



## PARTICULATE MONITORING SYSTEMS

### ADVANCED DESIGN ELECTRODYNAMIC® PARTICULATE MONITOR

DUSTALERT 60

DUST

EMISSIONS

MONITOR



- Inbuilt zero and span checks
- Accredited to German TA LUFT standards
- Instrument output Not velocity dependant †
- Optional remote calibration software
- Can be calibrated to read in  $\text{mg}/\text{m}^3$
- Enhanced measurement through Electrodynamic® technology
- Can be used with "Predict" broken bag location software
- Capable of monitoring in Dry, Humid and Wet gas streams using patented insulated probe option

## System Description

The DustAlert 60 is a continuous particulate monitor for emission control and arrestment plant performance monitoring.

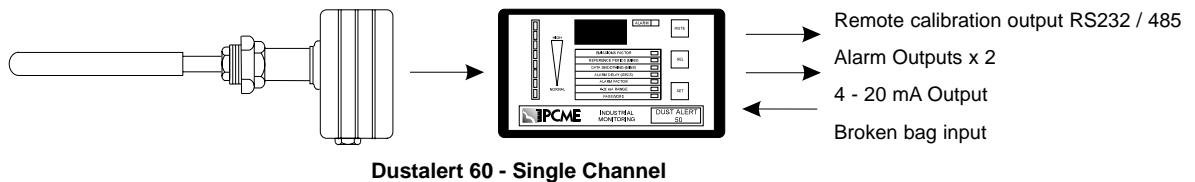
Utilising an advanced design Electrodynamic<sup>®</sup> measurement technique, this single channel monitor with dual alarm outputs and scaleable 4-20mA has proven monitoring capabilities and German TA LUFT accreditation.

Utilising a new Dynatrack feature the DustAlert 60 gives unparalleled performance in a wide variety of applications. The use of optional totally insulated probes (patented design) enables the DustAlert 60 to be used in not only dry but humid and wet conditions as well as applications with conductive dust which typically undermines other techniques. The optional "Predict" broken bag detection software allows predictive maintenance to be scheduled on bagfilter arrestment plant reducing downtime and costs of potential unnecessary bag replacement. Calibration of the display and 4-20mA output can be either an keypad function or remotely via the optional calibration software.

The inbuilt zero and span checks are used to verify the instruments electronic calibration.

Completely microprocessor driven the DustAlert 60 reacts instantaneously to changes in particulate concentration, following trends and indicating potential arrestment plant failure.

The DustAlert 60 has a simple to use keypad user interface, where all instrument parameters can be set (optional customer language labelling).



## Electrodynamic<sup>®</sup> Features for Enhanced Measurement

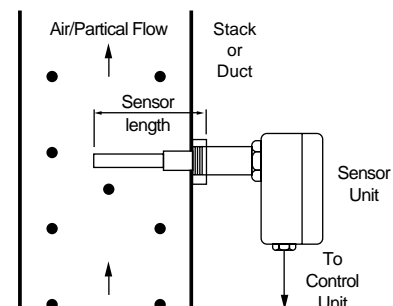
- Dynatrack**      Instrument automatically adjusts it's dynamic range to track fast moving dust pulses (typically found after reverse jet cleaning baghouses) to ensure good measurement
  
- AGC**            The instrument automatically adjusts its gain control to suit varying dust loading applications (no need for user to adjust gain controls or potentiometers)
  
- AZC**            Automatic Zero Compensation eliminates drift due to frequency driven signal processing
  
- Alpha check**    Inbuilt system check, processor driven for system integrity
  
- Beta check**     Digital communication check for sensor integrity
  
- ECD**            Inbuilt Error Code Diagnostics visually displayed for user information
  
- Zero & Span Check**    Automatic instrument zero and span check for signal verification

## Principles of Operation

The DA60 utilises a unique Electrodynamic<sup>®</sup> measurement principle. When the sensing probe is installed in the duct or stack, particles in the air stream interact with the sensing rod and a charge induction affect is analysed from the probe. Distributions in the particle stream result in a frequency charge induction response, which is directly proportional to the concentration of particulate. Unlike Triboelectric systems the measurement is not affected by build up on the probe, which can cause zero and calibration drift. Very Low Dust concentrations can also be measured due to this unique Electrodynamic<sup>®</sup> technique.

Various independent laboratories have validated this relationship.

A Electrodynamic<sup>®</sup> technique also enables the use of fully insulated probes essential for use in high humidity and wet gas streams as well as applications with high conductive dust loadings.



## Features

- Virtually maintenance free
- Unaffected by dust build-up on probe
- Extremely sensitive detecting particulate as low as 0.01mg/m<sup>3</sup>
- Detects particulate as small as 0.1 micron diameter (smoke)
- Unique patented totally insulated probes\* allows monitoring in humid and wet gas steams
- Inbuilt sensor, control unit and system self checks
- "Predict" broken bag detection\*
- Password protection prevents unauthorised changes to settings
- Simple single point installation with no alignment
- Unaffected by velocity variations in most applications †
- Can be installed in ducts / stacks from 75mm to over 6 metres
- 4-20mA output proportional to dust concentration
- 2 independent alarm outputs
- 3 digit LED display of emission or settings
- Scaleable LED bargraph colour coded for relative emission levels
- Visual indication of error code alarms
- Can operate in gas temperatures upto 800°C
- Relays can be latching or non-latching
- Fully set-up from front panel keypad (No internal user adjustments or tools needed)
- Air purge fitting available\*

\*Denotes optional extra

† See independent TUV test report

## Typical Applications

The DustAlert 60 can be used in a large variety of applications and processes. Typically used after arrestment plant such as: Bagfilters, Cyclones, Cartridge Filters, Scrubbers, Atomisers or after process plant such as, Driers, Coolers, separators e.t.c. In fact where particulates or powder is present and needs to be detected, monitored and controlled.

