



# ZoloSCAN2 for Power Generation



## Real-Time Furnace Insight for a More Reliable, Flexible, and Efficient U.S. Grid

Electricity demand in the U.S. is rising quickly — driven by data centers, manufacturing growth, electrification, and extreme weather. Existing fossil-fuel units continue to play a critical role when the grid is stressed, making reliability and operational flexibility more important than ever.

Yet many plants still operate with limited visibility inside the furnace, relying on delayed or single-point measurements that don't reflect real combustion conditions and typically necessitate unit operation at high excess air that leads to higher NOx, higher heat rates, and inefficient load following.

**ZoloSCAN2** changes that, delivering real-time, multi-zone measurements of combustion gases and temperature directly inside the furnace. Operators gain the actionable insight needed to run cleaner, safer, and more efficiently across the full operating envelope.

### The Three Outcomes U.S. Utilities Care About Most

01.

#### Reliability & Asset Life

Prevent the conditions that lead to tube failures and forced outages.

**ZoloSCAN2** reveals combustion issues traditional sensors miss, including:

- localized reducing zones
- CO pockets and burnout issues
- temperature stratification
- slagging and fouling precursors
- burner imbalance or drift

Early detection helps operators address root causes before they trigger equipment damage or unplanned outages. Plants gain greater confidence during demanding grid conditions and cycling operation.

02.

#### Emissions & Efficiency

Cleaner, more stable combustion at every load.

By measuring O<sub>2</sub>, CO, H<sub>2</sub>O, and temperature in real time across the furnace, **ZoloSCAN2** enables operators to:

- reduce NOx formation
- prevent CO excursions during ramps and low load
- maintain tighter excess-air control
- reduce unburnt fuel and heat transfer
- reduce fuel consumption and improve heat rate

These improvements support emissions stability and more efficient operation.

03.

#### Flexibility, Fuel Adaptation & Modern Grid Support

Support for load ramps, cycling, and evolving fuel strategies.

As U.S. load patterns become more dynamic, units must operate across wider boundaries—ramping faster, cycling more often, and adapting to changing fuel conditions.

**ZoloSCAN2** delivers sub-second visibility that supports:

- smoother load ramps and rapid transitions
- stable combustion during deep turndown
- minimized emissions spikes during cycling
- consistent performance across fuel-quality variation
- safe evaluation of future fuel-blend strategies or modernization pathways



## ZoloSCAN2 vs. Traditional Sensors

Feature	ZoloSCAN2	Traditional Probes / Extractive Systems
Measurement Location	In-furnace or Economizer/Backpass	Stack or Economizer/Backpass
Measurement Sample	Measurement plane (multiple paths)	Single point
Response Time	10 sec per path	10–30+ seconds
Species Measured	O <sub>2</sub> , CO, H <sub>2</sub> O, Temperature	Primarily O <sub>2</sub>
Spatial Visibility	High	Low
Maintenance	Minimal	Frequent cleaning, drift
Support for Cycling & Fuel Changes	Strong	Limited

## What Makes ZoloSCAN2 Different

### In-Furnace, Multi-Zone Measurement

Direct line-of-sight measurements across multiple optical paths provide spatial visibility, not delayed or averaged data.

### Minimal Maintenance

No probes, no sampling lines, no routine calibration—built for high-temperature boiler environments.

### Fast Response with Total Coverage

Captures transient combustion behaviors that traditional extractive systems cannot see.

### Seamless Integration

Modbus TCP, Ethernet, and OPC for fast deployment into modern or legacy DCS/PLC systems.

## A Practical Modernization Step for U.S. Fleets

### ZoloSCAN2 helps plants:

- avoid forced outages and derates
- improve combustion efficiency and heat rate
- stabilize emissions and reduce excursions
- operate more flexibly and safely across load ranges
- adapt reliably to fuel-quality changes or future retrofit pathways

As the U.S. grid evolves, real-time combustion insight is becoming a foundational tool for running existing units efficiently and confidently.

## Let's talk. We'll show you what your furnace has been hiding

Gain control, boost efficiency, and avoid surprises. Let's talk about how **ZoloSCAN2** can make your combustion visible.



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