

Трансмиттеры DELTA OHM PMSense

Технические характеристики

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Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06

Ижевск (3412)26-03-58
Иркутск (395)279-98-46
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Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
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Липецк (4742)52-20-81
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Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
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Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
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Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
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Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
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Челябинск (351)202-03-61
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Единый адрес для всех регионов: dmh@nt-rt.ru || www.deltaohm.nt-rt.ru

Particulate Matter Transmitter

PMsense

○ CONTINUOUS AIR MEASUREMENT AND ALARMING

Detecting changes in air quality **directly**

○ EASY CLOUD CONNECTION

In combination with our loggers

Provides the possibility to use data in **any website**

○ FAST DETECTION OF PM1.0, PM2.5 AND PM10

Accurate and maintenance free solution
Measurement data rate **configurable**
to increase the lifetime of the sensor

○ SMART AND VERSATILE

Hand-sized layout, compact
and **low energy consumption**

○ COST EFFECTIVE AND RELIABLE

Useful for **smart city applications**
and widespread distributed monitoring

Ambient Air Quality: nowadays we are all aware of the importance of clean air!

Over the last few decades there have been numerous measures all over the world to limit pollution caused by harmful air emissions. In general, we can state that with the new regulations that have been implemented by most governments we see limitations in harmful emissions from industry, energy and transport.

Over the last years, it has become very clear that Particulate Matter, consisting of a mixture of solid and liquid particles in the air, can cause health problems. Especially extremely small particles with diameters less than 10µm (PM10) are dangerous to human health.

The **exact content of PM** can vary by location: it is a mixture of chemical characteristics. Not in all cases the source of PM is something that can be directly controlled, some have natural sources. Main known sources of PM that can be controlled are: industrial activities, combustion engines, combustion for energy production, road traffic, dust.



Main Applications

Smart city
Environmental monitoring
Mobility
Monitoring of PM pollutants



Technical Specifications

PARTICULATE MATTER

| | |
|-------------------------------|---|
| Measuring principle | Laser scattering |
| Measured pollutants | PM1.0, PM2.5 and PM10 |
| Measuring range | 0...1000 µg/m ³ (for each pollutant) |
| Particle size detection range | ø 0.3...10 µm |
| Linearity error | < 5% |
| Repeatability | < 3% |
| Warm up time | 15 s |
| Sensor operating mode | - Discontinuous (default) : 5 mins interval ≈ 5 years lifetime - Continuous : 1 sec interval ≈10.000 h lifetime |
| Temperature drift | < 0.01 µg/m ³ /°C |

CO₂ (OPTIONAL)

| | |
|---------------------|---|
| Measuring principle | Double wavelength NDIR |
| Measuring range | 0...5000 ppm |
| Accuracy | ±(50 ppm+3% of measurement) @ 25 °C and 1013 hPa |
| Response time | < 120 s (air speed= 2 m/s) |
| Long-term stability | 5% of measurement / 5 years |
| Temperature drift | 1 ppm/°C |

Delta OHM, as producer of AWS (Automatic Weather Stations) recognizes the demand from the market in having PM measurement in combination with an AWS, especially in industrial areas and connecting residential areas.

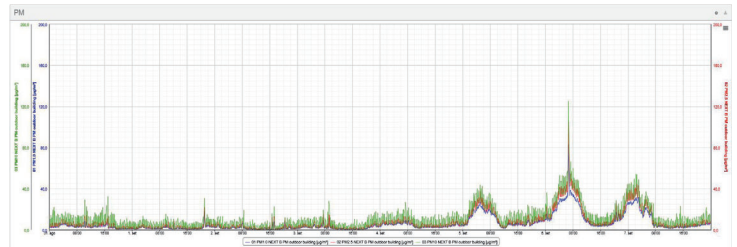
The **PMsense** is ready to be fully integrated with our AWS. Simple and fast, plug and play without any further start up.

Or it can be used as stand-alone unit, communication through Modbus-RTU with one of the data loggers from the HD33 series of Delta OHM or any other system that accepts Modbus communication.

By incorporating this measurement in our AWS we can provide early warnings when air pollution is getting close to the danger zone.

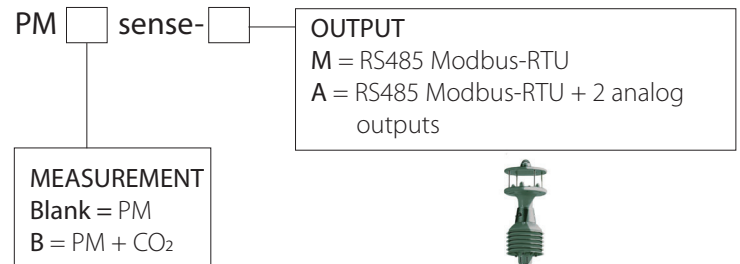
GENERAL SPECIFICATIONS

| | |
|----------------------|---|
| Output | RS485 with Modbus-RTU or ASCII proprietary protocol |
| Power supply | 7...30 Vdc |
| Power consumption | - Discontinuous (default) : 25 mA @ 24Vdc during measure, 4 mA stand-by - Continuous : 25 mA @ 24Vdc |
| Connection | M12 8-pole circular connector |
| Operating conditions | -20...+70 °C 500...1500 hPa |
| Housing material | Polycarbonate |
| Protection degree | IP53 Housing with sensor inlet air filter rain-proof and UV resistant |
| Dimensions | 120 x 94 x 71 (excluding M12 connector) |
| Weight | 330 g |



The graph shows an example of visualization of one week of measurement. The sensor installed in our test field area communicates via Modbus-RTU with one of our Meteo Stations. Collected data are then sent via HTTP to the Delta OHM Cloud Platform. Different colours allow quick and easy distinction among PM1.0, PM2.5 and PM10.

Ordering Codes



| | | | | |
|------------------------------------|-----------------------------------|--|---------------------------------------|---------------------------------|
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