Process-connection for connection wih ventilation channels
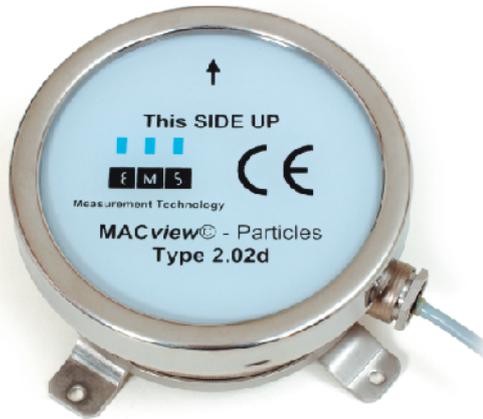
MAC*View*®
PARTICLES ADVANCED
Universal fine-dust and particles sensor

The MAC*View*®-Particles Advanced is a universal fine-dust and particles sensor. The sensor measures the concentration of fine dust. The measurement principle is based on the diffusion of infrared light. (Scattering light method) The range of the measured size of particles is from 0.8 μm up to 12 μm. All parts under or above this range are ignored and thus are not measured. The reason is that parts above this range are not inhaled and parts under this range easy breathe out. There is also a version available that can be connected with the MAC*View*®-IPR. The advantage is that also the temperature and the relative humidity are measured and displays on the MAC*View*®-IPR.

Stand-alone or integrated

The MAC*View*®-Particles Advanced is designed for stand-alone use. The sensor sends its standard industrial 4-20mA signal directly to a PLC or frequency regulator. The output range is with buttons adjustable in the range of 0 and 16 mg/m³. (Milligram per cubic metre) The values can directly be compared with the MAC-value. (Maximum Allowable Concentration for human) Through this the range can be adjusted so that the MAC*View*®-Particles Advanced can drive a frequency regulator. The analog output is designed so that at an error 1 mA is at the output. In a PLC the difference can be detected by a cable disconnection or an internal fault. It is easy to keep the sensor clean. The cover can easy be taking of. Also the cleaning of the internal sensor after a long period is very easy job. Long distances between the sensor and read-out unit are no problem.

TECHNICAL SPECIFICATIONS
MAC*View*®-Particles Advanced

Versions available	**206302:** MAC*View*®-Particles Advanced 4-20 mA output, dust only
	203603: MAC*View*®-Particles Advanced process connection 4-20 mA output, dust only
	206304: MAC*View*®-Particles Advanced 4-20 mA output, dust RH and T
	206305: MAC*View*®-Particles Advanced process connection 4-20 mA output, dust RV and T (relative humidity and temperature)
Material of housing	Stainless steel
Approval	CE
Protection classification sensor	IP55
Diameter sensor	130 mm
Pinch connection	outside diameter of pipe 10 mm round
Warming-up time	300 seconds
Short-term stability	± 3%
Long-term stability > 1-year	± 7%
Temperature sensor	± 0.5% accurate, 14 bit semiconductor temperature sensor with excellent long-term accuracy (Calibration is not necessary)
Relative humidity	± 2.5% accurate, 12bit semiconductor sensor with very good long-term accuracy (Calibration is not necessary)
Measuring range	0 - 16 mg/m³ (milligramm per cubic metre)
Output	4-20 mA, 1 mA is fault detection, range of output adjustable 0 - 16 mg/m³ (milligramm per cubic metre) Maximum load of the analog output 4-20 mA is 400 Ohm @12V
Supply	12V, three-wire connection ground, supply +12V and output (4-20mA)
Speed of the microcontroller	22MHz
Indication of operation	by status LED's green and red
Adjustment	with buttons
Measurement approval	Calibrations done in Spiez (Swiss), copy of the certificate available
Mounting	Sensor can be mounted easy on a wall

MEASUREMENT TECHNOLOGY