



COAL POWER

COAL BURNING POWER PLANTS

LAND
AMETEK[®]
PROCESS & ANALYTICAL INSTRUMENTS



QUALITY CUSTOMER SOLUTIONS

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AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH 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.

From fuel preparation through to the stack emissions, AMETEK Land has developed a wide range of products that provide fossil fuel plant managers the necessary information to improve the total efficiency of the plant.

Our coal pile hot spot detection systems provide visual indication of hot spots through the use of thermal imaging techniques. For the conveying and transport of the coal, the HotSpotIR conveyor hot spot detection systems provide an early indication of fires on conveyor belts and transfer points so that the plant can avoid costly and time consuming belt maintenance and repairs.

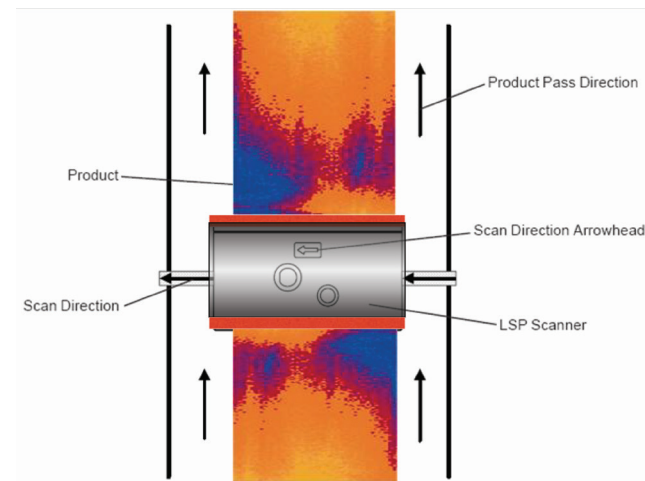
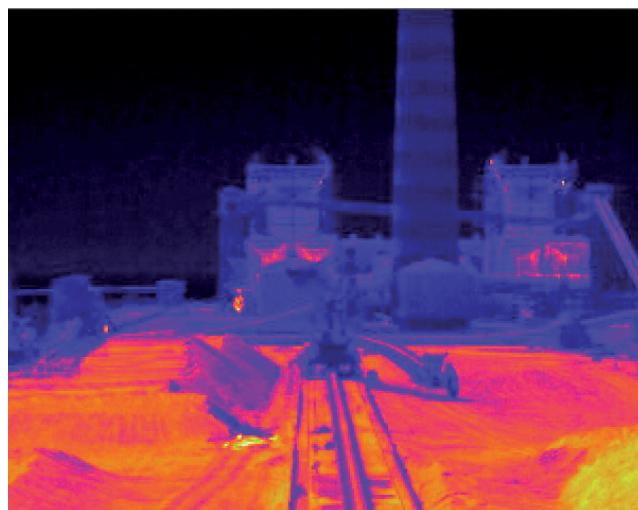
The Silo and Millwatch systems continuously monitor the CO levels in the plant silo and coal mills, warning the plant operator of a risk of spontaneous combustion.

Using proven infrared technology, we offer a non-contact furnace exit gas temperature measurement pyrometer which can be utilized as a tool for NOx reduction systems and indicate possible boiler slagging conditions.

Our emissions measurement systems can be installed from the furnace entrance to the stack exit. By using various technologies, we offer a distinct analyzer to meet the application requirements for the measurement of O₂/CO/CO₂/NO/NO₂/SO₂, sulfuric acid dewpoint and opacity/dust concentration. Our 4500 MkIII opacity and dust monitor provides the most sensitive EPA compliance opacity and dust concentration measurement available.

