

DM-1

Continuous PM Monitoring in high temperature and high concentration

Overview

DM-1 is an online dust analysis product, adopting laser backward scattering measuring technology with imported core components. It is mainly used for continuous monitoring on PM emission concentration of various pollution sources. It can be not only matched with CEMS, but also be used separately or together with multiple dust monitors to form dust monitoring network, sharing the same data collection and processing background.

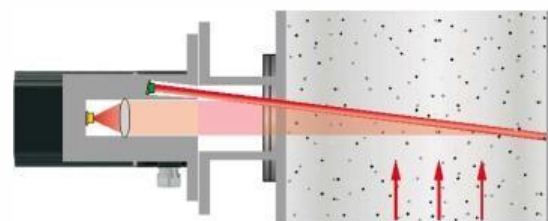
The product is widely applied in enterprises including thermal power, ferrous metallurgy, petrochemical industry, cement production, potting, waste incineration; flue gas emission monitoring in all kinds of power generating boiler, industrial kiln, and industrial boiler; monitoring and control in gas desulphurization and dust removal process.



Principle

DM-1 dust monitor consists of optical part, circuit and signal processing part, calibrator and air curtain protection part.

The laser beam (650nm) emitted by semiconductor laser enters stack and produce scattering light by interaction with dust particles. The backscattered light enters photosensitive detector through convergence of lens. The signal processing circuit converts light signal into standard signal in proportion to dust concentration and output, thus dust particle emission concentration of pollution source is obtained.



Specification

Measuring Principle	Laser Backward Scattering	Stack diameter	>0.5m
Measuring range	0 – 200mg/m ³ , 0 – 10g/m ³ (customizable)	Analog output & Communication	4-20mA (800ohm), RS485, 2X Relay
Indication error	< 20%	HMI	IPC, APP
Indication repeatability	10%	Weight	4Kg
Laser device	650nm	Power	<3W
Medium temperature	< 300Deg.C	Dimension	158X158X273 (Circular)
Ambient temperature	-20 to +50 Deg. C	Supply Voltage	24Vdc +/- 10%

Feature

- Support online zero and span calibration
- Automatic gain control function and temperature compensation
- Convénient for installation, disassembly and cleaning with small and compact structure
- Able to eliminate influence of background stray light

Installation

- Instrument is installed on stack by flange
- Rain cover will be installed at back end of monitor
- Power and gas source are connected at back end of monitor

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