

LMS181

[High quality/Continuous measurement for Particle emissions]

FORWARD LIGHT SCATTER (PRO-SCATTER) MEASUREMENT TECHNOLOGY
AUTOMATED MONITORING SYSTEM FOR PARTICULATE EMISSION



Multi Controller

Multi channel – 32 sensors
can be connected

Interface Module

Single Channel

Sensor

It can reliably measure particulate emissions from boilers and kilns of large size regardless of whether precipitator or flue gas processing unit is equipped, or whatever their type may be.

LMS181 Forward-Light-Scatter-Measurement Dust Monitor

Forward Light Scatter (Pro-scatter) Measurement that is detection-efficient
Automatic span checks for self-auditing which win customers' confidence
It can be connected to 32 sensors. The multi-controller is highly cost effective.
Best suitable for monitoring particle emissions from boilers and kilns of large size

FEATURES

High quality/resolution measurement on Forward Light Scatter method
 High resolution: $0.1\text{mg}/\text{m}^3$ Recommended span: $10 - 100\text{mg}/\text{m}^3$
 Rugged probe design, tolerant to contamination
 The pin spot measurement of the unit is hardly affected by conditions.
 Automatic upscale and zero checks for self-auditing are featured.
 Free voltage can be applied: $90 - 260\text{VAC}$ $50/60\text{Hz}$

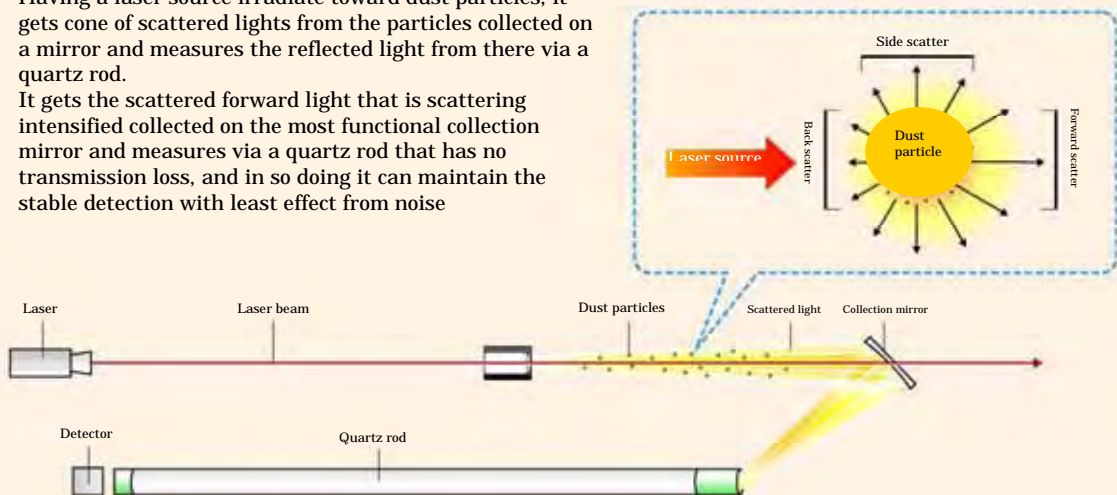
STANDARD

CEN Standard: EN-13284-2/EN-14181 for Incinerators, Power Plant and Cement Kilns
 UA EPA Standard: PM-CEMS (PS-11)

PRINCIPLE OF OPERATION

Having a laser source irradiate toward dust particles, it gets cone of scattered lights from the particles collected on a mirror and measures the reflected light from there via a quartz rod.

It gets the scattered forward light that is scattering intensified collected on the most functional collection mirror and measures via a quartz rod that has no transmission loss, and in so doing it can maintain the stable detection with least effect from noise



OPERATION MODE

It being user-friendly, we can have an access to the given screen quickly. It is equipped with a logger. With a visible display and user-friendly keypad, we can analyze the situation and set up the unit easily. It is possible to do logger-download using a dedicated PC-software optionally available and to analyze the situation by use of PC from the online trend. If it is connected to PC, we can set up the unit via PC.



