



Dust sensing kit

For particulate matter concentration monitoring

Particulate matter concentration is the sum of all solid and liquid particles suspended in air many of which are hazardous. This complex mixture includes both organic and inorganic particles, such as dust, pollen, soot, smoke, and liquid droplets. These particles vary greatly in size, composition, and origin. Particle pollution includes “**inhalable coarse particles,**” with diameters larger than 2.5 micrometers and smaller than 10 micrometers and “**fine particles,**” with diameters that are 2.5 micrometers and smaller.



Digital serial
communication
PM1.0, PM2.5 & PM10 values

Specially designed for
eComo04Compact

Those particles damage the environment and are directly related with serious human health problems. Prolonged exposure to coarse particles, called PM10, can irritate eyes, nose or throat, and provokes breathing diseases. Fine particles, PM2.5, can get into the deep parts of your lungs, even end in your blood stream.

Nihon Kasetzu's airQpm sensor allows the continuous monitoring of dust concentration in the air. Its optical sensor transforms scattered light into electrical signals which are processed to provide mass measurements. This sensing cell calculates the respective PM values according to the method defined by European Standard EN 481. Through digital serial communication, PM1, PM2.5 and PM10 values are sent simultaneously to the eComo04 Compact.



Main features

Extremely compact and simple design, with the best dust sensing technology inside.

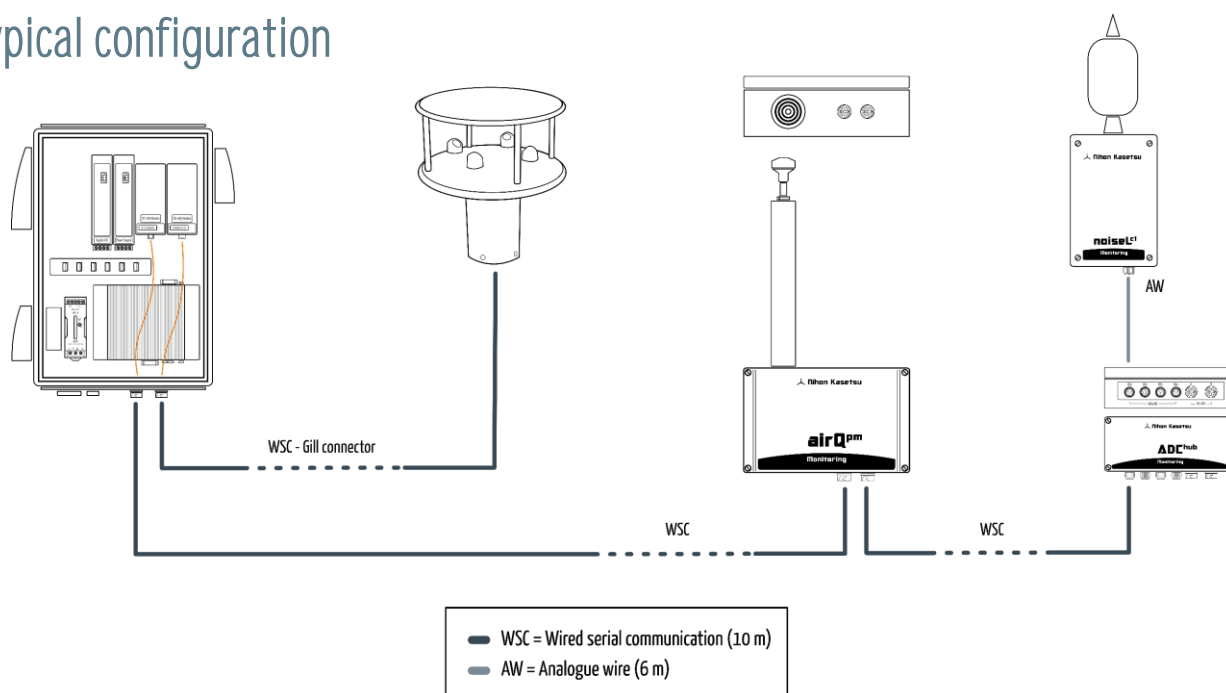
- New anodized aluminum inlet**
 Heated inlet* specially designed for ensuring perfect sampling.
- Advanced laser technology**
 Optical dust sensor to measure light scattered from particles passing through a laser beam.
- Simultaneous readings for PM1, PM2.5 and PM10**
- Accurate**
 Electronic PCBs are low noise and low consumption, with specific analogue transmitters to enhance accuracy and reliability. All sensors are tested and calibrated individually.

*Optional. Three inlet options depending on the application



360° inlet optimized for sampling air in outdoor conditions. Excludes rain water and large objects from the air sample, while having a minimal effect on the passage of total suspended particulate matter.

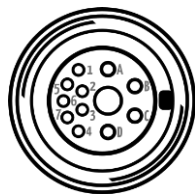
Example: Typical configuration





POWER SUPPLY		
Maximun consumption power	13 (when the heater is ON)	W
Power supply voltage	12	VDC
Current consumption	1.2	A
PHYSICAL SPECIFICATIONS		
Dimensions	510x240x100 (heater inlet option)	mm
Weight	0,8	Kg
IP	55	
KEY SPECIFICATIONS		
Measurement principles	Light scatter by individual particles carried in a sample air stream through a laser beam	
Total flow rate	1,5	L/min
Measurement range	0 ÷ 1500000	µg/m ³
Temperature range	-20 ÷ 50	°C
Humidity range	0 ÷ 90 (non-condensing)	%rh
Particle sizes	10	µg
	2,5	
	1,0	
Certifications	Complies with IEC 60825-1 2014. Class 1 Laser Product	
	Complies with 21 CFR-1040.10 and 1040.11 exception for deviation pursuant to laser notice number 50 date June 24, 2007	

Output connector



Pin connections:

- | | | | |
|----|-------------|----|------------|
| A. | 12V DC (+) | 1. | TX (+) |
| B. | 12V DC (-) | 2. | TX (-) |
| C. | Through (+) | 3. | RX (+) |
| D. | Through (-) | 4. | RX (-) |
| | | 5. | GND |
| | | 6. | GND -RS485 |
| | | 7. | N.C. |

eComo System



airQ series are designed to reach its highest performance with eComo04 and the rest of NIHON KASETSU Monitoring product range.

It can be connected through the eComo **ADC-hub** to take advantage of the digital communication features (low electrical noise and long distances).



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