

Pegasor Airam specifications

Pegasor Airam is a compact device for measuring ultrafine particle concentration in urban, outdoor environments. Equipped with a robust and low-maintenance Pegasor PPS-G2 sensor, the Pegasor Airam can detect particle number, particle mass, LDSA, and median size of particles. Its user-friendly design includes a single power button, and its silent pump ensures imperceptible operation.

Pegasor PPS-G2 sensor uses combination of an ejector pump and an advanced diffusion charger. Sample is charged in the ejector, driven by ionized air. After ionization, the electrostatic trap removes excess ions while concurrently performing rapid sizing action exploiting electrical mobility of the particles. Electric current of particles is measured as they leave the sensor. Electric current and size information together allows to accurately calculate particle number, mass, and LDSA concentrations. To prevent condensation and maintain stable operating conditions, the sensor module is heated and maintained at 40 °C above ambient temperature when the unit is switched on.



Package content

The shipment of the Pegasor Airam unit includes the following items:

- Pegasor Airam unit, 1 pcs
- Power and data unit, 1 pcs
- Ethernet cable (10 m), 1 pcs
- Wall/pole mounting set
- Calibration data sheet
- Quick start guide

Complete Airam user manual and modbus logger are available on Pegasor website. To gain access to the customer area, go to:

<https://pegasor.fi/customer-area/>



Data collection options

- Ethernet, 4g, Wi-fi (incl. modem, SIM card not included)
 - Pegasor cloud portal online service
 - Modbus over Ethernet. Modbus logger available for download in the customer area of Pegasor website
- USB – local saving via USB available for all units early 2025 with a free, remote firmware update



Saved Data

- Particle number, LDSA and mass concentration of ultrafine particles
- Particle median size
- Device operational parameters



Pegasor cloud portal

The Pegasor Cloud Portal provides an easy way to manage and access data from the Pegasor Airam and other compatible devices. With its secure web interface, you can view real-time measurements, organize data, and generate reports efficiently. Data transfer requires a SIM card for the modem or a fixed Ethernet connection. To gain access, go to: <https://pegasor.fi/pegasor-cloud-portal/>

Specifications

Concentration range	
PN	0 - 100 000 000 #/cm ³
PM	0 - 80 000 µg/cm ³
LDSA	0 - 6 500 µm ² /cm ³
Particle size range	10 – 300 nm for PM and Dp 10 nm – 1 µm for PN and LDSA
Response time	0.2 s
Data saving interval	1 s, 1 min, 1 h or 1 day with Modbus logger 1 min with Pegasor Cloud Portal
Sample flow rate	1.5 lpm
Supply voltage	24 VDC
Power requirements	14 W, 0.6 A Power over Ethernet provided via the power and data unit.
Operating temperature	-25 – 55 °C
Dimensions	
Airam unit	457 x 320 x 194 mm
Power and Data unit	135 x 115 x 50 mm
Weight	7.7 kg
Heater temperature	Ambient temperature + 40 °C

Additional features

- RH and temperature sensors to optimize device performance placed inside the casing
- Stand-alone operation suitable for long term monitoring, non-collective measurement method
- Operation based on diffusion charging and electrical detection. No operating liquids needed.
- Extensive self-diagnostic system for increased reliability