Display screen
Bar-graph

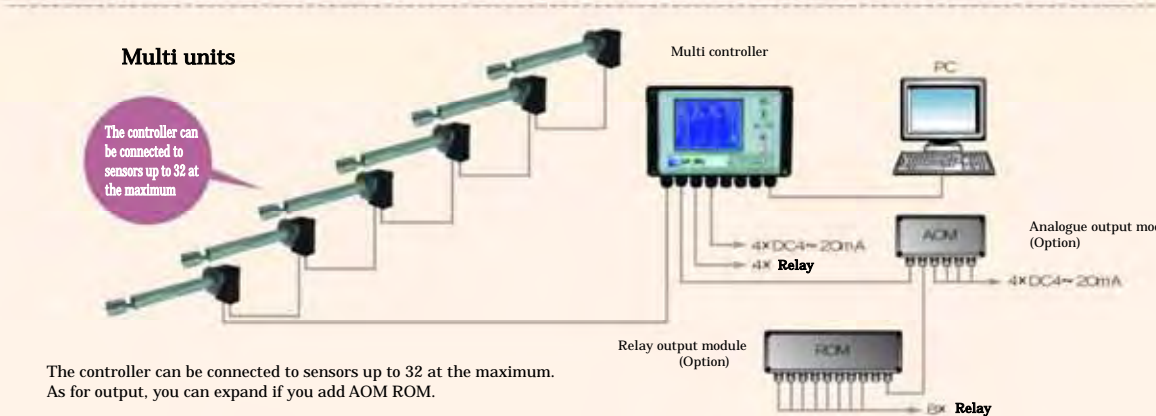


Display screen
Real time trend

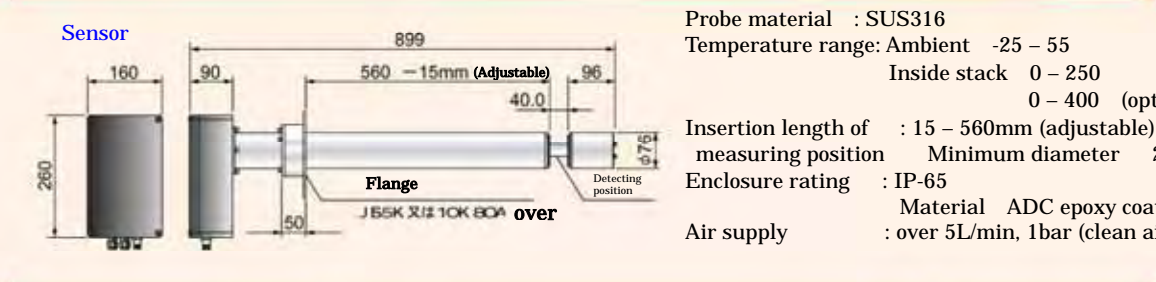


PC trend screen

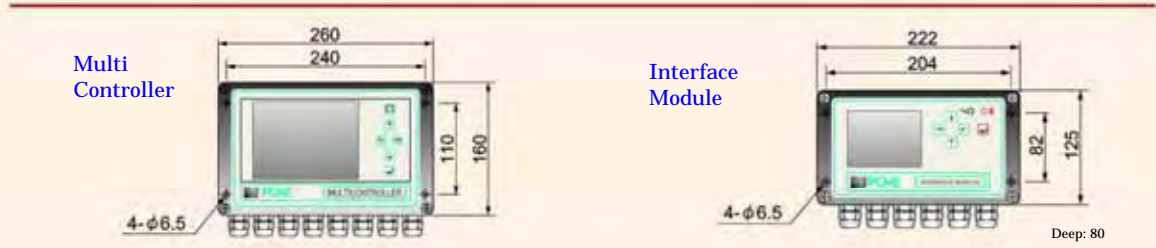
SYSTEM LAYOUT



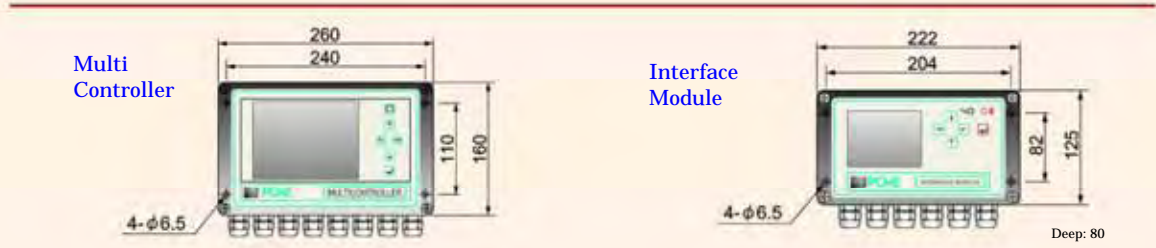
SPECIFICATION / OUTLINE DRAWING



Probe material : SUS316
 Temperature range: Ambient -25 ~ 55
 Inside stack 0 ~ 250
 0 ~ 400 (option)
 Insertion length of : 15 ~ 560mm (adjustable)
 measuring position Minimum diameter 250mm
 Enclosure rating : IP-65
 Material ADC epoxy coating
 Air supply : over 5L/min, 1bar (clean air)



