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COMBUSTION INSTRUMENTS

# ABB Ability™ Symphony® Plus Combustion Instruments

## Multi Fuel Safe Flame Scanners



ABB's comprehensive series of advanced multi fuel flame scanners provide accurate, reliable information regarding the presence or absence of a flame while continuously monitoring flame quality to ensure safe and efficient combustion.

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### Safe and reliable combustion

ABB Ability™ Symphony Plus flame scanners take advantage of the system's integrated architecture platform, its unmatched scalability and simplicity, CPU power and communication speed. It is this high-performance infrastructure, in combination with ABB's flame scanner that makes up the ideal flame failure protection system.

Flame scanners provide the primary safety input to the Burner Management System (BMS) and simultaneously monitors the flame quality.



SF810i-PYRO

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### Comprehensive flame scanner family

ABB Flame scanners incorporate the latest automation technology and require less hardware to provide safe and reliable operation.

ABB's latest PYRO offering builds on the basic flame scanner design by adding a sensing element for real-time measurement and assessment of flame temperature. The "Live Flame Temperature" reading directly relates to burner combustion efficiency and supports tighter control of combustion process dynamics such as fuel-air ratio and NOx emissions.

In addition to configuring up to 64 flame scanners remotely, the flame explorer engineering tool enables real time monitoring of the flame status and diagnostic data.

ABB Flame Scanners are tightly integrated into Symphony Plus's core system areas such as Engineering and Operations and is fully compatible with SD Series, HR Series and MR Series control platforms.

Coupling this all together into an integrated environment results in trouble free continuous operation, low maintenance costs, prevention of spurious trips and unscheduled shut downs.

## Safety

Prevents hazards that can lead to personnel injuries and major plant shutdowns with considerable financial liabilities.

## Savings

Tighter control of combustion process reduces emissions, minimizes back-end environmental controls and materials.

## Accuracy and precision

Qualitative information delivered by advanced flame scanners (e.g. Temperature, Flicker Frequency, DC intensity, AC Amplitude) can be used by the plant operators and/or optimization system to tune combustion parameters.

## Reporting

The Flame Explorer tool evaluates and records important flame parameters including intensity, flicker frequency and flame quality. Monitoring these parameters enables the operator to spot deterioration in a burner before it becomes critical and to plan preventive maintenance.

## Nuisance free operation

ABB flame scanners use patented Flame Physics technology that prevents unwanted burner start ups and unplanned burner trips. This allows for hassle and nuisance free operation of boilers and furnaces.

## Setup

The Flame Explorer tool remotely configures and interrogates up to 64 units. This allows a trained operator with credentials to set the flame drop out and pull in the limits and parameters to facilitate easy optimization of the burner.

## Diagnostics

Condition based diagnostics information with the sensor characteristics and communication failures through a redundant Profibus or Modbus protocol.

## Field tested, field proven

ABB flame scanners are installed around the world in a wide ranging set of power and process industry applications. These applications include:

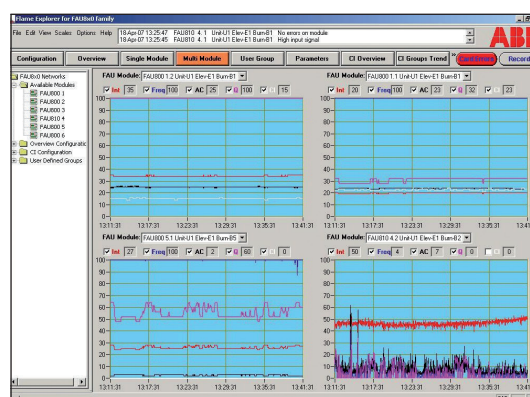
- Power Generation
  - Main boiler
- Oil & gas, steel, and chemical
  - Heaters
  - Furnaces
  - Industrial boilers
- Cement
  - Main burners
  - Kilns
  - Industrial boiler for CPP
- Waste incinerators
  - Burners
- Fire stacks
- Petrochemicals
  - Heaters
  - Furnaces
  - Industrial boilers



SF810



FAU810



Flame Explorer trends

## Note:

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