APPLICATION SHEET

Accurate Temperature Measurement In Coke Oven Furnaces

Accurate temperature measurement in coke oven furnace chambers is essential for efficient operation, quality coke production, and the longevity of ovens, especially in steelmaking. By monitoring temperature levels using a hand-held pyrometer, traditionally through the top of the oven, steelmakers can ensure homogeneous battery temperatures, optimal energy consumption, and improved quality and yield of coke and its by-products.

THE SOLUTION — CYCLOPS 100L

ROBUST AND LIGHTWEIGHT PYROMETER

Durable and lightweight, the Cyclops 100L is a portable non-contact pyrometer ideally suited to provide precise temperature measurements of the coke oven batteries through the viewports on top of the furnace.

SAFE HANDLING AND OPERATION

It is designed for single-handed use, which means operators can take safe, accurate readings in hostile environments and have a hand free to steady themselves. The quality through-the-lens sighting ensures that what the operator sees exactly the spot area being measured and a clear detailed image.

INTERNAL DATA-STORAGE WITH CONFIGURABLE ROUTES

Four, trigger-controlled data-logging modes are available, with the Cyclops 100L storing up to 9,999 readings internally, together with free configurable measurement routes for ordered and sorted data storage and output.

MULTIPLE CONNECTIVITIES / PC & ANDROID SOFTWARE

The data can be transferred via Bluetooth or USB to a PC running the free-of-charge powerful Cyclops Logger software for Windows TM for the viewing and analysis of temperature readings.

A range of optional accessories includes a long eye relief eyepiece adapter for operators wearing protective goggles or a hard hat with face shield, who cannot sight directly through the eyepiece.

PORTABLES | CYCLOPS L

FEATURES

- Rugged instrument casing
- Bluetooth and USB connectivity
- Data logger software (PC & Android)
- Multi-function display panel
- High Quality lens for clear through lens monitoring
- Calibrated and traceable to National Standards

BENEFITS

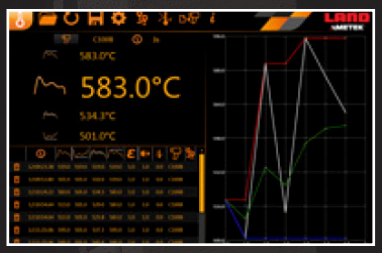
- Highly portable, single-handed use
- Simple, through-the-lens sighting
- Wireless operation
- Ergonomic trigger control
- Intuitive icon-based menu

DATA LOGGER SOFTWARE

Cyclops Logger software allows data to be viewed, analysed, and recorded on a computer (PC) or rugged mobile device (Android device). All stored measurement data can be displayed, which displays the current reading, table view and trend view.

Customised Routs can be stored and easily transferred to the portable pyrometer to follow the pre-configured measuring route and save the relevant temperature data for the corresponding measuring points. These can easily be downloaded from the instrument, using the Cyclops Logger software for analysis and data-storage.

When connected to a Cyclops L pyrometer wirelessly through Bluetooth or via a USB cable, the Logger software records instantaneous temperature measurements each time the pyrometer trigger is pressed.



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Other Coke Production Applications

Guide Car – Oven Battery Temperature Profile

During coke extraction, temperature profiles of the battery's heating zones are measured using SPOT+ R100 F.O. Fibre optic instruments mounted at three heights on both sides of the pusher arm. Data is transmitted via fibre optics to the SPOT+ electronics housed in protected terminal boxes. The online measuring data is provided to the plant control system for monitoring and capturing.

Coke Battery Exit Side – Temperature Measurement During Coke Exit

Instead of measuring temperature on the pusher arm, the coke temperature during the pushing process can be measured. Although this gives a general idea of temperature, and provides an indirect temperature profile of the battery the coke was treated. Due to high temperatures, dust, and steam, using a ratio pyrometer like the SPOT+ R100 F.O. Is recommended together with cooling and air purging. AMETEK Land offers reliable solutions and can provide a quote on request.

PORTABLE, HAND-HELD
NON-CONTACT TEMPERATURE MEASUREMENT

CYCLOPS L

PORTABLES

Portable, hand-held, non-contact spot pyrometers enabling easy and accurate point-and-measure temperature readings.

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