Common Specification	Voltage : 90 – 260VAC (250mA) 50/60Hz Output : 4 x DC4 – 20mA 4 x Relay output MODBUS RS232 / 485 Sensor connection point: 32	Voltage : 90 – 260VAC (250mA) 50/60Hz Output : DC4 – 20mA 2 x Relay output MODBUS RS232 / 485 Sensor connection point: 1
	Resolution: < 0.1mg /m ³ Standard range : 0 - 10 mf /m ³ to 0 -100mf /m ³ Enclosure rating: IP65 Material : ADC epoxy coating	Logger: Long term : 1min – 2hr Short term : 10sec – 4min Pulse : 1 sec Temperature: -25 – 55
		Dedicated cable: Twist pair 4C cable (100 /km) Max 500m (varied by conditions)



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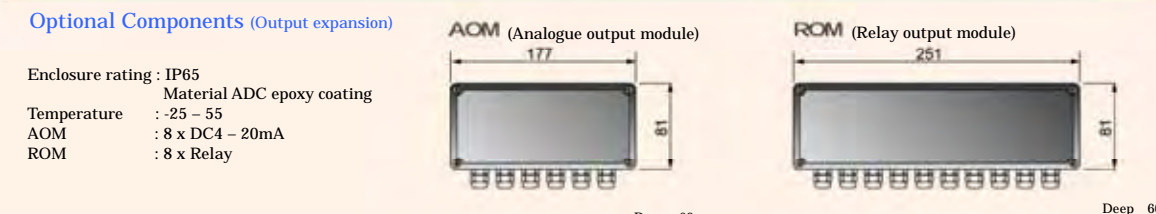
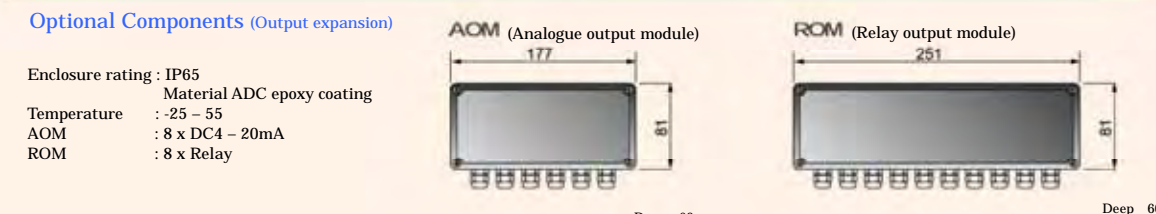
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Optional Components (Output expansion)

Enclosure rating : IP65
Material ADC epoxy coating
Temperature : -25 – 55
AOM : 8 x DC4 – 20mA
ROM : 8 x Relay



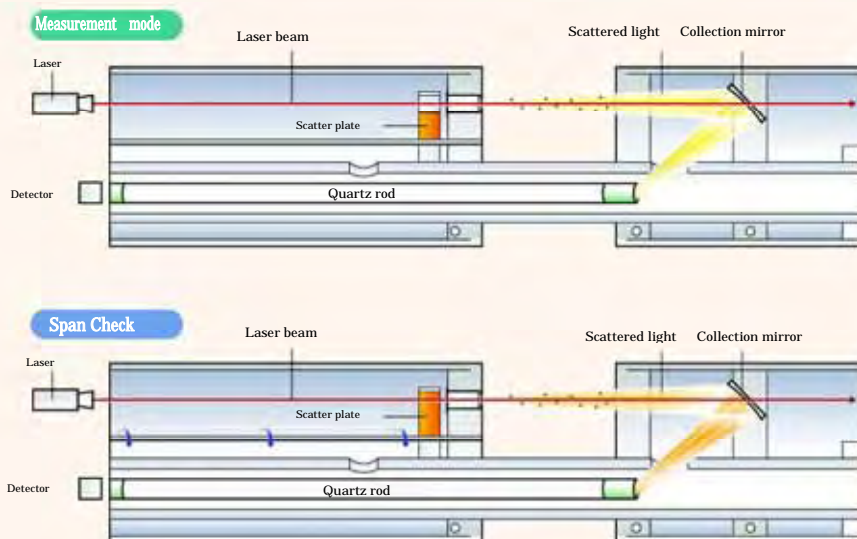
Deep



SELF-CHECKS

The LMS181 includes automatic self-checks designed to ensure appropriate quality assurance.

Besides its check of ongoing communication with sensors and zero check, the controller monitors how the lens is contaminated with reference to the difference accruing between Measurement Mode and Span Checks through a scatter plate because any lens contamination may cause mis-measurement. When any measurement errors are anticipated, it provides an alarm output.

