

# Double Pass Particulate Monitor

(with Auto Calibration) Model : DSL - 460



Protects **Personnel, Plant  
& Assets**

OFFERS AN IDEAL SOLUTION TO YOUR EMISSIONS MONITORING OR PROCESS CONTROL REQUIREMENT



**DOUBLE PASS PARTICULATE MONITOR WITH AUTO-CAL, A OPTICAL BASED INSTRUMENTS DESIGNED FOR MONITORING DUST AND PARTICULATE CONCENTRATIONS (mg/m<sup>3</sup>) IN THE EXHAUST GAS OF INDUSTRIAL COMBUSTION OR AIR FILTRATION PROCESSES**

**TECHNOLOGY** The DSL-460 Particulate Monitor uses a double pass light transmission technique to measure dust, smoke and particulate emissions present in an exhaust gas flow in a duct, stack or flue. A light beam emitted from the Transceiver (TRX) passes across the stack to a reflector, which returns the light beam to the TRX. Any dust or smoke particles present will attenuate the light beam and cause the intensity of the light received by the TRX to fall. The amount of light lost in crossing the stack is the Opacity and this correlates to the amount of dust or smoke present in the gas flow.

The DSL- 460 benefits from an integrated visual alignment aid, which makes installation easier. The Transceiver (TRX) contains a viewing port which allows the user to see an image of the light returned by the Reflector head against a reticle target. Positioning the image within the centre of the target is used to align the TRX head.

## FEATURES

- Measurement reading as % Opacity or particulate as mg/m<sup>3</sup>
- In-situ zero and calibration check facility
- Free utility software for PC based setup, control and datalogging
- In-situ measurement directly in exhaust gas flow
- Integrated visual alignment aid to simplify installation
- Choice of interface options for easy integration
- % Opacity and mg/m<sup>3</sup> and different mounting configurations

## DSL SERIES ORDERING DETAILS

X X X X

**A** : Aluminium air-purge heads  
**S** : Stainless steel air-purge heads

**D** : 24 V DC powered  
**A** : 90-260 V AC powered

**N** : No Controller  
**W** : Wall mounted Controller  
**R** : Rack mounted Controller

**L** : Short path length version ( 0.5 - 5 m flange to flange separation)  
**S** : Long path length version ( 3 - 20 m for single pass, 2.5 -12 m for double pass)

## DSL SERIES MODELS

240/230 : Particulate monitor with DDP (single pass)  
340/330 : Particulate monitor with DDP (double pass)  
460 : Particulate monitor with Auto-calibration

## APPLICATIONS

- Boilers, diesel engines, Wood burners, furnaces
- Electrostatic precipitators, Filter bag houses,
- Incinerators

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# Double Pass Particulate Monitor

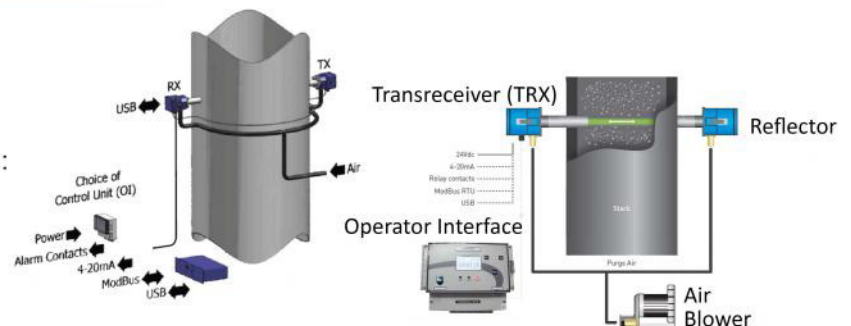
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## CONFIGURATION OPTIONS

Configured with controller (Operator interface) :  
Wall or rack mounting



## SPECIFICATIONS

Type	Field / wall mounted
Detectable gases / parameters	Opacity, PM
Electronics / processor	Micro-controller
Power supply	24 V DC for DSL sensor (230 V AC / 50 Hz for Receiver)
Display	Graphic LCD
Alarm	Integral visual alarm or remote alarm
Output	Relay, 4-20 mA analog, RS 232/485, Modbus
Technology	Light transmission
Resolution	%, mg/m <sup>3</sup>
Accuracy	± 2%
Response time	Instantaneous
Operating temperature	-20 to 55 °C
Input	In situ
Housing	SS 316 powder coated & ABS plastic for receiver
Accessories	Mounting flange, Laser alignment tool, Air purge blower kit, Reference filters for routine, stainless steel weather cover
Path length (flange to flange)	0.5 - 20 m (flange to flange separation)
Measuring range / damping	0-1000 mg/m <sup>3</sup> (user selectable), damping:1- 60 s (selectable)
Drift with temperature	± 2 % (over any 20 °C in the operating range)
Cable type	6 cores for TX/RX Interconnection (screened multi-core) 4 cores for Controller/RX Interconn. (screened multi-core)
Terminal connections wire size	28-14 AWG
Serial comm. interface options	1. Modbus RTU (on terminals in Controller or Transmitter) 2. Internal USB (Controller), External USB (Receiver) 3. ProfiBus, DeciceNet, Ethernet etc. on request
Ingress protection-TX/RX heads	IP 65 (for external use)
Regulatory compliance	89/336/EEC (electromagnetic radiation), 73/23/EEC (low voltage)
Dimensions & weight	250 X 200 X 100 mm & weight 1.9 Kg per head

Note : Specifications and Features will vary with application. There may be changes overtime due to continuous development process.  
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