

# FLAME SENSORS



## Spectra™ BC11 IR and BC11 UV Flame Sensor

For Single Applications: Incinerators, Process Heaters, Furnaces and Boilers

The SPECTRA™ BC11 Flame Sensors provide maximum performance and reliability using advanced solid-state design and high performance optical detectors.

SPECTRA™ BC11 Flame Sensor is extremely robust and compact. It offers a host of features that make it suitable for a wide variety of fuels. Its robust design meets or exceeds rigorous test standards. It is 100% solid-state. There are no tubes or shutters to fail. Its high-temperature electronics enable the sensor to function at elevated operating temperatures.

The SPECTRA™ BC11 Flame Sensor helps improve burner efficiency, reduce NOx emissions and improve operating safety.

Available in both infrared and ultraviolet models, the SPECTRA™ BC11 Flame Sensor is compatible with a full range of industrial fuels: natural gas, kerosene, diesel, oil and coal. In addition to flame out indication, the 4-20mA output provides real time flame intensity needed for burner management systems.

### Installation

The SPECTRA™ BC11 Flame Sensor is easily mounted using a standard 1-inch NPT internal thread. Simplifying installation, the unit is a two-wire loop powered transmitter requiring a single twisted pair cable.

### FEATURES AND BENEFITS

1	Fuel Versatility — performance with natural gas, fuel oils, coal and waste gas
2	Wavelength Sensitivity — UV, VIS and IR
3	Rapid Response Time — enables immediate system shutdown on flame out
4	Reliability — indicates flame out condition
5	Burner Efficiency — 4-20mA output proportional to flame intensity
6	Flexibility — mounts on any burner with standard NPT pipe fittings
7	Simplicity — two-wire loop powered installation
8	Certifications — meets FM requirements for Flame Standard and Class I Div. 2 electrical safety

# SPECIFICATIONS

## INPUTS

- IR or UV flame energy, 2° field of view

## OUTPUTS

- 4-20 mA into 250 ohm max.

## SIGNAL PROCESSING

- Flame out response time <25 msec

## MOUNTING

- 1 inch NPT internal thread

## POWER

- 24 VDC, 100mA max.

## WIRING CONNECTIONS

- Mil-C-D38999 Series 1 Connector
- PIN A +24 VDC nominal
- PIN B 4-20 mA current return
- PIN C Case ground
- PIN D No connection
- PIN E No connection

## POWER

- Loop powered: 20-30 VDC, 24 VDC nominal, 25mA max.

## ENVIRONMENTAL

- Operating temperature -40° to 257°F (-40° to 125°C) continuous operation
- Weight: ~ 1.4 lbs. (0.6 kg)

## ENCLOSURE RATING

- NEMA 4X

## MOUNTING

- Anodized aluminum construction
- Stainless steel military style connector
- Optical grade fused silica lense/view-port

## CERTIFICATIONS

Factory Mutual approved for industrial burner applications, according to:

- 7610 Standard, Combustion Safeguards and Flame Sensing
- 3611 Standard, Class 1 Division 2 Electrical Equipment Groups A, B, C and D
- CE Approved

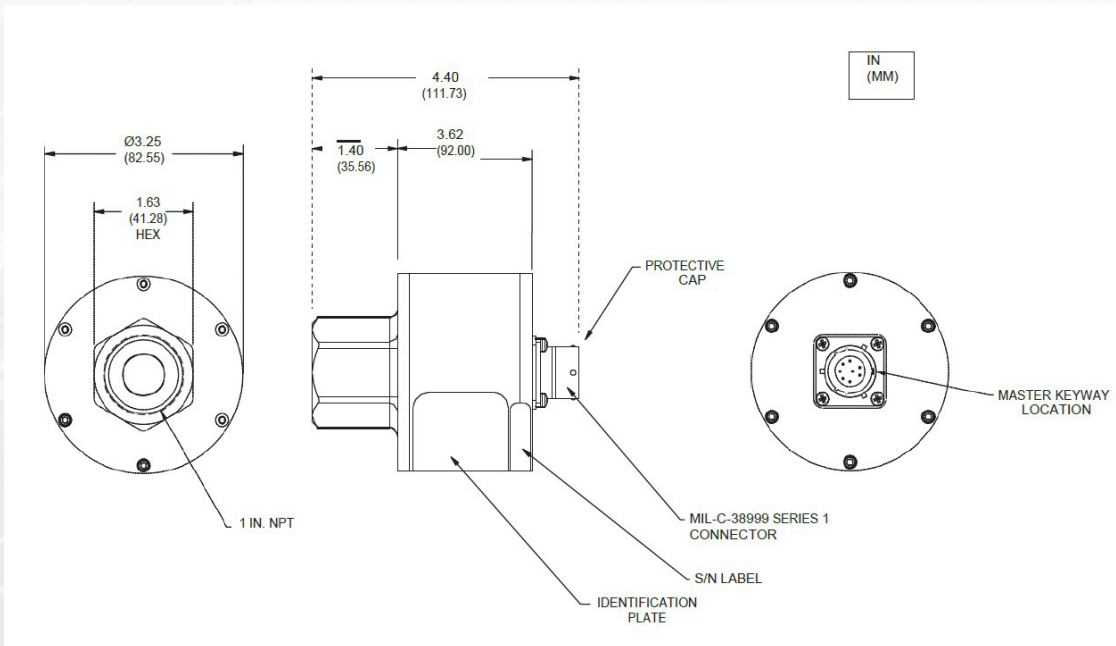
## OPTIONAL ACCESSORIES

Electrical Cable, P/N 8TL41AAA1

- 10 feet long
- Straight connector

### Analog / Relay Outputs

- SC-7402 uses 4-20mA input and provides a configurable relay contact output
- SC-7404 same as SC-7402 with two independently settable relay contact outputs
- SC-7405 same as SC-7404 plus configurable analog output



## WORLD HEADQUARTERS

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# AMETEK®

## POWER INSTRUMENTS

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