

# Particulate Matter Web Data logger HD50PM

## DETECTION OF PM1.0, PM2.5, PM4.0, PM10

Fast and easy detection and alarming  
at dangerous situations

## EASY TO USE - STAND ALONE OR IN NETWORKS

Connect it to your own local network  
via the **Wi-Fi** or **Ethernet** interface

## INTEGRATED WEB SERVER

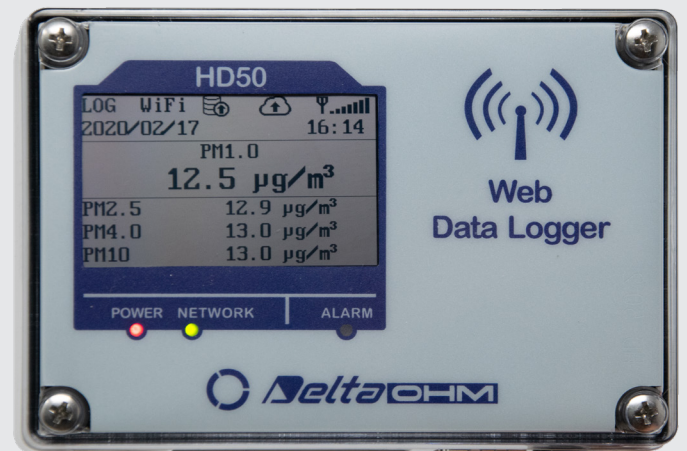
Directly accessible from  
any device in the network

## ACCURATE AND RELIABLE SYSTEM

Highly accurate **self-cleaning** mechanism  
for minimized maintenance

## FREE APPLICATION SOFTWARE

Software option available for **compliance**  
to **FDA 21 CFR part 11** recommendations



### Main Applications

Building automation  
Garages and workplaces  
Offices in process industry  
Cleanrooms

## Keep indoor exposures to particulate matter under control!

Although it's difficult to estimate the percentage of time every individual spends indoors, it is a matter of fact that the incidence of PM on health is often overlooked.

When we talk about indoor PM we do not only mean the particulate matter generated by indoor activities such as combustion, fumes or other substances of biological origin. Indoor particulate matter is also the result of the inward migration of external particulate matter, a migration that can occur in a variety of ways: from cracks in the building envelope to infiltration, from the type of filters and ventilation used to natural ventilation and consequently to the external environment around us. It is therefore essential that indoor PM exposure is regularly measured and controlled in order to avoid harmful health effects.

With the successful **HD50 series**, Delta OHM already introduced in the market a data logger specifically for indoor measurement with **built-in web server** and easy to integrate in any kind of network thanks to the connection to local network via **Wi-Fi** or **ETHERNET**. The new model of the series, HD50PM, has been developed to allow data logging of **PM1.0, PM2.5, PM4.0, PM10** and typical particles size.

The data can be regularly sent to an FTP address, to an HTTP server (Cloud) and via e-mail (as attachments). By configuring personalized thresholds, the data logger advise acoustically, visually and remotely through notification via e-mail when these are exceeded. The internal clock can be regularly synchronized with a NIST reference server.

The PC software allows configuring the data logger, viewing the real time measurements both graphically and numerically, downloading the data in a database. The HD35AP-CFR21 option allows, in addition to the features of the basic software, the protection of recorded data and configuration in response to FDA 21 CFR part 11 recommendations.

