator states: | **Lamp Colour** | **Flash Duration** |
| Low battery | RED | SHORT |
| Normal (no alert) | GREEN | SHORT |
| Amber alert | AMBER | LONG |
| Red alert | RED | LONG |
| Vibration alert: | Rotating type | |
| Vibrate time: | 15 sec | |
| Battery: | 1x AA LR6 alkaline | |
| Battery life: | >150h | |
| Dimensions: | 71mm x 56mm x 18mm (23mm including clip) | |
| Weight: | 70g (with a battery) | |
| Life time: | 5 years | |
| Environmental: | | |
| Temperature operation: | -10°C to +60 °C | |
| Temperature storage: | -10°C to +70 °C (no battery) | |
| Humidity operating: | up to 95% RH, non-condensing | |
| Humidity storage: | up to 95% RH, non-condensing | |

**IMPORTANT NOTICE**
These devices are sold with the intention that a wearer can educate themselves about their environment They are not intended to make measurements as such but merely indicate the risk to themselves of being in that environment.

**PAMBRY DISCLAIMER**
Pambry Electronics reserve the right to change specifications or update this user manual at any time without prior notice.

**SAFETY INFORMATION**
For safe practice only operate in accordance with the instructions in this manual.

**WARNING**
To avoid personal injury, follow the guidelines below:

- Do not remove cover.
- Use this device only as specified in this manual.
- Do not use around explosive gas or vapour.
- It is your responsibility to contribute to a clean and healthy environment by using the appropriate local return and collection systems.
- The symbol shown below indicates that separate collection systems must be used for any discarded equipment or batteries marked with the WEEE Symbol.

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