AeroGuard

The Air Monitor

USE & SAFETY GUIDE

PLYMOVENT®

TABLE OF CONTENTS

Personnel operating the AeroGuard must be aware of the contents of the safety and operating instructions in this booklet and Quick Start Manual.

Use the included Quick Start Manual to install the AeroGuard, after reading and understanding the contents of this booklet.

All reasonable measures have been taken to ensure the information is accurate and current. However, Plymovent cannot accept any liability for the accuracy or content of material in this document. Plymovent may change, delete or add information without notice. Please visit www.Plymovent.com to make sure you are using the most recent version.

1. General Description

The AeroGuard monitors the air quality indoors, in homes, offices, industrial production settings, and facilities with vehicle emissions, providing real-time insights and data trends.

The AeroGuard's main purpose is to measure, track, and warn against human exposure to fine dust particles. Additionally, the AeroGuard measures volatile organic compounds, carbon dioxide, noise, humidity, atmospheric pressure and temperature. The AeroGuard can be used to trigger two relay outputs based on measured values.

Placement

The AeroGuard is not suitable for outside use.

Place the AeroGuard on a location that is representative of the desired measurements. Place the AeroGuard on a flat surface, on a wall with the included wall mount, or on a standard quarter-inch tripod mount.

2. Software and Personal Data

The manufacturer shall keep the relevant software and services updated for a minimum of 3 years after purchase.

Users can delete their personal data by deleting their account. For more information on the privacy statement visit www.Plymovent.com/privacy-policy.

3. Maintenance

Obey the maintenance intervals given in this manual. Overdue maintenance can lead to high costs for repair and revisions, and can render the guarantee null and void.
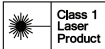
Replace the AeroGuard Dust Sensor cartridge when the AeroGuard App or Portal indicates to do so. Using the AeroGuard Dust Sensor cartridge for longer than the indicated lifespan may result in inaccurate readings. Make sure your system is up-to-date by leaving the AeroGuard connected to the internet. The AeroGuard will install firmware updates automatically in the background, issuing a restart indicated during which (less than a minute) the AeroGuard is not usable nor is the LED-ring representing the current air quality. Relays being in use during a firmware update reboot may be temporarily inactive.

Update the AeroGuard application on your iOS or Android device whenever an update is available.

Only store and use the AeroGuard in environments within its rated ambient conditions of -10 °C (14 °F) and 40 °C (104 °F) and 90% relative humidity. Do not expose the AeroGuard to direct sunlight.

Every month, make sure all openings are clean and clear of obstructions. Clean the outer shell with a damp cleaning cloth with a mild soap. Test on a small area first. Note: Sensor measurements could temporarily be affected by the soap and humidity. Make sure no moisture gets inside of any openings or ports. Check the power adapter and optional relay wires for damage, replace if necessary.

4. Technical Specifications

Specifications	
Dimensions	130 x 130 x 215 mm (LxWxH) (5.1 x 5.1 x 8.5 in)
Material of housing	PC/ABS
Weight	0.9 kg (2 lbs)
Replaceable Dust Sensor ☀ Class 1 Laser Product	Includes laser: • 660 nm wavelength • DIN EN 60825-1 Class 1
Power consumption	Max. 10.5 W (5 V DC, 2.1 A)
Altitude	2000 m
Overvoltage category	OVC II
Pollution degree	PD 2
Power supply	USB-C (adapter included)
Output relays (2x): • Potential free output • Output wires	 • Max. 30 V(AC/DC), 2 A • 3 (COM, NO, NC) max. 30 m cable
Connectivity: • Bluetooth© • WiFi • Ethernet	 • Bluetooth© 5.2 • 2.4 GHz (802.11b/g/n) • RJ45. UTP cable: CAT5+, max. 100 m
Frequency band and Output Power	Frequency Range for Bluetooth and 802.11b/g/n WiFi is 2400.0 - 2483.5 MHz Output power for Bluetooth is <5 mW Output power for 802.11b/g/n WiFi is <55 mW
Operating conditions: • Temperature • Relative humidity	 • -10 to 40 C° (14 to 104 °F) • 0 to 90% RH
Country of Origin	Thailand

5. Sensors

Sensor	Unit of Measurement
Dust (Particulate matter): PM_1 $PM_{2.5}$ PM_4 & PM_{10}	µg/m³ (95% accuracy when calibrated)
CO_2 (Carbon dioxide)	ppm
TVOC (Total Volatile Organic Compounds)	mg/m³
IAQ (Indoor Air Quality)	indexed according to UBA Standard
Temperature	°C and °F
Humidity	%RH
Atmospheric pressure	hPa
Sound levels (L_{Aeq})	dB

6. Default and Custom Settings

Use the AeroGuard Android or iOS App, or the www.MyPlymovent.com web portal to interact with your AeroGuard modules. Both platforms can be used to change basic settings and gain insights in your collected data.