- Animal feed compounding
- Cement manufacture
- Chemical processing
- Ferrous metals industry
- Foundry/shotblasting
- Galvanizing
- Non-ferrous metals industry
- Pharmaceutical manufacturing
- Roadstone/mineral drying
- Rubber compounding
- Timber processing
- Tobacco processing

## Functions

Emissions	0.01mg/m <sup>3</sup> to 999mg/m <sup>3</sup> (higher on request)
Scaling factor settings	0.01 to 999 user defined
Data smoothing settings	0,2,5,10,30,60,90,900,seconds user selectable
Alarm delay settings	0,3,10,30,60,300,600 seconds user selectable
Alarm level settings	0.1 to 999 user defined
4-20mA range settings	0 to 2,5,10,20,50,100,200,500 user selectable
Password settings	User selectable 3 digit number
Relay 1 (emission)& relay 2 (fault)	Volt free contacts, single pole, @3A, 230Vac

## Control Unit

Enclosure rating	IP65
Enclosure size (approximate)	222 x 125 x 81mm
Enclosure weight	1.8kgs
Enclosure material	Die-cast aluminium (epoxy-coated)
Power supply	115/230 Vac, 50/60 Hz ± 10%, 20 VA
Fuse rating	100 mA
Display type	3½ digit LED and scaleable bar graph
Ambient temperature range	-25°C to +55°C

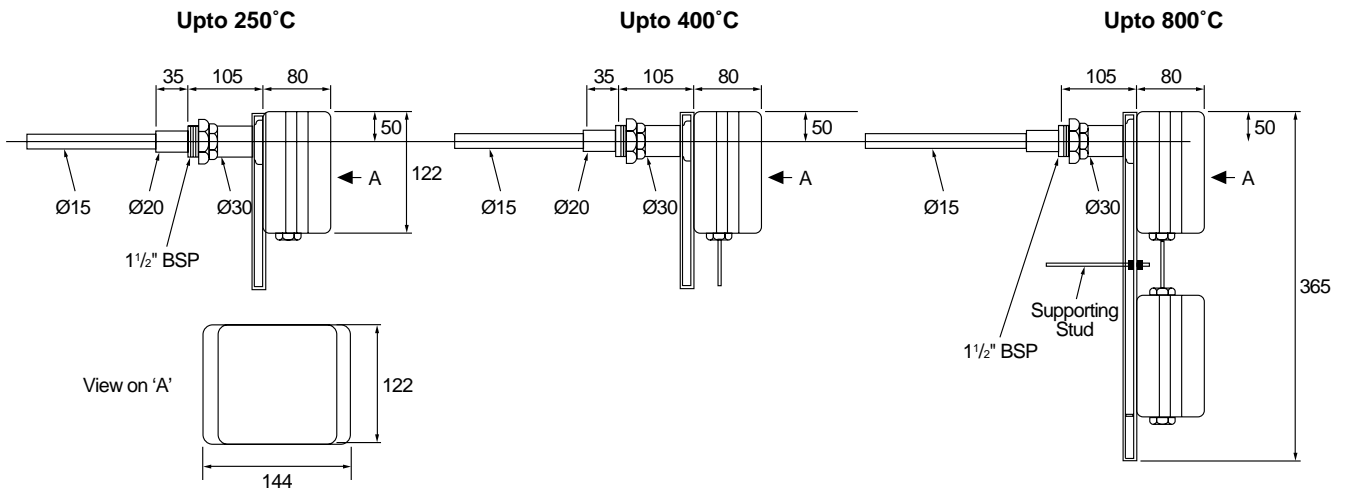
## Sensors & Cables

Sensor types Standard temperature Optional	upto 250°C upto 400°C upto 800°C  Over 800°C consult factory
Sensor lengths	100, 200, 300, 400, 500, 600, 800, 1000 & 1500mm.*
Cross-stack probes*	From 2000 to 6000mm available on application
Connection required on duct	1½" BSP (female)
Enclosure weight	1.8 kg

Enclosure temperature rating	-25°C to +55°C
Enclosure rating	IP65
Sensor rod material Special	316 stainless steel Fully insulated Sensor*
Air purge option Airline connection Air consumption Air pressure	¼" BSP Up to 0.5 litres/min 4 barg min, 10 barg max
Sensor enclosure material	Die-cast aluminium (epoxy-coated)
Cable from sensor	8-core screened
Cable length	10 m standard : 500m max

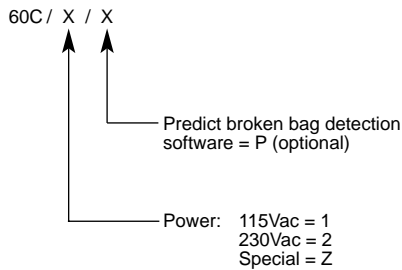
\* optional extra

## Sensor Design



## Order Codes

### CONTROL UNIT



### SENSOR UNIT AND CABLE

