



MODEL 970 Flame Contaminant Detector (FCD™)



Vibro-Meter, an industry leader in optical flame detection technology, introduces a breakthrough advancement for gas turbine applications. Based on over thirty (30) years of flame detection experience, the Model 970 Flame Contaminant Detector (FCD™) provides real-time monitoring of corrosives as they are consumed within the combustion process of an industrial or marine gas turbine.

The FCD is a dual-purpose solid-state flame scanning and monitoring system. It provides non-intrusive, continuous optical monitoring to identify the presence of metal contaminants that will accelerate hot section corrosion in

a gas turbine. The FCD is designed to detect, quantify, and provide alarms for the presence of sodium, calcium, potassium, or vanadium being introduced into the combustion zone via fuel, air, or water. The unit also provides simultaneous flame on/off detection.

Utilizing fiber optic cable and remote electronics, the FCD readily interfaces with existing combustor flame scanner ports. Integrated computer interface software displays flame status and real-time contaminant activity for up to four (4) combustors at one time.

Features

- Harsh Environment Design
- Solid-state Flame Sensor Technology
- Non-intrusive Combustion Analysis
- Multi-wavelength Sensors
- Instantaneous and Continuous Contaminant Measurement
- Extensive Data Storage Capabilities
- Hermetically Sealed Turbine Interface
- Utilizes Existing Flame Scanner Ports

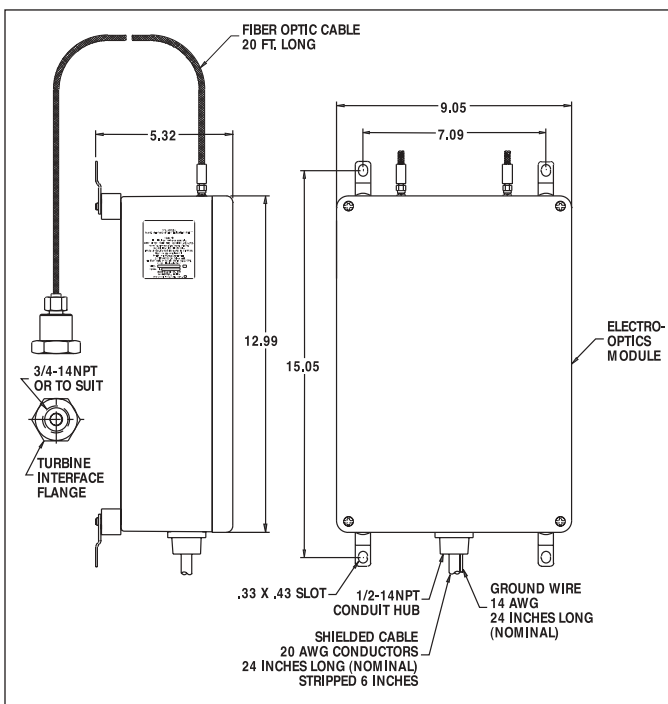
Benefits

- High Reliability and False Indication Immunity
- Precise Contaminant Indication and Quantification
- Reduces Need for Off-line Fuel Analysis
- Stores Contaminant Activity for Later Reference
- Ease of Installation

Operating Specifications

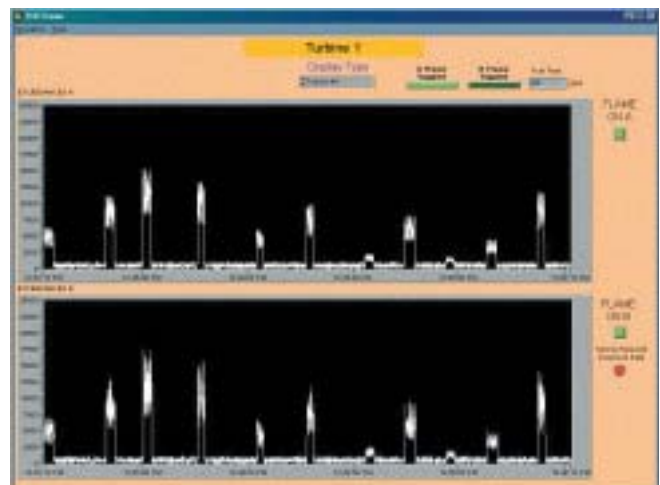
- Contaminants Sodium, Calcium, Vanadium, Potassium
- Minimum Detection Limit Trace Contaminants (less than 0.5 PPM)
- Response Time:
 - * Flame Detection 200 mSec
 - * Contaminant Detection 600 mSec
- Certifications CE Mark
- System Memory Stores Contamination Data for up to five (5) years
- Power Requirements
 - 24 VDC
 - 900 mA max
 - 18 W max
- Temperature Rating
 - * Electro-Optics Module 85° C
 - * Turbine Interface / Optical Cable 450° C
- System Outputs
 - Relays
 - 4 – 20 mA
 - RS-485 Serial Communication

Physical Dimensions



LabVIEW™ Computer Interface Software

- Displays real-time flame contamination levels (peak and average)
- Displays flame on/off status
- Monitors and displays the parameters of up to four combustors simultaneously
- Operates on a personal computer



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