COAL PILE HOT SPOT MONITORING ▼

HotSpotIR ON A CONVEYOR (FROM ABOVE) ▼

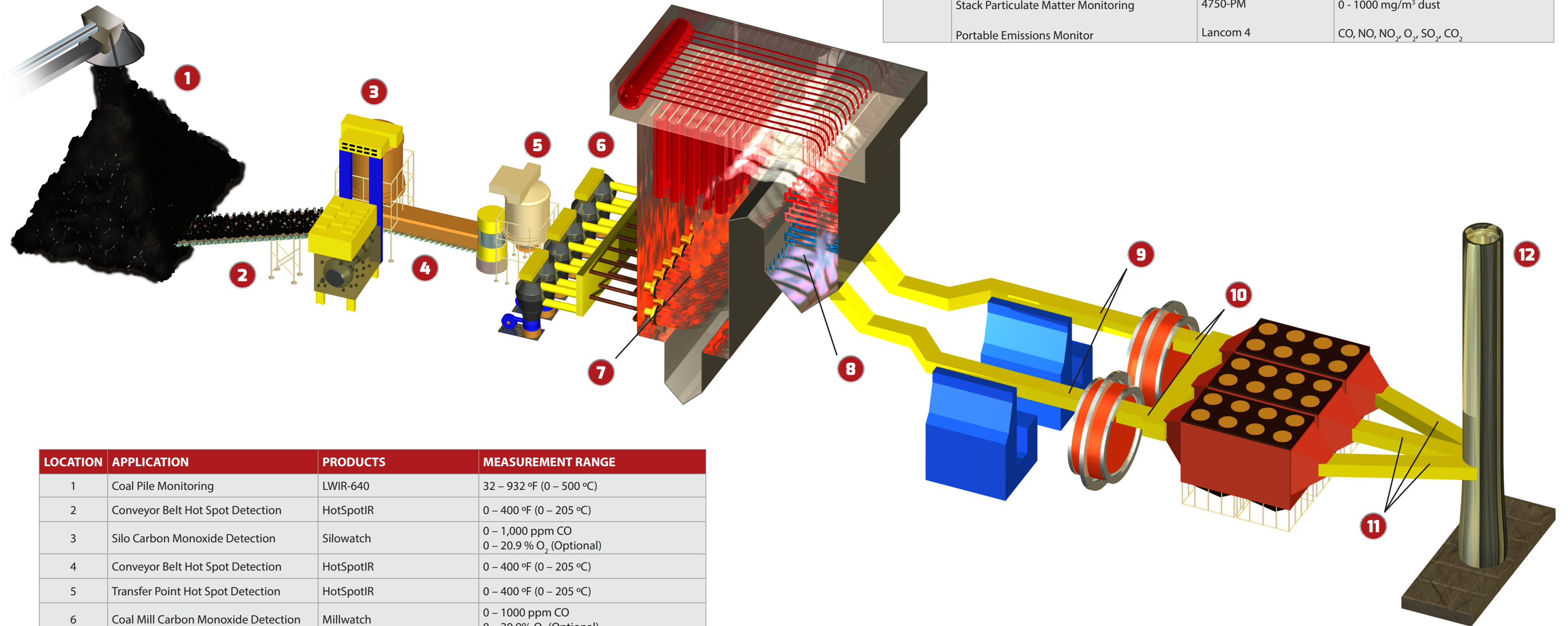


LANCOM 4

SET-UP AND MEASURE COMBUSTION AND STACK EMISSIONS GAS IN MINUTES; INTEGRAL SAMPLE CONDITIONING - ALL IN ONE PORTABLE ANALYSER.

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LOCATION	APPLICATION	PRODUCTS	MEASUREMENT RANGE
7	Boiler Tube Temperature	MWIR-Borescope-640	300 to 1600 °C (572 to 2912 °F)
8	Furnace Exit Gas Temperature	CDA	120 - 200 °C (250 - 392 °F)
9	Selective Catalytic Reduction (SCR) Outlet Sulphuric Acid Dewpoint Temperature	Lancom 200	0 - 100 ppm, -17 - 399 °C (0 - 750 °F)
10	Air Heater Outlet Oxygen Monitoring	WDG-Insitu	0 - 25 % O ₂
11	Electrostatic Precipitator (ESP) Outlet Opacity/Dust Monitoring	4400	0 - 100 % opacity, 0 - 10,000 mg/m ³ dust
12	Stack Compliance Opacity/Dust Monitoring	4500 MkIII	0 - 100 % opacity, 0 - 10,000 mg/m ³ dust
	Stack Particulate Matter Monitoring	4650-PM	0 - 200 mg/m ³ dust
	Stack Particulate Matter Monitoring	4750-PM	0 - 1000 mg/m ³ dust
	Portable Emissions Monitor	Lancom 4	CO, NO, NO ₂ , O ₂ , SO ₂ , CO ₂

LOCATION	APPLICATION	PRODUCTS	MEASUREMENT RANGE
1	Coal Pile Monitoring	LWIR-640	32 - 932 °F (0 - 500 °C)
2	Conveyor Belt Hot Spot Detection	HotSpotIR	0 - 400 °F (0 - 205 °C)
3	Silo Carbon Monoxide Detection	Silowatch	0 - 1,000 ppm CO 0 - 20.9 % O ₂ (Optional)
4	Conveyor Belt Hot Spot Detection	HotSpotIR	0 - 400 °F (0 - 205 °C)
5	Transfer Point Hot Spot Detection	HotSpotIR	0 - 400 °F (0 - 205 °C)
6	Coal Mill Carbon Monoxide Detection	Millwatch	0 - 1000 ppm CO 0 - 20.9 % O ₂ (Optional)

COAL PREPARATION, STORAGE AND TRANSPORT

From the coal stockpile through to the boiler pulverizers, there are many transfer points and storage areas that must be monitored for the onset of spontaneous combustion of fuels. If these areas are not properly monitored the plant could risk unexpected physical and monetary losses as well as possible plant shut-downs. AMETEK Land has a complete line of products to assist with the monitoring of these locations.

COAL PILE MONITOR

LWIR-640 is a rugged thermal imager for hot spot detection in coal piles and other objects close to ambient temperature. Weatherproof and explosion-proof housings are available.