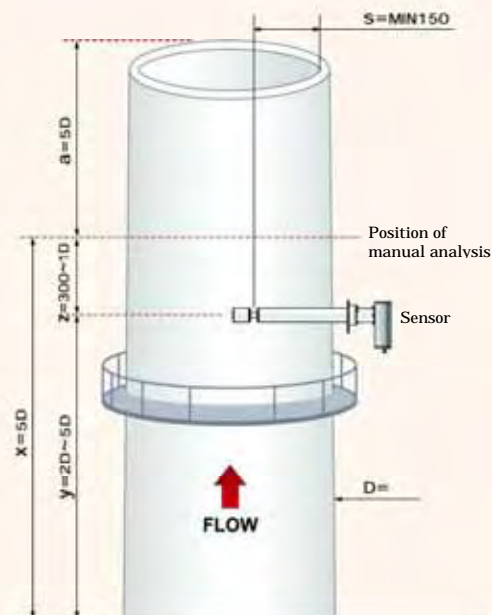
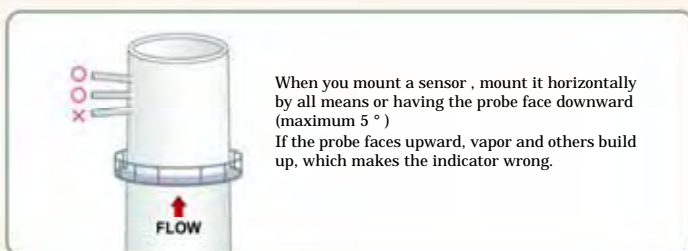


MOUNTING SENSOR

Wherever possible, observe the following conditions to ensure accurate measurement.

a = distance to vent from manual analysis position	Over 5D (Diameter x 5)
X = distance to upper straight duct from manual analysis p.	Over 5D (Diameter x 5)
y = distance to upper straight duct from sensor position	2D ~ 5D
Z = distance to manual analysis position from sensor	300mm ~ 1D
S = distance to sensor position from duct inner wall	150mm over

Select the place where light from outside does not reach and when the equipment runs down, the rain does not blow into. Fix the sensor mounting stage so that it may not vibrate. If necessary, weld a reinforcing plate.



Nuclear Power Generation to Rice Milling
All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

Line of business

Rotary Paddle Type Level Switch
Vibration Type Level Switch
Swing Type Level Switch
Acoustic Level Switch
Capacitance Type Level Switch
Capacitive Proximity Sensor
Capacitance Type Level Indicator
Diaphragm Type Level Switch
Tilt Switch
Leak Type Level Switch
Microwave Switch
Sounding Bob Type Level Indicator

Flow Switch
Conductance Type Level Switch
Float Switch
Float Type Level Indicator
Zirconia Oxygen Analyzer
Equipments for Conveyor Lines
Dust Monitor System
Laser Type Level Indicator
Radar Type Level Indicator
On-line Sensors for Accurate Liquid Analysis
Ultrasonic Flow Meter

* Please be sure to read USER'S GUIDE, Installation & Operation Instructions when using the instrument.
* The specifications herein may be subject to change without advance notice

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KANSAI Automation Co., Ltd.

Headquarters : TEL. 81-6-6312-2071 FAX. 81-6-6314-0848

URL: <http://www.kansai-automation.co.jp>

e-mail: info@kansai-automation.co.jp

Headquarters: 2-14, Togano-cho, Kita-ku, Osaka 530-0056, Japan
Tel 81-6-6312-2071 Fax 81-6-6314-0848

Tokyo Branch: 1-29-6, Hamamatsu-cho, Minato-ku, Tokyo 105-0013, Japan
Tel 81-3-5777-6931 Fax 81-3-5777-6933

Nagoya Office: 3-31-27, Uchiyama, Chigusa-ku, Nagoya 464-0075, Japan
Tel 81-52-741-2432 Fax 81-52-741-1588

Kyushu Office: 1-2-39, Asano, Kokura Kita-ku, Kitakyushu 802-0001, Japan
Tel 81-93-511-4741 Fax 81-93-511-4580

代理店 / Agent

SCIENCE GATE
Your Automation Partner



SCIGATE AUTOMATION (S) PTE LTD

No.1 Bukit Batok Street 22 #01-01 Singapore 659592

Tel: (65) 6561 0488

Fax: (65) 6562 0588

Email: sales@scigate.com.sg

Web: www.scigate.com.sg

Business Hours: Monday - Friday 8.30am - 6.15pm