GOYEN
INNOVATIVE ENVIRONMENTAL SOLUTIONS

EMS6

Particulate Emission Monitor

tyco / Flow Control / Environmental Systems

What it Does

- Continuously monitors particulate flow, primarily emissions from process plants.
- Capable of being a part of total process monitoring system.
- Measures the movement of particulate past the stationary emission monitor.
- Output can be interfaced into PLC, SCADA or Connect Network System enabling data to be logged in plant operating system.
- Output signal is RS485 Modbus RTU protocol.
- Linear representation of mg/m3 (gr/ft^3) or mg/s (gr/s). Iso-kinetic sample required for initial calibration.

Product Description

The EMS6 utilises AC Coupled Triboelectric technology. As particles travel through the process they develop a charge. This charge is transferred as the particle passes or impacts the sensing element. The resulting current is amplifed, filtered, rectified and further filtered and converted to digital form looking only at the AC component. This gives a linear representaton of the concentration or mass flow rate of the particles in the gas stream, depending on the chosen scale for calibration.

The reason for measuring the AC component is that, compared to the DC component, the electronics are more sensitive. The AC signal is substantially less affected by influences such as amplifier noise and process parameters which includes the build-up of process dust on the sensing rod.

The EMS6 totally filters out any 50Hz or 60Hz frequencies related to mains supply. The digital signal is then sent via a data cable to PLC, SCADA or a Connect Network System.

The EMS6 linear representation of concentration or mass flow has been validated by independent laboratories. The EMS6 along with ANJ1, ANP1 and Connect software has been tested and certified for monitoring dust emissions according to the "MCERTS standard.

Operational Range

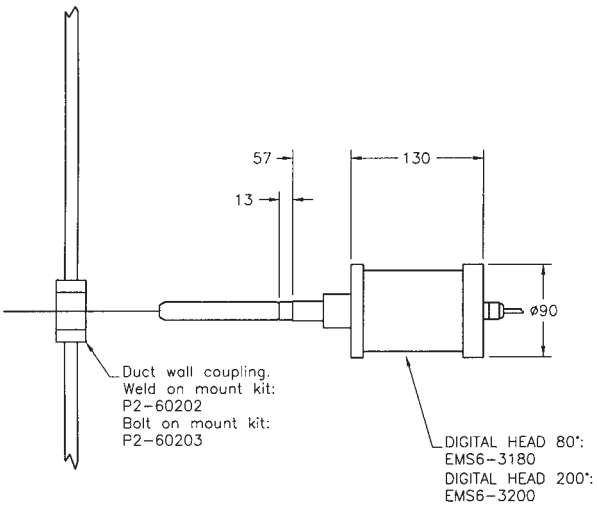
- Suitable for a wide range of dust collection, gas cleaning and outlet stack applications.
- Applicable for all types of outlet stack geometrical arrangements.
- Insertion temperatures up to 80°C or 200°C (176°F or 392°F), higher if required.
- Applicable to most particulate types.
- For duct sizes from 50mm (2”) to outlets over 10m (33ft).
- Dust concentrations from 0.01mg/m^3 (4x10^{-6}gr/ft^3)
- Suitable for most stack material eg. steel, brick etc.

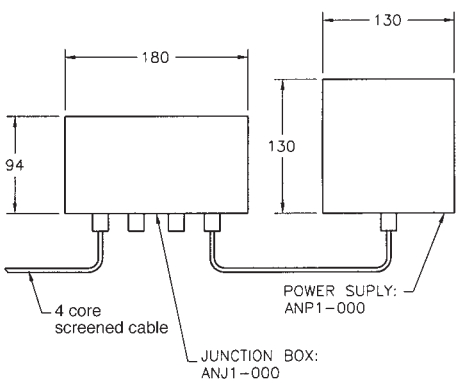
Benefits

- Detects all particles regardless of composition.
- Very sensitive due to AC coupled technology.
- Can be a linear representation of either concentration or mass flow rate.
- Can monitor extremely small particles like galvanising fume (~0.1µm).
- Can be calibrated for large range of concentrations or mass flow rates.
- A seamless interface to industry standard PLC, SCADA or Connect Network System.
- Easy installation.
- Immunity to bridging providing reliable continuous operation.