HotSpotIR

Continuous infrared thermal line scanning detects small hot inclusions on the conveyor with alarms set to operate an inerting or diverting system to prevent expensive belt damage.



SILOWATCH

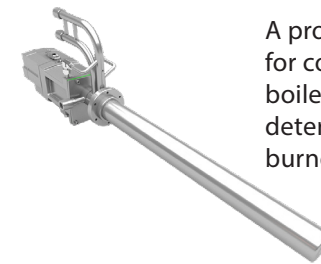
Advance warning of the onset of coal combustion through the early detection of the build-up of carbon monoxide in silos and enclosed storage vessels.



COMBUSTION PROCESS

The dynamic nature of the combustion process requires that key products of combustion are monitored and controlled on a real-time basis. Parameters such as furnace exit gas temperature, oxygen, and combustibles (CO, hydrocarbons, etc.) are key indicators of boiler efficiency, slagging and NO_x production.

MWIR-BORESCOPE-640



A process thermal imager used for coal fired boilers to check boiler tube and refractory deterioration and burner performance.

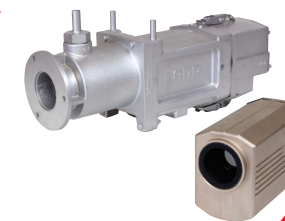
MILLWATCH



Advance warning of the onset of coal combustion through the early detection of the build-up of carbon monoxide in fuel mills.

CDA INCINERATOR PYROMETER

Single spot non-contact pyrometers designed for measurement of the atmosphere temperature in waste incinerators.



AMETEK LAND PRODUCTS HELP PLANT OPERATORS IMPROVE SAFETY, EFFICIENCY AND ENVIRONMENTAL PERFORMANCE.

EMISSIONS MONITORING

All coal-fired power boilers have regulatory constraints on the final stack emissions. Many of these emissions are controlled and reduced by combustion process control and post combustion emissions reduction equipment (SCRs, precipitators, baghouses, etc.). Emissions control and monitoring analyzers provide essential feedback to optimize the process.

4650-PM

PM-CEMS • PM-CPMS

Continuous measurement of the concentration of low range particulate matter in stacks and ducts where condensed water is not present.



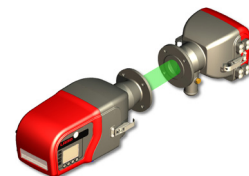
4500 MkIII

The best opacity monitor for compliance measurements to PS-1 and ASTM D6216. Installed on the stack or on a duct leading to the stack.



4400

Accurate and stable opacity monitor for non-compliance applications. Used in ducts leading to the stack.



WDG 1200-1210

In situ oxygen probe for combustion optimization, featuring integrated control and display electronics. Mounted on the stack or downstream of particulate removal equipment.



4750-PM

Laser backscatter PM-CEMS for continuous measurement of particulate matter concentration where condensed water is not present.



LANCOM 200

A portable sulphuric acid dewpoint temperature analyzer used to minimize acid corrosion in the stack or downstream of the air preheater in oil-fired boilers.



LANCOM 4

Portable gas analyzer featuring up to 9 sensors for emissions measurement and combustion optimization. Used for stack emission monitoring.



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AMETEK Land provides a comprehensive range of after sales services to assist you in obtaining the best performance from our systems, incorporating technical support, certification and calibration, commissioning, repairs, servicing, preventative maintenance and training.

Our dedicated in-house Service Centres provide our full range of services, however, we can also send our highly trained technicians directly to your site to cover planned maintenance schedules and for emergency breakdowns.

We understand the vital role instruments play in your plant's operation. Any unscheduled downtime or data quality issues can severely impact your ability to run the plant safely, efficiently and in compliance with environmental regulations.

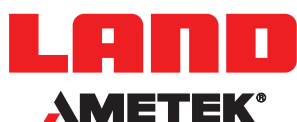
Our AMECare Service Contracts are specifically designed to ensure your instruments are professionally maintained and calibrated to operate at peak factory performance levels throughout their lifetime. On-site service and training are performed by trained AMETEK Land engineers using only factory quality parts. All new and serviced instruments are certified and conform to the published specifications. This gives measurement history from day one, which is often a requirement within quality systems.

AMETEK Land's instruments are designed to operate in some of the industry's harshest environments. Whichever instrument you chose, our comprehensive service contracts provide you with numerous benefits, tailored to your individual requirements. All our AMECare service contracts provide you with annual preventative maintenance schedules as standard.

As the designer and manufacturer, we have an unparalleled understanding of your instrumentation as well as a dedicated and highly trained team of service centre technicians to support you. We will take care of your instrument, leaving you to focus on what's really important - your core business.

DISCOVER HOW OUR BROAD RANGE OF NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION & EMISSIONS PRODUCTS OFFER A SOLUTION FOR YOUR PROCESS

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CONTACT US



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We are fully committed to Quality Assurance. See all our accreditations at AMETEK-LAND.COM/QUALITY