

# Flame Tracker\* Dry 325

25 years trusted experience  
with a half billion hours of  
fired operation

## No water cooling needed!

### Hot end operates up to 325°C

Our Reuter Stokes Flame Tracker Dry 325 senses the ultraviolet (UV) light produced by a flame and signals whether a flame condition exists. This rugged design reduces maintenance by moving sensitive electronics away from the heat, thereby eliminating the need for water cooling. The Silicon Carbide (SiC) optical photodiode is designed for use with multiple fuels, low NOx combustors and steam injection. The Flame Tracker Dry 325 is applicable to a variety of gas turbine models.

## High sensitivity, fast response

- Proven SiC technology has high sensitivity to longer UV wavelengths and is not susceptible to black body radiation.
- Rapid response time of less than 175 milliseconds. Similar products may take as long as 1.5 seconds to respond, which creates a potentially undesirable situation.
- Built with the same proven sensing technology that has worked in the Flame Tracker for more than 23 years.
- Analog output with a wide dynamic range.
- Patented circuitry.

## Reduced maintenance

- No water cooling lines, which reduces sensor replacement time and eliminates maintenance of water cooling systems.
- Mineral insulated cable eliminates the need for electrical conduit and the use of fragile fiber optic cable.
- Full operation allowed during the water wash cycle.
- Ready to install, no programming necessary.

## Reliable, low voltage operation

- High reliability. Ruggedized construction, high temperature materials, rigorous validation.
- Industry standard output signal (4–20 mA).
- Fuel flexibility—operates reliably with many fuels, with or without steam injection.
- Improved safety through low voltage operation. Eliminates the 350 VDC supply voltage and explosion-proof conduit required by some sensors.
- Ruggedized mineral insulated cable.

## Customized conversion kits

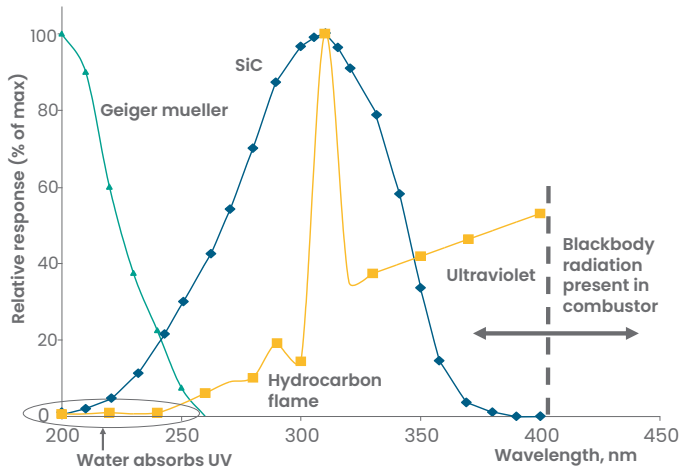
Designed to replace existing sensors, the Flame Tracker Dry 325 is applicable to a variety of gas turbine models. In addition, it is ETL, ATEX, and IECEx certified.



## Specifications

Sensor responsivity and hydrocarbon flame emission spectrum

### Spectral response



#### — Flame emission

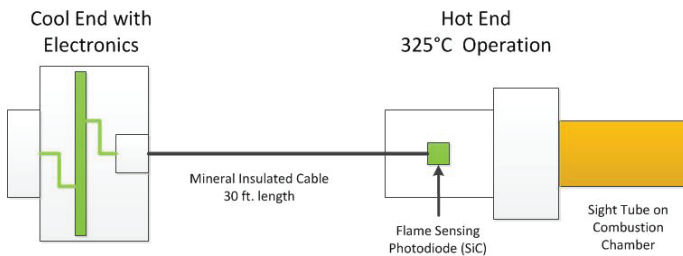
#### — Geiger mueller

Sensitivity at shorter wavelengths is a poor match for the high intensity flame peak.

#### — SiC

Peak sensitivity closely matches the key flame peak at 310 nm.

## System configuration



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## Operating

|                                 |  |
|---------------------------------|--|
| Power requirements              | 24 VDC nominal, 12-30 VDC @ 100 mA   |
| Output                          | 4-20 mA (a module to convert output to other controller inputs is available)                       |
| Response time                   | < 175 milliseconds   |
| Operating temperature range     | Cool end: 40°C to 150°C <sup>(i)</sup> (104°F to 302°F)<br>Hot end: 40°C to 325°C (104°F to 617°F) |
| Survivability temperature range | Cool end: -51°C to 150°C (-60°F to 302°F)<br>Hot end: -51°C to 325°C (-60°F to 617°F)              |
| Process pressure                | To 400 psig (2.8 MPa)  |
| Sensitivity                     | 5 mA @ 1x10 <sup>10</sup> photons/in <sup>2</sup> /sec. @ 310 nm                                   |

(i) Thermal shutdown of the cool end occurs at 150±10°C

## Material

|                      |                                  |
|----------------------|----------------------------------|
| Body mount           | AISI 316 stainless steel         |
| Housing              | AISI 304 stainless steel         |
| Mechanical interface | 3/4" NPT female                  |
| Sensing element      | Silicon Carbide (SiC) photodiode |