

# Particulate Measurement System Controller

MODEL : PRO-CON-DUST



**ELECTRODYNAMIC™**  
INSIDE

## SPECIFIC FEATURES:

- Extensively used for measurement ( $\text{mg}/\text{m}^3$ ) and leak location in bagfilter stack applications
- Upgradeable to include control for up to 32 sensors, plus 16 additional calculated channels (e.g. for Mass or normalised concentration)
- Advanced sensor design includes zero, span and unique contamination checks



TUV Approved  
for plants with German  
regulations according to  
13., 17., 27 BImSchV



# TECHNOLOGY / APPLICATION

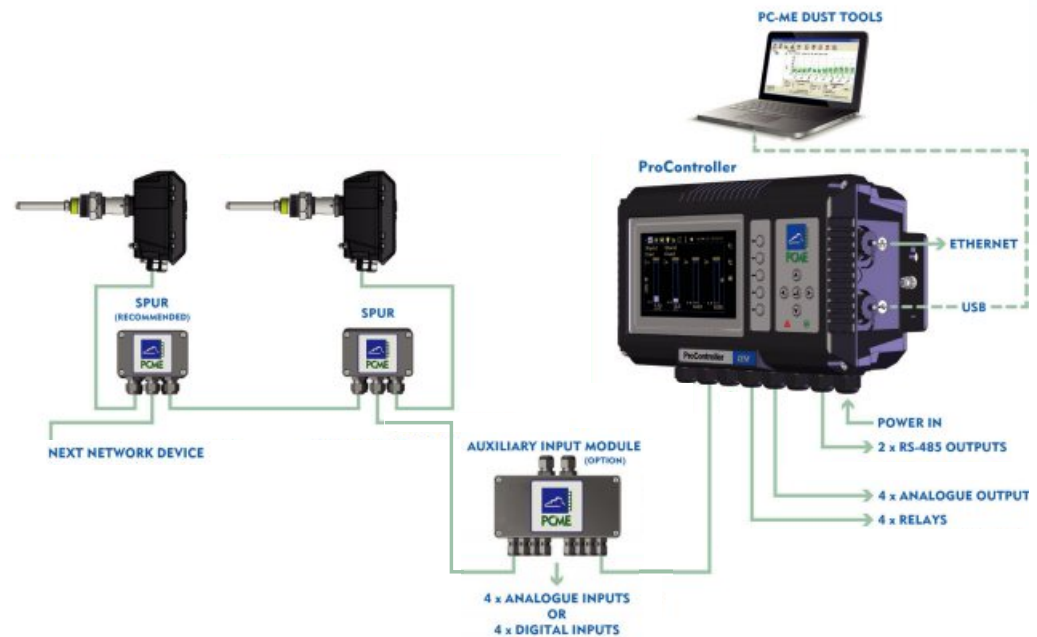
## SYSTEM DESCRIPTION

The PCME STACK 990 is an approved particulate measurement system for continuously monitoring emissions from industrial sources. It is predominantly used to monitor particulate emissions in stacks after bagfilters, cartridge filters, cyclones and process driers. The instrument combines regulatory approvals (TUV Approved BImSchV 13, 17 and 27) for both dust measurement and leak monitoring, with reliable automatic quality assurance features, rugged operation and advanced diagnostics capability for managing and improving the operation of bagfilter arrestment plant.

There are two versions of the PCME STACK 990, the Standard and PRO variants. The PCME STACK 990 Standard system is a single-sensor system, the PCME STACK 990 PRO is a multi-sensor networked system (for up to 32 sensors) for multi-stack and plant-wide monitoring.

In addition, both the standard and PRO versions of the instrument also support the following capabilities:

- Normalisation for T and O<sub>2</sub> (with inputs from other analysers).
- Mass calculation (kg/year) capability for both fixed and varying velocity applications (varying velocity requires velocity input).
- Emission reporting and data analysis via optional PC software.
- Internal data logging for emission recording and data archiving.
- Ex versions of the instrument are rated for Ex Gas zone 2 and Dust zones 20 and 21 (up to 400° C) as well as Gas/Dust zones 2 and 22 (up to 800° C).



## PROCESS AND APPLICATION CONDITIONS



- Stack temperature ranges: up to 250° C, option to 400° C and 800° C
- Long-term zero drift: < 0.1 mg/m<sup>3</sup>
- Measurement capability: 0 – 500 mg/m<sup>3</sup>
- For dry and humid applications with up to 95% RH, non-condensing.
- Not suitable for electrostatic precipitators (ESPs) or applications with water droplets.
- Stack diameter: 100 mm to 6 m (flow-profile dependent for large stacks).

The PCME STACK 990 includes advanced automatic functionality checks to provide high quality assurance:

- A probe rod short-circuit check enables the operator to know when the sensing rod may be electrically shorted to the stack.
- A patented probe rod contamination check provides the operator with an advance warning check of a possible probe short-circuit, enabling predictive sensor maintenance scheduling, thus reducing down times and providing confidence in signal quality.
- Automatic electronic drift checks improve measurement reliability and ensure that the instrument is in compliance with regulatory standards. The self-checks ensure the major part of the instrument is challenged during these tests unlike Triboelectric dust monitors.

Advanced probe  
contamination check



# SPECIFICATIONS

Network Controllers		PRO Controller [ <b>PRO-CON-DUST</b> ]	Remark
Overview	Number of sensors/channels	1-32	
	Display	High-contrast, anti-glare 7" (viewable) TFT LCD	
	Multiple Data Viewing	PC/RS-485/Ethernet simultaneously	
	Dimensions	W390 x H221 x D118 mm	
	Power supply voltage	85-265V AC (50/60 Hz)	
	Protection Rating	IP66	
	Ambient Temperature Range	-20° C to 50° C	
Features and Functions	Navigation keys	Up/Down/Left/Right/Enter plus 5 function keys: 3x short-cut keys and 2 user-programmable keys	
	Icon-driven, multilingual menus	✓	
	Secure password protection	✓	
	Sensor system setup and configuration options	✓	
	Configurable emission alarm levels	✓	
	Sensor calibration screens	✓	
	Seamless integration with existing E control units and sensors	✓	
Data Logging*	Long-term Log	48 months @ 15 minutes	
	Short-term Log	28 days @ 1 minute	
	Pulse Log	32 hours @ 1 second	
	Alarm Log	500 entries	
System Outputs	Ethernet (RJ45)	✓ Connection type: 100Base-T/Tx 100 Mb/s	
	USB 2.0	✓ Suitable for connecting to a local PC or laptop	
	Relays	4 off (programmable)	
	4-20mA	4 off (programmable)	
	RS-485	1	
	Digital		
System Inputs	User selectable for: PLANT OFF indication, Bag-filter cleaning sequences, multiple calibrations	4	
	4-20mA	2	

\*Data logging capacity for one sensor. Data stored varies per sensor type. Please consult ENVEA for specific data.

		PRO Controller	Remark
Network Accessories (can be connected to Controller Network systems to provide additional Inputs and Outputs)	<b>Auxiliary Input Module (AIM)</b> provides 4 additional digital inputs, plus 4 additional relay outputs	1	
	<b>PC-ME-TOOLS SOFTWARE</b>	1	



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