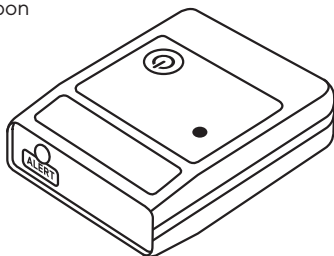


Welcome to your new Personal Air Quality Alert level warning device which is one of the family of Personal Alert devices manufactured in the UK by Pambyr Electronics Ltd. The other devices relate to Noise Level, Noise Dose and Carbon Dioxide (CO₂ - Indoor) measurements.

Key Features

- Self-contained unit
- Simple to use
- Long battery life
- Optical and Vibration alert
- Outdoor Nitrogen Dioxide and Ozone monitoring



What is it?

Your device is a small battery powered unit that measures the OUTDOOR levels of Nitrogen Dioxide and Ozone (NO₂/O₃) 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?

Due to the nature of the sensor used in this device, an automatic one-hour self-calibration is performed after each power ON cycle (unless it was switched OFF for less than 15 minutes). During this time air quality level indication is not available and **ALERT** lamp slow flashes **BLUE**.

Once the self-calibration process is finished, the unit start sampling the Air Quality for 60 seconds and then **ALERT** lamp slow flashes **GREEN**. The Air Quality measurement is made by the built-in sensor and processed by the battery powered internal electronics control unit.

When NO₂/O₃ 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 NO₂/O₃ concentration values fall below the **AMBER** level.

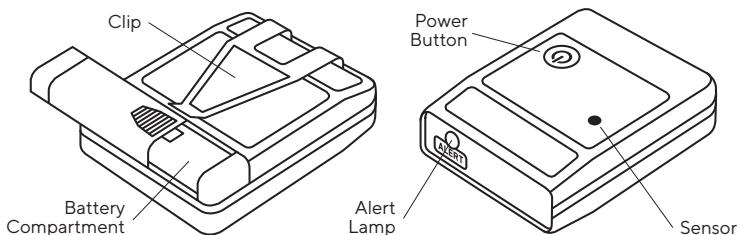


Battery life is in excess of 120h and a Low battery indication is shown by very short **RED** flashes of the **ALERT** lamp.

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. The **ALERT** lamp will flash **BLUE** for 60 minutes (self-calibration) and then illuminate and flash according to the measured Air Quality index.



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.

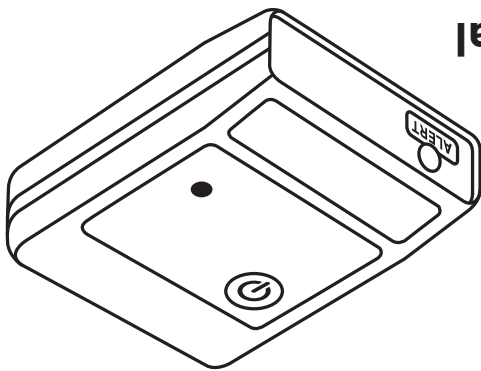
The device constantly checks the Air Quality Index (AQI) levels and respond accordingly to the measured NO₂/O₃ levels (see section "How does it work?").

Air Quality Index Levels Described by the EPA

Air Quality Index (AQI)	Level of Concern and Air Quality Condition	O ₃ Concentration 1h average [ppb][a]	NO ₂ Concentration 1h average [ppb]
0 to 50	Good	0-62	0-53
51 to 100	Moderate	63-124	54-100
Above 100	Unhealthy to Hazardous	Above 125	Above 101

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.



Personal Air Quality Alert - NO₂/O₃ (Outdoor)



Technical Specification

Measuring range:	*AQI Ozone (non-selective) Nitrogen dioxide (non-selective)	0 to 500 20 to 500 ppb 20 to 500 ppb
Accuracy (without additional calibration)	±50 AQI	
Sample rate:	60s (values averaged over 60min)	
NO ₂ /O ₃ threshold levels: (1 hour averaging)	ALERT Lamp Colour GREEN AMBER RED	O₃ Concentration ppb 0 - 62 63 - 124 Above 125
		NO₂ Concentration ppb 0 - 53 54 - 100 Above 101
Calibration:	Automatic in outdoor environment before every use	
Warning lamp:	Multi coloured LED, Red, Green, Amber, Blue	
Warning lamp indicator states:	Lamp Colour	Flash Duration
Self-calibration	BLUE	SHORT
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:	> 120h	
Dimensions:	71mm x 56mm x 18mm (23mm including clip)	
Weight:	70g (with a battery)	
Life time:	5 years	
Environmental:		
Temperature operation:	-40 °C to +65 °C	
Temperature storage:	-50 °C to +70 °C (no battery)	
Humidity operating:	up to 90% RH, non-condensing	
Humidity storage:	up to 90% RH, non-condensing	

*AQI Rating according to EPA for ozone and nitrogen dioxide.

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.

Personal Air Quality Alert - NO₂/O₃ (Outdoor) can also detect safety-relevant gases, however the monitor is not designed to detect these interferants reliably and therefore it is not approved for use in any safety-critical or life-protecting applications.

Pambrly Electronics disclaims any liability for any such use.

PAMBRLY DISCLAIMER

Pambrly 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.



Pambrly Electronics Ltd

Pambrly House, Units 7 & 8 Ventura Centre, Ventura Place,
Upton Industrial Estate, Upton, Poole, Dorset BH16 5SW UK

Tel: 01202 624910 Email: sales@pambrly.co.uk www.pambrly.co.uk