/ 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



Technical data

Specifications

Process temperature: Above dew point up to

700 °C

Process pressure: 0.1 – 1.5 BarA

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

o.05 mg/Nm3

Resolution:

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: $-20 \,^{\circ}\text{C}$ to +55 $^{\circ}\text{C}$ Storage temperature: $-20 \,^{\circ}\text{C}$ to +55 $^{\circ}\text{C}$

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