The LED-ring always displays the current status of the primary sensor measurements. The LED-ring color changes based on the thresholds set in the app or portal. The primary sensor is set to $PM_{2.5}$ by default, with the first threshold (orange) set at 1000 µg/m³, and the second threshold (red) at 2000 µg/m³. Change the primary sensor and the thresholds in the app or portal. Note: this can have impact on the output relays.

To make sure your AeroGuard reflects your situation as accurately as possible, go through the calibration settings in the app or portal. These options include calibrations for dust (particulate matter) and CO_2, as well as temperature and humidity offsets.

With a monthly/yearly MyPlymovent Portal subscription, you unlock more features and customizability. The key differences are listed below. (Note: features may be added, changed, or removed).

Feature	App (Free)	Web Portal (Paid Subscription)
Interface	iOS & Android App	iOS & Android App web portal on www.MyPlymovent.com
Users	Max. 3	Max. 100
Data History	30 days	Unlimited
Relay Output	Only primary sensor: Fair = R1, Bad = R1 & R2	Both relays independently programmable
Particulate Matter Calibration	3 Pre-set Profiles	3 Pre-set profiles & custom calibration possible

7. Troubleshooting

In case of unexpected behavior, follow the suggested steps in the table below. If this does not resolve your issue, please contact your Plymovent distributer.

Issue/Signal	Action
LED-Ring blinks blue	Internet connectivity issues. Check your WiFi/Ethernet internet connection.
AeroGuard Android/iOS application issues.	Check the Play/App Store for application updates.
LED-Ring shows Blue/Pink/Turquoise	Complete configuration indicated in the App/Portal
Other / Reset	Perform a factory reset by pressing the top button of the AeroGuard for 30 seconds. The AeroGuard blinks in red and white while resetting.

1. General

The manufacturer does not accept any liability for damage to the product or personal injury caused by ignoring of the safety instructions in the manual or this guidebook, or by negligence during installation, use, maintenance, and repair of the product mentioned on the cover of this document and any corresponding accessories. Specific working conditions or used accessories may require additional safety instructions. Immediately contact your supplier if you detect a potential danger when using the product. The user of the product is always fully responsible for observing the local safety instructions and regulations. Observe all applicable safety instructions and regulations.

2. User Manual

- Everyone working on or with the product, must be familiar with the contents of the Quick Start Guide and Use & Safety Guide, and must strictly observe the instructions therein. The management should instruct the personnel in accordance with the manual and observe all instructions and directions given.
- Do not change the order of the steps to perform.
- Keep the manual with the product.

3. Users

- Do not use the device when under the influence of drugs or alcohol. Children must be supervised not to play with the product. Only trained electrical engineers can install relay connections.

4. Intended Use

The product has been designed to show trends in air quality indoors, such as homes or offices, and places that use air-polluting processes, resulting in welding fumes or exhaust emissions. WARNING: The AeroGuard is not a safety device and must not be used to engage systems that are of importance to the safety and protection of people or property.
DISCLAIMER: The AeroGuard is an advisory device and the data that the AeroGuard provides is for informational purposes only. It does not provide health advice and Plymovent does not claim any responsibility for health and safety actions that are based

upon the data retrieved from the AeroGuard.

"Intended use" as explained in EN-ISO 12100-1 is the use for which the technical product is suited as specified by the manufacturer, inclusive of their directions in the sales brochure. In case of doubt it is the use which can be deduced from the construction, the model and the function of the technical product which is considered normal use. Operating the machine within the limits of its intended use also involves observing the instructions in the user manual. Using the product for other purposes is considered contrary to its intended use. The manufacturer accepts no liability for any damage or injury resulting from such use, nor from any harm done to people or work environments by any of the measurable units. The product has been built in accordance with state-of-the-art standards and recognized safety regulations. Only use this product when in technically perfect condition in accordance with its intended use and the instructions explained in the user manual.

