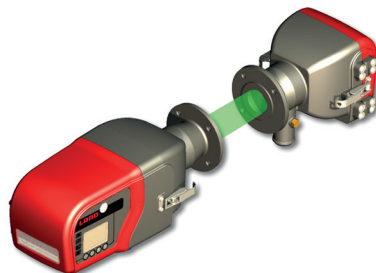


# 4200+

OPACITY MONITORING



● Opacity • Optical Density • Dust Density



**LAND**  
**AMETEK**<sup>®</sup>  
PROCESS & ANALYTICAL INSTRUMENTS



QUALITY CUSTOMER SOLUTIONS

# 4200+

## AMETEK LAND HAS BEEN BUILDING PRECISION MEASURING EQUIPMENT SINCE 1947.

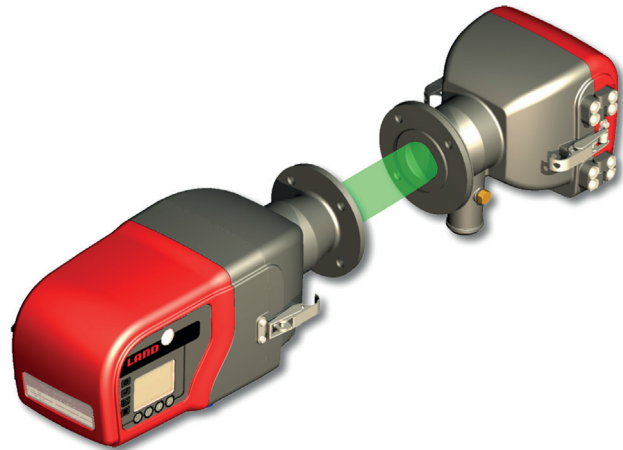
WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH OUR PRODUCTS FINDING APPLICATIONS ACROSS DIVERSE INDUSTRIES SUCH AS STEEL AND GLASS MAKING, POWER GENERATION AND CEMENT MANUFACTURE.

As part of AMETEK Process & Analytical Instruments Division since 2006, our customers benefit from the worldwide AMETEK sales and service team.

### THE 4200+ IS THE MOST ACCURATE AND RELIABLE OPACITY MONITOR CURRENTLY AVAILABLE.

Combining the unique features of three patented technologies, the 4200+ achieves the highest possible specification for the fundamental performance parameters for an opacity monitor, with no moving parts.

The Model 4200+ uses a highly homogenous advanced LED light source. A glass multi-prism retro-reflector reduces the effects of misalignment on the measured opacity, thereby achieving the lowest possible detection limit. The flood LED minimizes temperature drift. Collectively these features provide the highest level of stability and lowest level of optical and electronic drift available.



#### FEATURES ▼

Lifetime warranty on LED light source

No continuously moving parts

Patented all-glass multi-prism retroreflector

Patented flood LED

Wide operating temperature range

Green LED light source

#### BENEFITS ▼

No need to replace the light source

Highest reliability

Lowest possible drift

Maximum thermal stability

Operation -40°C to 55°C (-40°F to 131°F) is standard

Matches sensitivity of the human eye for comparison with Ringelmann measurements

**THE MODEL 4200+ IS A SIMPLE, RELIABLE AND ACCURATE OPACITY MONITOR. IT IS IDEAL FOR APPLICATIONS WHERE AN AUTOMATIC CALIBRATION CHECK IS NOT REQUIRED.**

4200+

# SPECIFICATION & DESIGN

## CALIBRATION CHECK

A simple manual calibration check allows the instrument's zero stability to be verified while the process is running

## CALIBRATION AUDIT

Optional calibration filters can be used to verify the linearity of the Model 4200+

## NO MOVING PARTS

This opacity monitor no moving parts therefore it will give years of trouble-free operation

## USER FRIENDLY

The Model 4200+ menu tree is intuitive. The user is guided through the menu with simultaneous text and icon menu prompts. The design feature eliminates the need to carry an operating manual or laptop to the installation location

## INTELLIGENT COMMUNICATIONS

Modbus RTP, 4-20 mA signals and alarm relays are standard



**STACK DIAMETERS  
FROM 0.3 m TO 10 m  
(1 FT. TO 33 FT.)**



## PURGE AIR

- The Model 4200+ requires 60 m<sup>3</sup> / hour (36 cfm) of purge air. Consult AMETEK Land for the correct choice of purge air supply.

## APPLICATIONS

**THE 4200+ CAN BE USED TO MEASURE DUST AND OPACITY IN ALL COMBUSTION PROCESSES**

- Electricity Generating Units
- Industrial Boilers
- Process Heaters
- Furnaces
- Kilns
- Dust Collectors

# 4200+

## OPACITY MONITORING

### SPECIFICATIONS

Measuring Technique:	Double pass transmissometry
Operating Wavelength:	520 ± 20 nm
Light Source:	Pulsed High Intensity LED
Measurement Range:	Opacity 0-10 % to 0-100 % ; Optical Density 0 - 0.1 to 0-3.0 ; Dust Density 0-10 to 0-10000 mg/m <sup>3</sup> ; User Selectable
Calibration Error:	1.5 % opacity
Thermal Stability:	0.6 % opacity / 22 ° C ambient change
Angle of Projection:	< 3 °
Angle of View:	< 3 °
Response Time:	≤10 s to 95 %
Averaging:	Selectable from 10 s to 24 hr (1 s increment)
Pathlength:	0.5 to 10 m / 20 in to 32 ft (extended)
Control Panel Display:	128 x 64 pixel relective backlit LCD
Control Panel Keypad:	4 keys for data input
Control Panel Indicators:	Power, System OK, Alarm, Calibration
Operating Temperature:	-40 to 55 ° C / -40 to 131 ° F
Max. Flue Gas Temperature:	600 ° C / 1112 ° F
Max. Flange Temperature:	200 ° C / 392 ° F
Electrical Safety:	IEC / EN 61010-2
EMC:	EN 50 081 & EN50 082
Sealing:	IP65 / NEMA4X
Modbus Interface:	RS485; Opacity, Optical Density, Dust Density and Status information available
Analog Outputs:	Isolated 4 to 20 mA Configurable as Opacity, Optical Density, Dust Density
Relay Outputs:	System OK, Calibration, Alarm
Relay Rating:	1 A @ 24 Vdc
Power Supply:	24 Vdc nominal (18 to 30 Vdc), 0.3 A nominal (3 A startup)
Transceiver Dimensions (HxWxD):	191 x 291 x 413 mm / 7.5 x 7.9 x 16.3 in
Retro-reflector Dimensions (HxWxD):	101 x 201 x 237 mm / 7.5 x 7.9 x 9.3 in
Transceiver Weight:	6 kg / 13.2 lbs.
Retro-reflector Weight:	3 kg / 6.6 lbs.
Enclosure:	Cast Aluminum, epoxy coated

**LAND**  
**AMETEK®**

For a full list of international offices, please visit our website [www.landinst.com](http://www.landinst.com)  
Copyright © 2008-14 LAND Instruments International. Continuous product development may make it necessary to change these details without notice.  
FCD-0008 4200+ Rev 1



北京杰斯曼科技有限公司

联系人: 高曼岭 133 7168 2585

邮箱: [jesman\\_sales@yeah.net](mailto:jesman_sales@yeah.net)

网站: [www.bj-jesman.com](http://www.bj-jesman.com)

电话: 010-80840852

传真: 010-80840852



Applies in the UK



Applies in the US



QQ: 1114707377

微信: 13371682585