USER GUIDE

mBox Guardian

Indoor monitor

MMG – 175 - Wellness

meersens

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-  Air quality monitoring: CO2, PM, LVOC, temperature, relative humidity, pressure, light, noise.
- 12V power supply from a 220V socket
- A foundation

Station positioning:

Be sure to position the mBox Guardian correctly:

- At a height between 1 and 2 m corresponding as much as possible to the height, of the respiratory tract of the people occupying the premises (children, adults, seated most often)
- Away from draught areas (air inlet or outlet, door, window)
- Away from punctual and localized sources of pollution (kitchen, garbage can, changing rooms, perfume diffuser...)
- Away from heat sources (radiator, direct sun)
- More than 1 meter from the corners of the room

Product:

Introduction

The **mBox Guardian MMG-175 - Wellness** is an intelligent sensor of the global air index. It can monitor fine particulate matter (PM), volatile organic compounds (VOCs), relative humidity, carbon dioxide (CO2), temperature, light and noise – which essentially covers various indicators reflecting air quality.

Indication of LEDs

Status of LEDs	Description
 5s cycle	The air quality is **ideal**. The probe works perfectly. CO2 < Threshold + 2.5% of the Threshold Or VOC< Threshold + 2.5% of the Threshold or PM2.5< Threshold + 2.5% of Threshold or HR < Threshold + 2.5% RH
 Cycle of 2s	Air quality is **acceptable**. The probe works perfectly. CO2 > Threshold + 2.5% of the Threshold Or VOC> Threshold + 2.5% of Threshold or PM2.5 > Threshold + 2.5% of Threshold or HR > Threshold + 2.5% RH
 5s cycle	Air quality is **poor**. The probe works perfectly. CO2 > Threshold + 5% of the Threshold Or VOC> Threshold + 5% of Threshold or PM2.5 > Threshold + 5% of Threshold or HR > Threshold + 5% RH
 Cycle of 2s	Air quality is **poor**. The probe works perfectly. CO2 > Threshold + 7.5% of the Threshold Or VOC> Threshold + 7.5% of Threshold or PM2.5 > Threshold + 7.5% of the Threshold or HR > Threshold + 7.5% RH

Indication of peripheral LEDs

Registration required (POE version only)

Junction OK (LoRa WAN version)
Peering (EnOcean)
ZigBee recording

Indication of LEDs in case of defect

The LEDs indicate defects as follows:

LED code on front panel	Identification #	FRU in default
No active LED	NA	Suspicion of power default or failure of the sensor power board.
Red LED active 5 seconds		
Followed by a yellow flash	1	Front panel.
Followed by 2 yellow flashes	2	Single band CO2 sensor
Followed by 3 yellow flashes	3	Dual-band CO2 sensor
Followed by 4 yellow flashes	4	VOC sensor module
Followed by 5 yellow flashes	5	Motherboard
Followed by 6 yellow flashes	6	Interconnect card
Followed by 7 yellow flashes	7	Particle Sensor
Followed by 8 yellow flashes	8	Power card
Flashing red LED	9	Multiple failures
Alternation Red Blue	10	Perishable end-of-life sensors.
All flashing LEDs	11	No communication between the probe and the front (after 30 seconds).

Indications in case of LED failure

In case one of the LEDs is detected in default at startup, the other LEDs will remain lit indefinitely. This makes it possible to visually identify the defective LED(s).

The probe will continue to measure and communicate normally. This failure will therefore be transmitted in the integrated test.

This test is not performed during operation, only at start-up so if an LED fails during operation, this failure will not be detected.

Default settings

The set points have a great influence on the LED display, it is important to know the default values.

The default values can be considered as a reference because they will be lost after a setting and there is no magic button to go back to the default values.

In Measurement Thresholds mode (default)

Cloakroom	Comfort (defect)	Eco	Night
Temperature	18.5°C	17°C	17°C
CO2	1000ppm	1500ppm	1300ppm
tVOCs	300 µg/m3	800 µg/m3	1300 µg/m3
Nox	300 µg/m3	800 µg/m3	1300 µg/m3
O3	300 µg/m3	800 µg/m3	1300 µg/m3
PM2.5	20 µg/m3	40 µg/m3	40 µg/m3
High humidity	75%	95%	95%
Low humidity	40%	30%	25%

Note that the Night Mode is not by default controlled by the integrated light sensor of the probe

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