FIBER OPTIC FLAME SCANNERS
for MITSUBISHI 501 series Gas Turbines

Replaces the obsolete OEM flame scanner.

No amplifier module. *Direct output to turbine control.*

BFI Automation, a German manufacturer of flame monitoring systems, was established in 1973. BFI has been the OEM supplier to Siemens, ABB, Alstom, GE Europe, and other gas turbine makers for decades. Since 2008, we have retrofits for GE 6B/7EA/7F series worldwide.
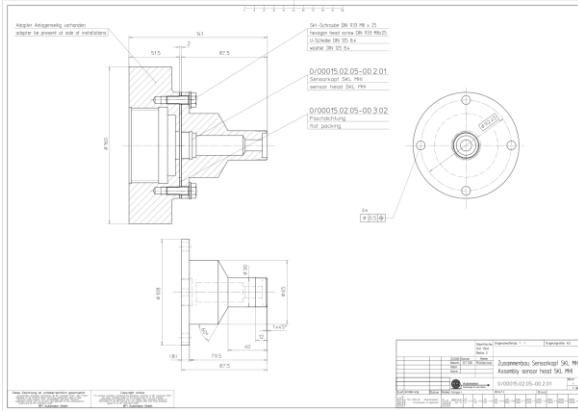
- ✓ **No vulnerable electrical components near the heat!**
  We use well-protected fiber optics for many years.

- ✓ **No separate amplifier module**
  Amplifier function is built into the flame scanner box with direct output to the turbine control.

- ✓ **SIL 3 Reliability Rating**
  Per IEC EN 61508, PFD (probability of failure on demand) is 1 in up to 10,000 starts. PFH (prob. of failure per hour of continuous use) is 1 in up to 100 million hours!

- ✓ **Self-Checking / Fail-Safe**
  The CFC dual channel microprocessor analyzes flicker frequency to ensure the flame is modulating, eliminating false signals. If a problem is detected, the scanner fails open.

- ✓ **Wide Spectral Range**
  Not affected by start-up condensate or water wash cycle.

- ✓ **Adjustable**
  Performance can be data-logged and analyzed.

- ✓ **Rapid Response**
  in milliseconds, not waiting on the turbine control for signal interpretation.

- ✓ **Two Year Warranty**
  Limited to repair or replacement, at our discretion, of an undamaged unit, for a period of twenty-four months from date of shipment.

- ✓ **Repairable**
  Years from now, should it be necessary, the electronics can be repaired.
  Electronics can be replaced with the turbine running.

Although a natural gas burns in the UV (ultraviolet) spectral range, the 501 flame can migrate so we have found best performance using an IR (infrared) sensor. Background radiation is ignored by our patented dual channel microprocessor algorithm which analyzes for flicker frequency.

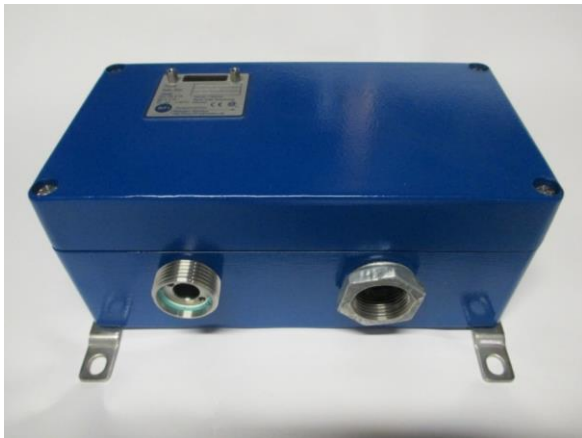Our system consists of three components…

ADAPTER / PROBE   S710.MHI1

FIBER OPTIC CABLE   S730.4MHT

FLAME SCANNER   CFC 2000 IR2 WM

Mounts outside the heat wherever you want

Available accessories:

POWER CONVERTER G652

PROTECTION CAP, MALE S841.0

PROTECTION CAP, FEMALE S841.1

FIBER OPTIC CLAMP, STRUT   HT10

MAGNIFIER   P106L

SIGNAL GENERATOR   P105C

For us to provide a price quotation, please…

      Confirm that the ADAPTER/PROBE will fit to your machine.

      Measure the length from the ADAPTER/PROBE to where you want to mount the
      FLAME SCANNER box. The typical 501 requirement is 4 meters (13'-1") long but
      we can provide any length in full meter increments up to 20m.

      Confirm the flame scanner outputs your control expects. We can provide single or dual relay,
      current (4-20mA), or variable voltage.

Our flame scanner requires 24VDC, consuming up to 250mA per scanner. It is your choice whether to use one power converter per scanner or, if control poling logic allows, to share power supplies.

FLAME SCANNER is UL/CSA approved
Enclosure is IP65/66 (equiv to NEMA 4/4X)
NEC Class 1 Div 2 Groups BCD

Made in Germany by BFI Automation GmbH
Imported to the USA and Canada by BFI Automation USA

Exclusive USA/Canada distributor

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