BASF
The Chemical Company

Optical Thermometers

EXACTUS®

Accurate Product Temperature Measurements for Calcining Processes

With over 40 years of temperature sensing experience, **BASF** has developed breakthrough sensor technology to **ACCURATELY** measure product temperature in **DUSTY PROCESSES**. While IR instruments have failed to accurately measure product temperature inside kilns, **Exactus®** sensors work.

UNIQUE solution promoting **Energy Savings** and **Reducing Environmental Impact**

Features and Benefits

- High precision with resolution up to 0.01°C and accuracy of 1.5°C
- Dual or Single Wavelength Sensors capable of viewing product through dust
- Repeatability of 0.1°C and drift of less than 0.1°C per year
- Speeds up to 1,000 readings per second
- Self-compensates for changing ambient temperatures
- Small-Footprint Industrial Purge Housing for harsh environments
- Digital and/or Analog outputs, easily integrated into any controls system

Industries

- Cement Manufacturing
- Pulp & Paper Manufacturing
- Mineral Processing
  - Direct and Indirect Heated Kilns

From Our Lab to Your Kiln

Historically, non-contact infrared instruments have had marginal to no success measuring product temperatures inside calcining kilns. In collaboration with our manufacturing plants worldwide, BASF Temperature Sensing has applied our patented high speed, highly accurate sensor technology to develop a unique solution that really works.

Value

Reliably controlling the calcining process using the most critical variable, product temperature, optimizes fuel utilization, minimizes poor quality product, optimizes product throughput, and minimizes environmental impact.

Exactus Specifications	
Measurement ranges	65–1150°C (0.7 to 1.6 μm measurement wavelength) 100–1900°C (1.55 μm measurement wavelength) 120–3000°C (0.7 to 1.6 μm measurement wavelength) 280–2200°C (0.9 μm measurement wavelength) 350–3000°C (0.9 μm measurement wavelength) 500–3000°C (0.65μm measurement wavelength) Specialized optics allow measurements to 200°C at 0.90μm & 25°C at 0.7–1.6μm
Accuracy	Greater of 1.5°C or 0.15% of reading
Resolution	Up to 0.01°C
Repeatability	0.1°C
Drift	0.1°C/year plus 0.05°C/°C change in ambient temperature
Speed	Up to 1000 readings per second, 1ms response time
Target sizes	Standard target size is Focal Distance/40.0 Small target size is Focal Distance/200.0 Custom optics available
Maximum environment temperature without cooling	10-60°C for electronics and standard optics If Fiber optic cable is used: < 70°C for standard fiber optic cable < 250°C for high temperature fiber optic cable
Measurement wavelengths	0.65 μm 0.90 μm 0.7–1.6 μm 1.55 μm

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About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary catalyst and adsorbent solutions that drive customer success.

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www.catalysts.basf.com/tempsensing

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