PARTICULATE CONCENTRATION SENSOR

PM-2.5 and PM-10

- Simultaneous or separate determination of PM10 and PM2.5
- Monitoring of fine dust in:
  - production area (workshops, factories, etc.)
  - indoor air quality monitoring in offices
  - monitoring the ambient air
  - Integration in weather station
- Wide operative environmental conditions: -20÷50°C, 0-95% RH
- Automatic zero setting
- 2 l/min fan
- 4÷20 mA output
- RS485 Modbus-RTU output

The fine dust sensors are optical sensors for continuous measurement and control of fine dust contents, three particulate sizes are available: simultaneous PM10 and PM2.5, an d separate PM 2.5 and PM10. The determination of the dust content is based on the method of scattered light measurement . The sucked air is tempered. The flow enforcement takes place via the integrated fan (2 l/min). In the device there is a periodic control and correction of zero point and reference point which is enabled by the electrostatic precipitator with integrated high voltage module. A high zero point stability is achieved by evaluation of the internal measuring signals.

Technical Specifications

PN	PRPMA1002	PRPMA1102	PRPMA1000	PRPMA1100	PRPMA1001	PRPMA1101
						
Measurement	PM2.5 and PM10		PM2.5		PM10	
Output	4÷20 mA	RS485	4÷20 mA	RS485	4÷20 mA	RS485
Protocol		Modbus RTU		Modbus RTU		Modbus RTU
Measurement Range	up to 500 µg/m^3 (with electrostatic precipitation 2000 µg/m^3)		up to 200µg/m³ (with electrostatic precipitation 500µg/m³)			
Auto-zero (zero-point check)	Yes, every 4 hours		Yes, interval 2-8 h			
Weight	4 Kg		2 Kg			
Dimensions	200x297x121 mm		130x160x90 mm			

Common Technical Specifications

Particulate	Measuring method	Scattered light measurement
	Standard (PM 2.5)	DIN EN 481- Workplaces atmospheres; size fraction definitions for measurement of airborne particles
	Sensor	2x optical sensors; separated control and signal evaluation
	Sensitivity/Resolution	2µg/m³
	Nephelometer accuracy	±5µg up to 100µg/m³ and ±5% over 100µg/m³

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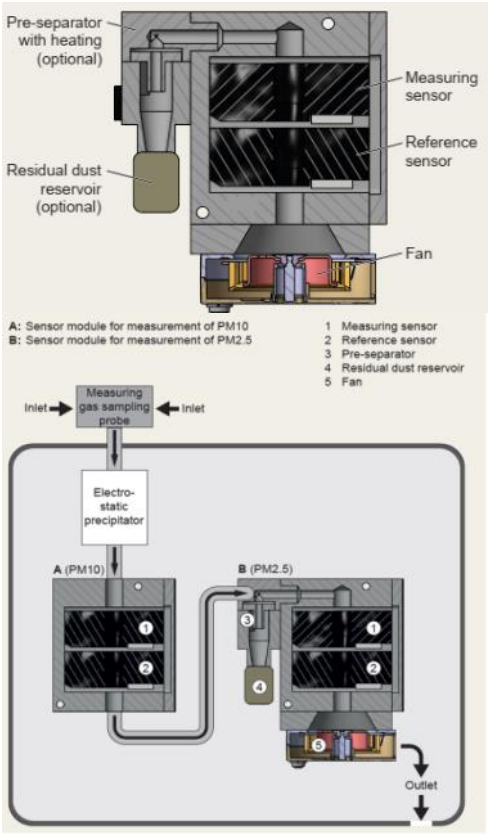
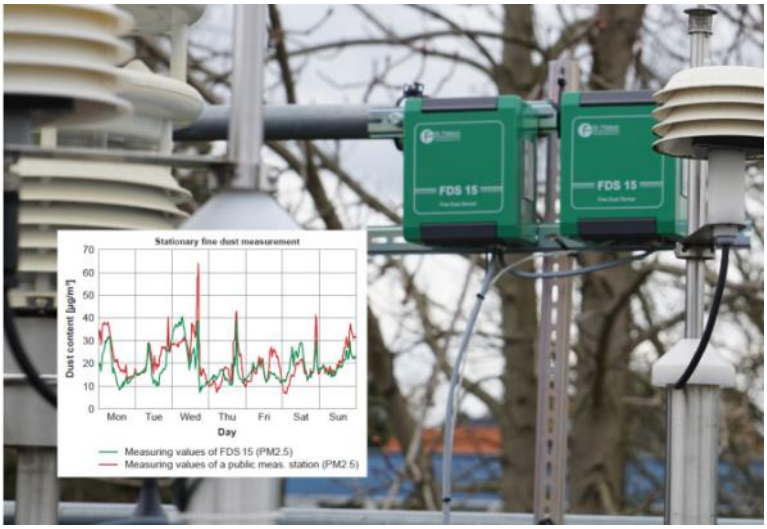
	Min. particle size sensitivity	0.25µm
	Flow	2 l/min
General Information	Heater	YES
	Housing	Aluminium
	Power supply	12Vdc (2.1 A)
	Protection grade	IP33 (designed for outdoor use, splash water from below should be avoided)
	Operative limits	-20±50°C, 0±95% RH%
	Compatibility	Alpha-Log, E-Log, M-Log (ELO008), R-Log

Accessories

	**MAPSA1200**	Arm for protecting from rain and solar radiation and for fixing dust sensors on pole (diam 45-65 mm)
	MN1510	CAT 5 cable for data connection (each meter)





Outdoor measurement of the particulate in combination with other typical meteorological sensors. The RS485 signal can be connected to LSI-LASTEM data loggers (Alpha-Log, E-Log)

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