Features

- Proven AC Triboelectric technology.
- Air purge port.
- Three settable ranges under both hardware and software control.
- Network ID settable under both hardware and software control.
- RS485 Modbus RTU communications protocol.
- Simple installation.





Technical Specifications

Functions

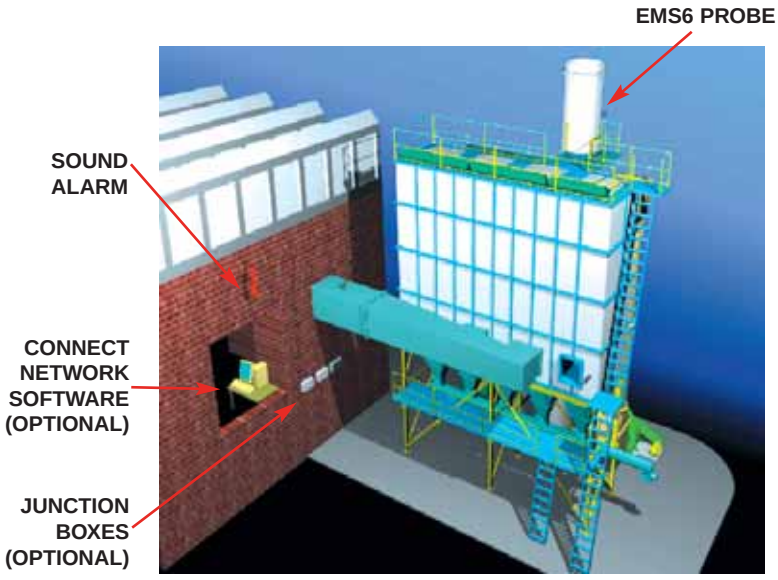
Diagnostics:	Automatic self check and calibration signal on start-up
Gain:	High: (0-20mg/m^3) (0-0.008gr/ft^3) Med: (0-150mg/m^3) (0-0.006gr/ft^3) Low: (0-1000mg/m^3) (0-0.437gr/ft^3)

Operational Equipment

	ANJ1 Junction Box	**ANP1 Power Supply**	**AYK1 Relay Card**
Enclosure Rating:	IP66/NEMA 4	IP66/NEMA 4	IP66/NEMA 4
Enclosure Size:	94mm x 180mm x 57mm ($3^{11}/_{16}$" x $7^1/_8$" x $2^1/_4$")	130mm x 130mm x 75mm ($5^1/_8$" x $5^1/_8$" x $2^{31}/_{32}$")	130mm x 94mm x 57mm ($5^1/_8$" x $3^{11}/_{16}$ x $2^1/_4$")
Enclosure Material:	Plastic Composite	Plastic Composite	Plastic Composite
Power Supply:	12VDC or 24VDC	100 – 240VAC	12VDC nominal
Temperature Range:	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)

Remote Sensing Head

Insertion Temp Range:	EMS6-3180: -20°C to 80°C (-40°F to 1760°F) EMS6-3200: -20°C to 200°C (-4°F to 392°F) High temperatures are achievable >650°C (1200°F) with additional hardware
Sensor Lengths:	50mm to 10m (2" to 33ft) using appropriate probe options Consult with supplier for larger options
Connection required on duct:	1" BSPT Socket
Enclosure Temperature Range:	–20°C to 60°C (-4°F to 140°F)
Enclosure Rating:	IP66/NEMA4
Enclosure Material:	Aluminium
Sensing Element Material:	316 stainless steel
Sensing Element Options:	Solid rod, tubular, teflon coated, multiple supports, cable type
Air Purge Requirements:	Connection: $^1/_8$" gas thread on side of unit Air Pressure: 400kPa (60psi) max Air Consumption: 1.7-17m^3/hr (1-10cfm) pulsed
Electrical Specification between Sensing Head and Controller:	4 core screened data cable: Beldon 9534 (or equivalent) max 1000m
Resolution:	0.001mg/m^3 (0.4x10^{-6}gr/ft^3)



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