## Technical Specification

### MEASUREMENT CHARACTERISTICS:

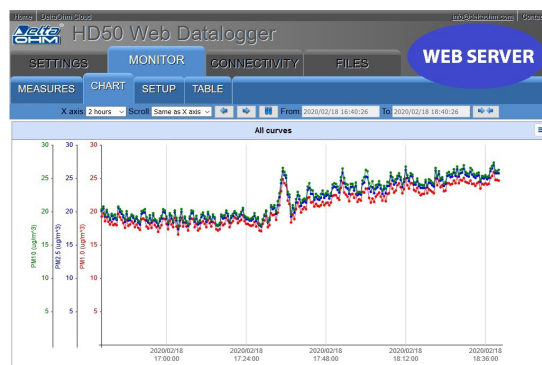
Measuring principle	Laser scattering
Measuring range	0...1000 µg/m <sup>3</sup> (for each pollutant)
Particle size detection range	Ø 0.3...10 µm
Resolution of the instruments	0.1 µg/m <sup>3</sup>
Accuracy (@ 10...40 °C)	± 10 µg/m <sup>3</sup> (0...100 µg/m <sup>3</sup> ) / ± 10% measure (100...1000 µg/m <sup>3</sup> )
Warm up time	< 8 s
Sensor lifetime	> 8 years (24 h/day operation)

### GENERAL CHARACTERISTICS

Measuring interval	1, 2, 5, 10, 15, 30 s 1, 2, 5, 10, 15, 30, 60 min
Logging interval	1, 2, 5, 10, 15, 30 s 1, 2, 5, 10, 15, 30, 60 min
Internal memory	Circular management or stop logging if full. The number of samples that can be stored is from 469,510 to 906,640 depending on the number of quantities selected for logging.
Interfaces	Wi-Fi (IEEE 802.11b/g/n) and ETHERNET (RJ45 connector)
Protocols	Proprietary, Modbus TCP/IP, SMTP, FTP, HTTP, NIST
Wi-Fi security settings	WEP64, WEP128, WAP, WAP2
Alarm	Acoustic by means of the internal buzzer, LED on the front panel, sending of e-mails. Configurable for each detected quantity
Power supply	External 7...30 Vdc (no internal battery)
Power consumption	Average: 40 mA @ 24 V / 80 mA @ 12 V Peak: < 200 mA
Display	Optional graphic LCD
LED indicators	Power supply, Network connection (LAN/WLAN) and Alarm
Operating temperature and humidity	-10...+60 °C / < 100%RH non-condensing
Housing	Material: Polycarbonate Dimensions: 130 x 90 x 40 mm (156 x 90 x 44 mm with flanges) Protection degree: IP 54 (with protective cap on RJ45 connector)
Weight	300 g approx.
Installation	Wall mount, indoor

## Integrated Web Server

Thanks to the integrated web server, you can configure the data logger and view the real time measurements from any PC, tablet or smartphone connected to the same local network of the data logger by simply using a web browser and typing the IP address of the data logger, without the need to install specific software.



## Software

- HD35AP-S: PC application software for configuring the data logger, viewing the real time measurements both graphically and numerically, downloading the data in a database.
- HDServer1: PC software for downloading and viewing easily the data of multiple HD50 connected to the same local network.
- HD35AP-CFR21 (option) allows the protection of recorded data and configuration in response to FDA 21 CFR part 11 recommendations. In particular, the traceability of activities (audit trail) and the management of users access become available.

## Ordering Codes

### HD50PM

Data logger with integrated Web Server. It includes HD35AP-S and HDServer1 softwares downloadable from Delta OHM web site. Supplied with: pair of flanges for wall mounting, adapter from M8 connector to screw terminals for connecting the power supply. The SWD10M8 power supply or the CPM8... power supply cable have to be ordered separately. The Ethernet cable is not included.

Optional LCD display (HD50GPM).

### Accessories

#### HD35AP-CFR21

Advanced version of the PC application software in accordance with the FDA 21 CFR part 11 recommendations. For Windows® operating systems.

#### CPM8.xx

Power supply cable. M8 connector on one side, free wires on the other. Available lengths: 2, 5 or 10 m.

#### CONM8H

Adapter from M8 connector to screw terminals

#### POE-SPLT12M8

Splitter PoE, output 12 V, connector M8

#### SWD10M8

Stabilized mains power supply 100-240 Vac /12 Vdc-1A. M8 connector.