

SPM10-2,5-1HR - PM1- 2,5-10 PARTICULATE PROBE (Rev. 0 240625)



Description

The SPM dust sensors are industrial detectors for measuring the concentrations of PM1, PM2.5 and PM10 dust in air which uses the principle of diffusion of laser light. This technology allows to obtain the number of particles per unit of equivalent volume and the particle diameter; an algorithm then calculates the concentration for each type of PM1, PM2.5 and PM10 particulate.

The sensors are used to provide an indication of the value of particulate for applications where a measurement referable to regulatory standards is not required, but simply a plausible value to assess exceedances and report any alarms.

The sensor is supplied in two models SPM10-2,5 and SPM10-2,5-1 which provide a continuous measurement available with two or three 0-5Vdc analog outputs (or 4-20mA).

Main applications

- Road construction sites with earth moving, cement dust or brick crushing plants
- Air conditioning systems and dust suppression systems
- Greenhouses or closed environments
- Port areas and coastal deposits
- Dust exceedance alarms in urban and industrial areas

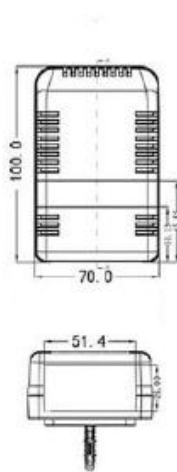
Technical specifications

Models	SPM10-2,5HR (for outdoor) and SIPM10-2,5HR (for indoor) SPM10-2,5-1HR
Working principle	Light laser scattering
Measuring range	PM1: 0...1000 µg/m ³ (only mod. SPM10-2,5-1); PM2,5: 0...1000 µg/m ³ ; PM10: 0...1000 µg/m ³
Resolution	<±1% f.s.
Accuracy	±3% f.s. @25°C
Warming time	3 minutes
Response time	<90s
Outputs	0...5Vdc (o 4...20mA on request)
Power	12...24Vdc (tip.12Vdc)
Consumption	<100mA@12Vdc
Load resistance	100Ohm@12Vdc (<600 Ohm@24Vdc)
Working conditions	-20...+60°C, 0...80%
Materials	ABS
Overall dim. and weight	Vers. SPM10-2,5HR (per esterni): Corpo Sensore: ø140 x h205mm (escluso staffa), peso: 400g Vers. SIPM10-2,5HR (per interni): 100 x 70 x 51mm, peso: 80g
Connector	Plug IP68
Mounting	Universal bracket for fastening on horizontal or vertical pipes ø25...42mm or ø42...62mm

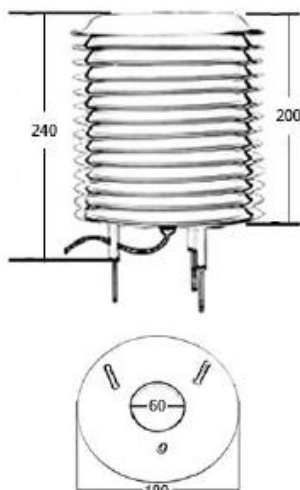
Electrical connection

Model	SPM10-2.5-V, SPM10-2.5-1-V (Voltage output)	SPM10-2.5-I, SPM10-2.5-1-I (Current output)
Output	0...5Vdc (where 0Vdc=0µg/m ³ ; 5Vdc= 1000µg/m ³)	4...20mA (where 4mA=0µg/m ³ ; 20mA= 1000µg/m ³)
Load resistive shunt	/	25...440Ω (tip.100Ω)
IP68 Connector on the sensor	 Pin1: Vout+ PM1 (just mod. SPM10-2,5-1) Pin2: Vout- PM1 (just mod. SPM10-2,5-1) Pin3: Vout+ PM2,5 Pin4: Vout- PM2,5 Pin5: Vout+ PM10 Pin6: Vout- PM10 Pin7: Gnd Pin8: +Vdc (12...24Vdc)	Pin1: Iout+ PM1 (just mod. SPM10-2,5-1) Pin2: Iout- PM1 (just mod. SPM10-2,5-1) Pin3: Iout+ PM2,5 Pin4: Iout- PM2,5 Pin5: Iout+ PM10 Pin6: Iout- PM10 Pin7: Gnd Pin8: +Vdc (12...24Vdc)

Mounting



Indoor model



Outdoor model

