

MULTICHANNEL OPTICAL PARTICLE COUNTER

OPC monitor multichannel



Multi-channel optical particle counter for the real-time and continuous characterisation of the particle size distribution of airborne dispersed particulate matter in the range $> 0.30 \mu\text{m}$ divided into 6 particle size classes contiguous.

This version can operate both in 'standalone mode using internal processor and internal memory or in 'integrated' mode connected to Swam 5A monitors for storing and updating data and their further processing.

MULTICHANNEL OPTICAL PARTICLE COUNTER

OPC monitor multichannel

Applications

- Time trends characterisation of the particle size distribution of the material in the range $>0.30\mu\text{m}$ to support and integration of information on the current state of air quality

Specifications

- Operating flow rate 2.83 l/min (0.1 CFM)
- Flow rate control accuracy $\pm 2\%$
- Particle size class measured $> 0.30 \mu\text{m}$ (optical diameter)
- Continuous reading cycle
- Size resolution $0.05 \mu\text{m}$
- Real-time estimation of the concentration in mass PMx in particulate material under suspension

Typical configuration



Swam 5a/Swam Dual Channel

OPC

The PMx measurement instrument provides with a high degree accuracy and reliability the average mass concentration over 24 hours, while the optical particle counter provides the daily trend of airborne particulate matter, highlighting the real-time trend (number and particle size).

This data, properly integrated with the information from PMx, can provide essential indications for the determination of correlation factors with the emission sources and their typology.

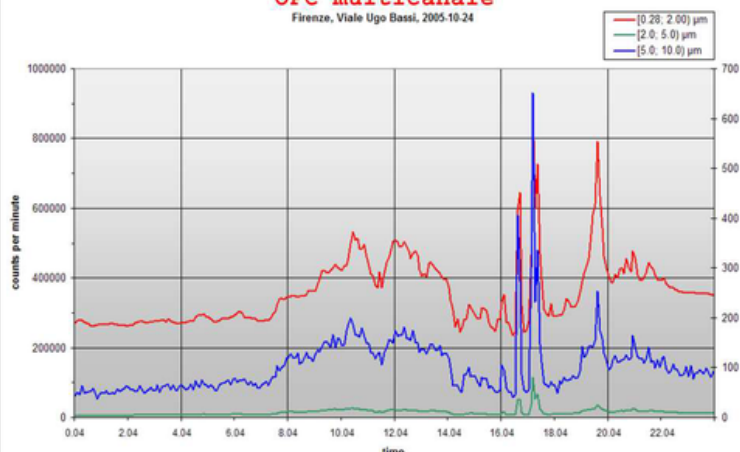
The availability of this information will also make it possible the analysis of particular environmental situations enabling corrective activities to be identified if necessary.

The OPC system measures the number of particles present in the air using the physical principle of 'light scattering'.

The multi-channel OPC system implements a special optical configuration called 'wide angle', based on the principle of a double ellipse focalisation, which makes it possible to very highparticle detection accuracies.

This technological approach aims to use OPC data for their correct functional valence and that's as a supplement to the PMx concentration data provided by the instruments Monitor used.

OPC multicanale
Firenze, Viale Ugo Bassi, 2005-10-24



The photos used are purely indicative.
The structure of the case may be different from image

OPC monitor multichannel

Technical Specifications

Measurement principle	Laser scattering on elliptical mirror
Dimensional resolution	10% (typical)
Dimensional sensitivity	0.30 µm (50 ± 10 % count efficiency) [In accordance with ISO 215001-4 as applicable].
Optical channels	22 optical channels with calibration thresholds [µm]: 0.3, 0.5, 1.0, 2.5, 5.0, 10.
Calibration of particle size thresholds	Factory Calibration: in accordance with ISO 21501-4 (NIST) Field Calibration: Recommended every 12 months
Sampling Timing	1, 15, 30, 60 min.
Typical applications	<ul style="list-style-type: none"> - Characterisation of temporal trends in particle size distribution to support and supplement information on air quality status. - Real-time estimation of PMx mass concentration of suspended particulate material.
Operating mode	<ul style="list-style-type: none"> - STAND ALONE - INTEGRATED with SWAM 5a Monitor (mono or multi-channel) (OPTIONAL)
Operating Interface	Panel PC with touch screen
Data downloading	USB memory key
Monitoring, processing and data acquisition	ASCII commands, data output in CSV format and query via standard RS232 serial port (9600 bps, 8 data bits, 1 stop bit, no parity, no flow control)
Sampling flow rate	2,83 L/min (0,1 CFM)
Dilution flow rate	0 to 14.15 litres/min (dilution ratio 0 to 5..1)
Flow rate control accuracy	± 2% of nominal value
Sampling line	Standard equipment of the instrument includes the sampling line with a PM10 cutting head
Power supply	230 Vac (± 10%), 50 Hz monophas 2A
Power-down	Continuous work - with power-down event management
Operating conditions (inside the installation cabinet)	Temperature: from -5°C to +35°C Relative humidity: < 85% (non-condensing)
Non-operational or storage conditions	Temperature: from -10°C to +°C Relative humidity: < 85% (non-condensing)
Sizes (L x P x H) and weights	Control unit: 450 x 440 x 170 mm / 10 Kg Sensor Unit (with Diluter): 200 x 300 x (170+310) mm / 5 Kg

Rigel S.p.A.

Via Aurora, 15/21 - 00013 FONTE NUOVA (Roma)

Ph. (+39) 06.9050248 (+39) 06.90532398

info@rigel-ls.com www.fai-instruments.com



Brand of

