

AL-447-00-868 EnoSense® PM VOC

Product Data Sheet

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AL-447-00-868 EnOcean "EnoSense® PM VOC" Sensor / CE

Sensor for PM / Particles and VOC, EnOcean 868 MHz / CE,

External power supply 12 V DC

Item No. 12939 (white)

Interfaces:

Integrated sensors for particle measurement, VOC, temperature, and relative humidity

1x EnOcean (internal antenna), power supply: external power supply 12 V DC, 72 x 52 x 27 mm



Front



Rear view with wall mount



The **AL-447-00-868 EnoSense® PM VOC** sensor is used to measure the following values:

- PM / Particles (0 .. 1,000 µg/cbm):
 - PM1.0 (0.3 .. 1.0 µm); PM2.5 (0.3 .. 2.5 µm); PM4 (0.3 .. 4.0 µm); PM10 (0.3 .. 10.0 µm)
- VOC Index (1 .. 500)
- Relative humidity (20 .. 80 %)
- Temperature (+10 °C to +40 °C)

The values are transmitted wirelessly via the EnOcean wireless standard.

Technical

Interfaces

Type	EnOcean
Number	1
Transmission/Reception Center Frequency	868.3 MHz ASK
Used frequency range	868.0 – 868.6 MHz
Maximum transmit power	+5 dBm

Sensor: PM

Measuring range	0 .. 1,000 µg/m³
Accuracy PM1.0 / PM2.5	0 .. 100 µg/m³ : ± 5 µg/m³ + 5% of measured value 100 .. 1,000 µg/m³ :
Accuracy PM4 / PM10	0 .. 100 µg/m³ : ± 25 µg/m³ 100 .. 1,000 µg/m³ : ± 25% of measured value
Long-term drift	0 .. 100 µg/m³ : ± 1.25 µg/m³ per year 100 .. 1,000 µg/m³ : ± 1.25% of measured value per year
Response time	Max. 30 s

Sensor: Temperature

Measuring range	+10 °C to +40 °C
Accuracy (15 .. 30 °C @ 50 % RH)	typ. ±0.45 °C max. +/- 0.7 °C
Response time	< 60 s
Long-term drift	Typ. < 0.02 °C / year

Sensor: Relative humidity

Measuring range	20–80%
Accuracy	typ. +/- 4.5% Max. +/- 6.0%
Response time	< 20 s

User interfaces

Service button	Yes, operated via a hole in the side panel
Service LED	Yes, internal (green)
Fan	Internal, self-cleaning 24 dB(A) at a distance of 0.2

Case

Case	PC
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Power supply

Power	External power supply, 12
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Environmental conditions

Ambient temp.	+10..+40 °C
Storage temp.	+10 ..+30 °C
Relative humidity	Operation: 20–80% relative humidity, non-condensing Storage: 20 .. 60 %
Protection class	IP20

Dimensions and weight

Weight	80 g
Dimensions (incl. mounting ring)	Approx. 72 x 52 x 27 mm

Standards / Approvals

CE	2014/53/EU RED Directive 2011/65/EU RoHS Directive
FCC	In preparation
Standards	EN 301489-1 : V2.2.0 EN 301489-3 : V2.1.1 EN 300220-2 : V3.1.1

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Table of supported EEPs (EnOcean Equipment Profiles)

Transmit / TX

No.	EEP	Description	Transmit ID
1	D1-09-08	• PM • Relative humidity • Temperature • VOC	Base ID

Receive / RX

No.	EEP	Description
-	-	-

Device description

Power Supply

The EnoSense® PM VOC is powered by an external power supply providing +12 V DC.

EnOcean

The integrated EnOcean transceiver transmits the measured values cyclically to a building management system via EnOcean communication.

Mechanics / Installation

The device can be mounted on the wall using the included wall bracket. Installation with an adhesive strip is also possible thanks to the smooth back of the device.

Installation should be performed at a typical height of approximately 1.75 m.

Since the device has an internal fan, the area below the sensor must be kept clear.

Functions of the EnoSense® PM VOC / Measurement Technology

Measurement of PM, VOC, temperature, and relative humidity (RH)

The device transmits the measured values for PM, relative humidity, temperature, and VOC every 4 minutes.

Transmission of the EnOcean learning telegram

When the integrated button—which can be pressed from the outside through a side opening in the housing—is pressed, the EnoSense® PM VOC transmits its learning telegram.

Cleaning the internal fan

The integrated fan cleans itself automatically approximately every 7 days. No manual maintenance is required. The following image shows the ventilation openings on the bottom of the sensor:

Ordering Information

Product description	Item No.	Item Description
AL-447-00-868 EnOcean Sensor "EnoSense® PM VOC" / white / CE	12939	EnoSense® PM VOC, Measured values: PM1.0, PM2.5, PM4, PM10; 0 – 1,000 µg/m ³ ; Relative humidity 0 – 80%; VOC index 0 – 500; EnOcean 902 MHz / FCC, Dimensions: 100 x 86 x 60 mm, Ambient temperature +10 to +50 °C, Power supply: PoE or +12 V DC; with wall mount;

Note pursuant to FuAG §20(4):

This device is approved for use only within the member states of the European Union.

EU Declaration of Conformity

DEUTA Controls GmbH hereby declares that the radio equipment type AL-447-00-868 EnoSense® PM VOC complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following web address: www.deuta-controls.de under Service/Downloads (Doc. EUDC2026_104).

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