

PM421

Respirable Dust Sensor

The Sperosens range of respirable sensors is used in mine haulages and shafts to measure dust particles in the environment. It is an indispensable aid to the ventilation engineer, providing accurate measurements of respirable dust in underground mining operations.

The Sperosens sensor range seamlessly integrates with our industry leading SL2010 Fire Detection and Monitoring system as well as any third-party system capable of interpreting 4-20mA signals.

KEY FEATURES

- Measures dust PM10 dust up to 10mg/m³
- PM4.0 and PM2.5 on request
- 24VDC Input Voltage, 4-20mA Analog Output

APPLICATIONS

- Intake air ways
- Waiting areas
- Transfer points
- Travelling ways

PRODUCT INFO

Type: PM421
Part Number: SP00863



PM421 RESPIRABLE DUST SENSOR

FUNCTIONALITY

- The PM421 is an optical particle sensor that uses laser scattering to detect and classify dust particles.
- The sensing modules draws in air to be sampled inside an optical chamber. The particles are counted and measured for size to determine an indication of the dust concentration in the sample.
- The PM421 has a 3 wire 4-20 mA industry standard electrical interface, making it compatible with most industry standard controllers, including the SL2010 IOC devices.
- The PM421 electronic enclosure is ingress protected to IP 65 against dust and water.
- The PM421 is fitted with two voltage test pads where the output signal can be checked with a Digital Multi-Meter (DMM) measuring DC Voltage.

CERTIFICATION

Ex Protection:

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MECHANICAL SPECIFICATIONS

Physical Dimensions: 127mm x 123mm x 260mm
Weight: ± 2.3 kg

SPECIFICATIONS

Measuring Range:	PM10 – 10mg/m ³ PM4.0, PM2.5 on request
Analog Output Signal:	4-20 mA
Maximum Load Resistance:	800 ohm @ 24V
Test Signal:	40 mV: Zero 200 mV: Full Scale
Electrical Protection:	Test output is short circuit protected
Warm Up Time:	< 30 sec
Life Expectancy:	Up to 10 years

ELECTRICAL SPECIFICATIONS

Supply:	15 - 30VDC (3 wire system)
Analog Output Signal:	4 mA – 0 mg/m ³ 20 mA – 10 mg/m ³
Interfaces:	24VDC – (4-20mA capable IO device)

Electrical protection:

Input power supply is reverse polarity protected.
Analogue output is short circuit protected. Test output is short circuit protected

ENVIRONMENTAL SPECIFICATIONS

Water and Dust:	IP 65
Temperature:	-10 °C to +55 °C