

LaserDust™ MP, LP and XLP Monitors



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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	Ratings	Safety
Process temperature: Above dew point up to 700 °C	Input power supply unit: 100 – 240 VAC, 50/60 Hz, 0.36 – 0.26 A	Laser class: Class IIIb according to IEC 60825-1
Process pressure: 0.1 – 1.5 bar abs (optional windows for up to 5 bar)	Output power supply unit: 24 VDC, 900 – 1000 mA	CE: Certified
Detection limit: < 0.5 mg/Nm ³ (in scattered mode)	Input transmitter unit: 18 – 36 VDC, max. 20 W	EMC: Conformant with directive 2014/30/EU
Measurement range: min. 0 – 15 mg/Nm ³ (scattered mode), particle size >1micron max. 0 – 10.000 mg/Nm ³ (transmission mode), particle size >1micron	4 – 20 mA output: 500 Ohm max. isolated	Explosion protection (optional) IECEX/ATEX zone 2: II 3 GD T100 °C Ex nA nC II T5
Resolution: 0.05 mg/Nm ³	Relay output: 1 A at 30 V DC/AC	Dimension and weight
Optical path length**: MP: 0.5 – 3 m LP: 3 – 6 m XLP: 6 – 10 m	Installation and Operation Flange dimension: MP: DN50/PN10 LP: DN80/PN10 XLP: DN150/PN10 Optional ANSI or other sizes on request	Transmitter unit: (MP, LP, XLP) 200 (plus 100 for purge unit) x 270 x 170 mm, 6.2 kg
Response time: 1 – 2 sec Pulse mode: 50 ms	Alignment tolerances: Flanges parallel within 1.5°	Transmitter unit: (Ex version) 200 (plus 100 for purge unit) x 270 x 310 mm, 7.9 kg
Environmental conditions	Purging of windows: Dry and oil-free pressurised air or gas, or by fan	Receiver unit (MP): 300 (plus 100 for purge unit) x 120 x 120 mm, 3.9 kg
Operating temperature: -20 °C to +55 °C	Purge flow: 50 – 100 l/min (application dependent)	Receiver unit (LP): 380 (plus 100 for purge unit) x 120 x 120 mm, 5 kg
Storage temperature: -20 °C to +55 °C	Maintenance Visual inspection: Recommended every 6 – 12 months (no consumables needed) Remote instrument check by Ethernet connection or external modem possible	Receiver unit (XLP): 410 (plus 100 for purge unit) x 270 x 170 mm, 8 kg
Protection classification: IP66	Calibration: Recommended every 12 months (against gravimetric analysis)	Power supply unit: 180 x 85 x 70 mm, 1.6 kg
Inputs / Outputs	Validation: Integrated zero and span check	** Other OPLs on request
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		

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

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