

# Medidor de Particulado / Opacimetro - Laser Dust

# 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.*

## 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 technics

## 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:

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

## Technical Data

### Specifications

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

|                 |                                                                         |
|-----------------|-------------------------------------------------------------------------|
| Analogue 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) |
| Analogue 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                      |

### Installation and Operation

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

### Maintenance

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

### Safety

|             |                                                               |
|-------------|---------------------------------------------------------------|
| Laser class | Class IIIb according to IEC 60825-1                           |
| CE          | Certified, conformant with LVD 73/23/EEC, including 93/68/EEC |
| EMC         | Conformant with directive 2004/108/EC                         |

### Explosion protection (optional)

|                     |                                |
|---------------------|--------------------------------|
| ATEX Cat 3 (zone 2) | II 3 GD T100 °C Ex nA nC II T5 |
|---------------------|--------------------------------|

### Dimensions and weight

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

neo monitors as

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Your local distributor:

**Caso queira adaptar este produto a suas necessidades  
usando um sistema de condicionamento, uma  
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*\*para mais informações ou preços*



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