

DSL-340

Double Pass Dust Monitor for monitoring dust emissions using DDP



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FEATURES

- In-situ measurement directly in exhaust gas flow
- Innovative Dynamic Detection Principle, (DDP), measurement technique
- Measurement reading as mg/m^3 (when calibrated against standard reference measurements)
- Choice of interface options enabling easy integration into plant control system
- Free utility software for PC based setup, control and data logging
- Optional Operator Interface with different mounting configurations
- IP65 rated external enclosure

BENEFITS

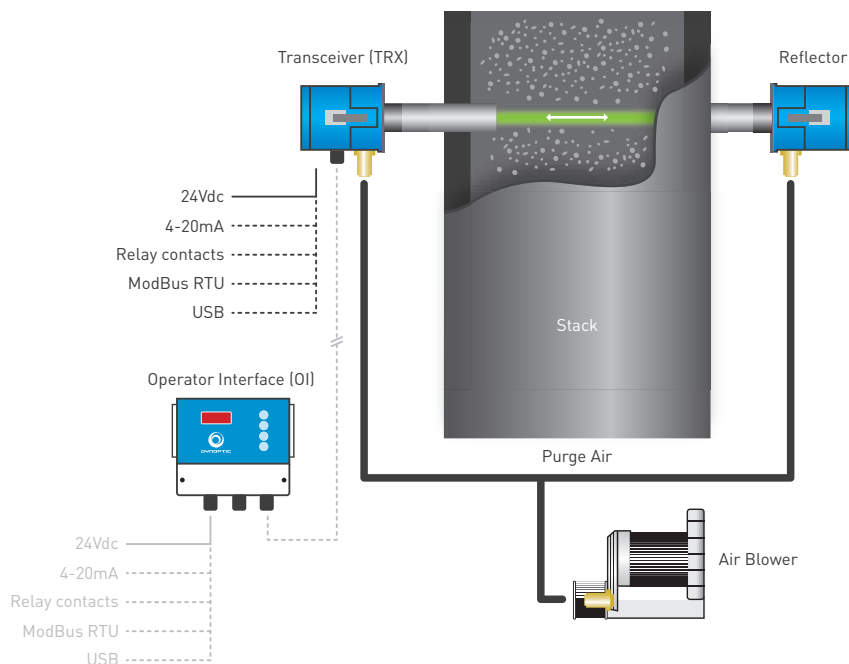
- Immunity to gradual reductions in absolute intensity of the light signal and therefore, significantly less susceptible to drift than standard opacity monitors
- Simpler installation than single pass opacity monitors
- Better accuracy over shorter path lengths, i.e. smaller duct diameter
- Rugged design with no moving parts so low maintenance
- Latched head design to enable ease of access to optics for maintenance

THE TECHNOLOGY

The DSL-340 Dust Monitor uses the innovative Dynamic Detection Principle (DDP) to measure dust, smoke and particulate concentration present in an exhaust gas flow in a duct, stack or flue. A light beam emitted from the Transceiver (TRX) passes across the duct, stack or flue to a Reflector, which returns the light beam to the TRX. Particles moving through the beam will cause fluctuations in the intensity of light received by the TRX. When calibrated against standard reference measurements, the magnitude of the signal variation relates directly to the dust, smoke and particulate concentration.

APPLICATIONS

- Non compliant processes
- Boilers and furnaces
- Crematoria
- Incinerators
- Post particulate removal systems such as filter bag houses, electrostatic precipitators or cyclones
- Marine industry for monitoring smoke emissions from diesel engines, incinerators and boilers



OPTIONAL ACCESSORIES

- Optional operator interface (OI)
- 90 – 260 VAC model available
- Mounting flange extension kit
- Laser alignment tool to assist with installation
- Air purge blower kit (110 VAC / 230 VAC / 415 VAC)
- Air hose for use with air purge blower
- Interconnecting cabling, as required between TRX and OI

TECHNICAL SPECIFICATION

Parameter	Comment
Measuring Principle	Dynamic Detection Principle, DDP, (or Scintillation)
Operating Wavelength	510 – 540 nm (green LED)
Measurement Reading	Concentration (mg/m ³)
Measuring Range	0 – 1000 mg/m ³ (user selectable)
Path Length (duct diameter)	0.5 – 12 m (flange-to-flange separation)
Accuracy	+ / - 2 %
Resolution	0.1 mg/m ³ (display resolution)
Damping	1 – 60 s (user selectable)
Drift with Temperature	+ / - 2 % (over 20 °C)

POWER & AIR REQUIREMENTS

Voltage	+24 VDC (optional 90-260 VAC PSU available)
Nominal Current Consumption	400 mA
Power Up Current Consumption	400 mA
Air Supply Volume	Optimum: 40 m ³ /h
Air Supply Pressure (maximum)	500 mbar (must exceed maximum stack pressure)

INTERFACE OPTIONS

Serial Comms	1. ModBus RTU 2. Internal USB (OI), external USB (RX) 3. ProfiBus, DeviceNet, Ethernet etc. on request
Analogue Outputs	4.0 – 20.0 mA (isolated and scalable)
Relay Contacts	3 A @ 30 VDC (level alarm and service alarm)

PHYSICAL

Ambient Operating Temperature	-20 - +50 °C (air temperature around the equipment)
Exhaust Gas Temperature	Up to +600 °C (heat insulating gaskets included)
Operating Humidity	5 – 100%
Ingress Protection - TX/RX Heads	IP65 for external use
Materials – TX/RX Heads	Anodised and powder coated cast aluminium air-purge bodies, with polycarbonate measurement head and stainless steel latches
Dimensions	153 x 120 x 122 mm (measuring head)
Weight – TX/RX Heads	1.9 kg per head

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