

# 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	Applications	Customer benefits
<ul style="list-style-type: none"><li>• Response time down to one second</li><li>• Suitable for high temperatures</li><li>• Cross stack measurement up to 10 m</li><li>• High dynamic range (mg or g with one instrument)</li><li>• Scattered light detection for high sensitivity</li><li>• Non-contact measurement</li><li>• No moving parts</li></ul>	<p>LaserDust™ the ideal choice for obtaining the best measurement data. Monitors are most typically used in:</p> <ul style="list-style-type: none"><li>• Aluminum smelters and steel works</li><li>• Waste incinerators, power plants or cement kilns</li><li>• Scrubber and filter optimization</li><li>• Bag house filter surveillance</li><li>• Dust explosion prevention</li></ul>	<ul style="list-style-type: none"><li>• In-situ monitoring</li><li>• Highly reliable real time analyzer</li><li>• Low maintenance cost</li><li>• Reduce emission to the environment</li><li>• Easy to install and operate</li><li>• Reduce daily operation costs</li><li>• Optimize process</li><li>• Well proven measurement techniques</li></ul>

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## Technical Data

<b>Specifications</b>		<b>Ratings</b>	<b>Safety</b>
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 IIb 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 <sup>3</sup> (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 <sup>3</sup> (scattered mode), particle size >1micron max. 0 – 10.000 mg/ Nm <sup>3</sup> (transmission mode), particle size >1micron	4 – 20 mA output: 500 Ohm max. isolated	
Resolution:	0.05 mg/Nm <sup>3</sup>	Relay output: 1 A at 30 V DC/AC	
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		
<b>Environmental conditions</b>		<b>Installation and Operation</b>	<b>Explosion protection (optional)</b>
Operating temperature:	-20 °C to +55 °C	Flange dimension: MP: DN50/PN10 LP: DN80/PN10 XLP: DN150/PN10 Optional ANSI or other sizes on request	IECEx/ATEX zone 2: II 3 GD T100 °C Ex nA nC II T5
Storage temperature:	-20 °C to +55 °C	Alignment tolerances: Flanges parallel within 1.5°	
Protection classification:	IP66	Purging of windows: Dry and oil-free pressurised air or gas, or by fan	
<b>Inputs / Outputs</b>		Purge flow: 50 – 100 l/min (application dependent)	
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		
<b>Maintenance</b>		<b>Dimension and weight</b>	
	Visual inspection: Recommended every 6 – 12 months (no consumables needed) Remote instrument check by Ethernet connection or external modem possible	Transmitter unit: (MP, LP, XLP) 200 (plus 100 for purge unit) x 270 x 170 mm, 6.2 kg	
	Calibration: Recommended every 12 months (against gravimetric analysis)	Transmitter unit: (Ex version) 200 (plus 100 for purge unit) x 270 x 310 mm, 7.9 kg	
	Validation: Integrated zero and span check	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	
		** Other OPLs on request	

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

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