5. Specifications & Modifications

Do not change the specifications given in this manual. Modification of (parts of) the product is not allowed.

6. Installation

- The installation of this product is exclusively reserved to authorized, trained and qualified engineers.
- The electric connection must be executed in accordance with the local codes and requirements. Ensure compliance with the EMC and LVD regulatory arrangements.

7. Radio Frequency Exposure

This device has been evaluated and meets the applicable regulatory requirements for exposure to radio waves and is designed and manufactured not to exceed the applicable emission limits for exposure to radio frequency (RF) energy. To comply with applicable RF exposure compliance requirements, a distance of at least 20 cm should be maintained between the antenna of this device and persons during device operation.

1. EU Declaration of Conformity

We, Plymovent, Koraalstraat 9, 1812 RK Alkmaar, the Netherlands, herewith declare, on our own responsibility, that the product(s):

- Model: AeroGuard

which this declaration refers to, is/are in accordance with the conditions of the following directive(s):

- 2014/53/EU Radio Equipment
- 2015/863 RoHS Directive

and is/are in conformity with the following harmonized standard(s) and/or other such normative documents + amendments, if any:

EN 300 328 v2.2.2
EN 301 489-1 V2.2.3
EN 301 489-17 V3.2.4
EN 62311:2020
IEC 61010-1 Edition 3

Alkmaar, the Netherlands, August 2nd, 2023

Jeroen Crezee
Head of R&D

2. UK Declaration of Conformity

We, Plymovent, Koraalstraat 9, 1812 RK Alkmaar, the Netherlands, herewith declare, on our own responsibility, that the product(s):

- Model: AeroGuard

which this declaration refers to, is/are in accordance with the conditions of the following directive(s):

- The Radio Equipment Regulations 2017
- 2015/863 RoHS Directive

and is/are in conformity with the following harmonized standard(s) and/or other such normative documents + amendments, if any:

EN 300 328 v2.2.2
EN 301 489-1 V2.2.3
EN 301 489-17 V3.2.4
EN 62311:2020
IEC 61010-1 Edition 3

Alkmaar, the Netherlands, August 2nd, 2023

Jeroen Crezee
Head of R&D

3. Regulatory Information Canada

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorisation de l'utilisateur d'utiliser l'équipement.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1) l'appareil ne doit pas produire de brouillage, et 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF exposure safety
This product is a radio transmitter and receiver. It is designed not to exceed the emission limits for exposure to radio frequency (RF) energy set by the ISED. The antenna must be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Ce produit est un émetteur et un récepteur radio. Il est conçu pour ne pas dépasser les limites d'émission pour l'exposition à l'énergie radiofréquence (RF) établie par l'ISDE. L'antenne doit être installé de façon à garder une distance minimale de 20 cm entre la source de rayonnements et votre corps. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec une autre antenne ou autre émetteur.

CAN ICES-3 (B)/NMB-3(B)
This Class B digital apparatus complies with Canadian ICES-003

Cet appareil numérique de classe B est conforme à la norme Canadienne ICES-003

4. Regulatory Information USA

FCC Compliance Statement

Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Interference Statement (Part 15.105 (b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

5. Regulatory Information Thailand
ข้อมูลกฎระเบียบประเทศไทย

เครื่องโทรคมนาคมและอุปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนด
ทางเทคนิคของ กสทช

เครื่องวิทยุคมนาคมนี้มีระดับการแผ่คลื่นแม่เหล็กไฟฟ้าสอดคล้องตามมาตรฐาน
ความปลอดภัยต่อสุขภาพของมนุษย์จากการใช้เครื่องวิทยุคมนาคมที่คณะ
กรรมการกิจการโทรคมนาคมแห่งชาติประกาศกำหนด

เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้
รับใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม
หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช.
เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุ
คมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาต
วิทยุคมนาคมตามพระราชบัญญัติวิทยุคมนาคม
พ.ศ. 2498

กสทช. | โทรคมนาคม
กำกับดูแลเพื่อประชาชน
Call Center 1200 (โทรฟรี)