LaserDust™ MP, LP and XLP Monitors

NEO Monitors LaserDust™ Medium Path (MP), Long Path (LP), and Extra Long Path (XLP) Monitors are compact, optical dust monitors for true continuous in-situ measurement of dust concentration or opacity. The monitors are designed for measurement across pipes, stacks, and ducts with typical path lengths of 0.5 – 10 m LaserDust™ Monitors use a transmitter/ receiver configuration to measure the dust concentration along the optical line of sight. Our true non-contact approach is superior to point type dust meters.

Features

- Response time down to one second
- Suitable for high temperatures
- Cross stack measurement up to 10 m
- High dynamic range (mg or g with one instrument)
- Scattered light detection for high sensitivity
- Non-contact measurement
- No moving parts

Applications

LaserDust™ the ideal choice for obtaining the best measurement data. Monitors are most typically used in:

- Aluminum smelters and steel works
- Waste incinerators, power plants or cement kilns
- Scrubber and filter optimization
- Bag house filter surveillance
- Dust explosion prevention

Customer benefits

- In-situ monitoring
- Highly reliable real time analyzer
- Low maintenance cost
- Reduce emission to the environment
- Easy to install and operate
- Reduce daily operation costs
- Optimize process
- Well proven measurement techniques

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Technical Data

Specifications

Process temperature:	Above dew point up to 700 ˚C
Process pressure:	0.1 – 1.5 BarA (optional windows for up to 5 bar)
Detection limit:	< 0.5 mg/Nm3 (in scattered mode)
Measurement range:	min. 0 – 15 mg/Nm3 (scattered mode), particle size >1micron max. 0 – 10.000 mg/Nm3 (transmission mode), particle size >1micron
Resolution:	0.05 mg/Nm3
Optical path length**:	MP: 0.5 – 3 m LP: 3 – 6 m XLP: 6 – 10 m
Response time:	1 – 2 sec Pulse mode: 50 ms

Environmental conditions

Operating temperature:	-20 ˚C to +55 ˚C
Storage temperature:	-20 ˚C to +55 ˚C
Protection classification:	IP66

Inputs / Outputs

Analog output:	4 – 20 mA current loop (concentration, transmission)
Digital output:	TCP/IP, MODBUS, Optional fibre optic
Relay output:	High dust-, Warning - and Fault relays (normally closed-circuit relays)
Analog input:	4 – 20 mA process temperature and pressure reading

Ratings

Input power supply unit:	100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A
Output power supply unit:	24 VDC, 900 – 1000 mA
Input transmitter unit:	18 – 36 VDC, max. 20 W
4 – 20 mA output:	500 Ohm max. isolated
Relay output:	1 A at 30 V DC/AC

Safety

Laser class:	Class IIIb according to IEC 60825-1
CE:	Certified
EMC:	Conformant with directive 2014/30/EU

Installation and Operation

Flange dimension:	MP: DN50/PN10 LP: DN80/PN10 XLP: DN150/PN10 Optional ANSI or other sizes on request
Alignment tolerances:	Flanges parallel within 1.5˚
Purging of windows:	Dry and oil-free pressurised air or gas, or by fan
Purge flow:	50 – 100 l/min (application dependent)

Maintenance

Visual inspection:	Recommended every 6 – 12 months (no consumables needed) Remote instrument check by Ethernet connection or external modem possible
Calibration:	Recommended every 12 months (against gravimetric analysis)
Validation:	Integrated zero and span check

Approvals

IECEx/ATEX zone 2:	II 3 GD T100 °C Ex nA nC II T5

Dimension and weight

Transmitter unit:	(MP, LP, XLP) 200 mm (plus 100 mm for purge unit) x 270 mm x 170 mm, 6.2 kg
Transmitter unit:	(Ex version) 200 mm (plus 100 mm for purge unit) x 270 mm x 310 mm, 7.9 kg
Receiver unit (MP):	300 mm (plus 100 mm for purge unit) x 120 mm x 120 mm, 3.9 kg
Receiver unit (LP):	380 mm (plus 100 mm for purge unit) x 120 mm x 120 mm, 5 kg
Receiver unit (XLP):	410mm (plus 100 mm for purge unit) x 270 mm x 170 mm, 8 kg
Power supply unit:	180 mm x 85mm x 70 mm 1.6 kg

** Other OPLs on request

* NEO Monitors reserve the right to change specifications without prior notice

Your local distributor:

neoMONITORS

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