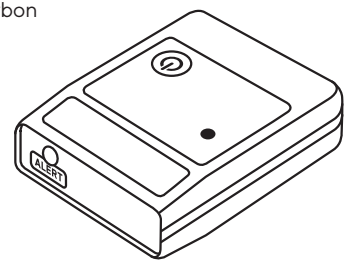
Welcome to your new Personal Air Quality Alert level warning device which is one of the family of Personal Alert devices manufactured in the UK by Pambry Electronics Ltd. The other devices relate to Noise Level, Noise Dose and Carbon Dioxide (CO_2 - Indoor) measurements.



Key Features

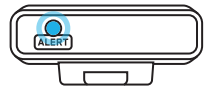
- Self-contained unit
- Simple to use
- Long battery life
- Optical and Vibration alert
- Outdoor Nitrogen Dioxide and Ozone monitoring

What is it?

Your device is a small battery powered unit that measures the OUTDOOR levels of Nitrogen Dioxide and Ozone (NO_2/O_3) 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 NO_2/O_3 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.

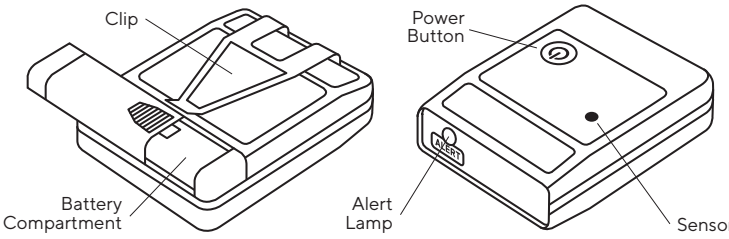
ALERT Lamp colour alerts are automatically suspended should the Air Quality level improve and the NO_2/O_3 concentration values fall below the **AMBER** level.

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 NO_2/O_3 levels (see section "How does it work?").

Air Quality Index Levels Described by the EPA

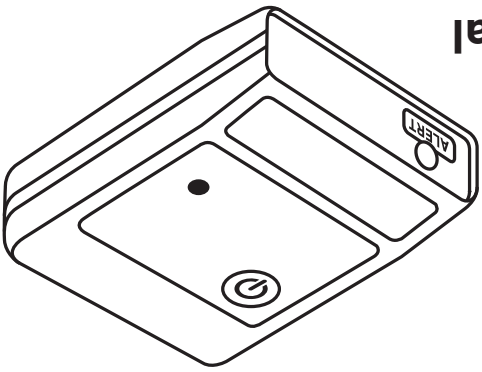
Air Quality Index (AQI)	Level of Concern and Air Quality Condition	O_3 Concentration 1h average [ppb][a]	NO_2 Concentration 1h average [ppb
0 to 50	Good	0-62	0-53
51 to 100	Moderate	63-124	54-100
Above 100	Unhealthy to Hazardous	Above 125	Above 101

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.

User Manual

PED-1721-NO2



PAMBRY ELECTRONICS LTD

Personal Air Quality Alert – NO_2/O_3 (Outdoor)

Technical Specification

Measuring range:	*AQI		0 to 500
	Ozone (non-selective)		20 to 500 ppb
	Nitrogen dioxide (non-selective)		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**	**O_3 Concentration ppb**	**NO_2 Concentration ppb**
	GREEN	0 - 62	0 - 53
	AMBER	63 - 124	54 - 100
	RED	Above 125	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 – NO_2/O_3 (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.

Pambry Electronics disclaims any liability for any such use.

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.

UK CA CE

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