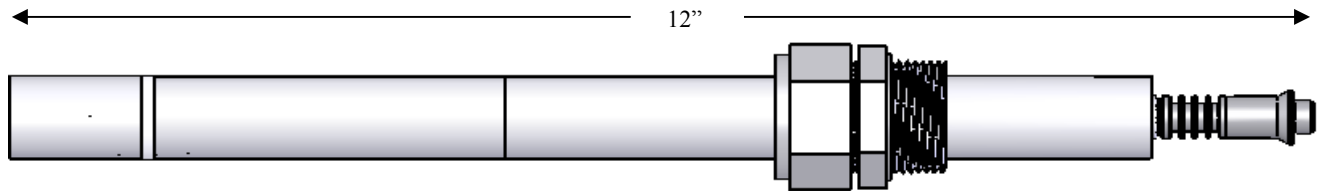


## Model GT1200 Frame 7 Transducer Fiber Optic Combustion Dynamics Monitoring



DavidsonSensors™ provide the safest, most reliable and cost-effective instrumentation for harsh industrial applications.

This product data sheet describes Model GT1200 Frame 7 Transducer. This temperature-tolerant transducer has been designed for combustion dynamics monitoring use in GE 7E and 7F gas turbines and does not require any modification to the engine.

### Performance Specifications

#### Frequency Response

2 Hz to 10 kHz +/- 0.4 dB

#### Pressure Sensitivity

100 mV per psi (nominal)

#### Pressure Range

+/-10 psi

#### Static Pressure Limit

1000 psi

#### Acceleration Sensitivity

< 0.001 psi per g

#### Thermal Stability

Calibrated for 800° F;  
1% per 100° F variance

#### Thermal Sensitivity

Insensitive to Transient Thermal Events

#### Transducer Temperature Limit

1000° F

#### Cable Temperature Limit

550° F

**Transducers** - Davidson fiber optic pressure pulsation transducers are designed for installation through the turbine casing where the existing acoustic waveguides are installed. The transducer design allows the sensor to be positioned flush with the liner and the transducer housing is flexible to accommodate movement of the liner relative to the casing.



Figure 1 – GT1200-7FA Transducer

The sensor is located at the tip of the transducer and has a superalloy diaphragm that functions as an optical interferometer. The diaphragm is protected by a thermal radiation shield and the sensing element is completely enclosed behind the diaphragm in the transducer housing.

The transducers have forty (40) feet of fiber optic cable rated for 550° F. The fiber optic cable is sheathed in ¼" diameter stainless steel armor for mechanical protection. The cables are terminated with ST connectors.

## Calibration

Standard calibration includes the following:

Each transducer is calibrated at the factory at room temperature at dynamic pressure of 0.5 psi at 200 Hz.

The calibration factor is normally adjusted for 800° F service temperature.

## Documentation

Calibration data sheets are provided for each transducer. A calibration sensitivity curve is provided with each transducer showing its sensitivity at temperatures from 72 to 1000° F

## Safety (Transducer with Cable)

Intrinsically-safe and suitable for use in:

- Class I, Division 1, Groups B, C, and D
- Class II, Division 1, Groups E, F, and G
- Class III, Division 1

## Other Applications

For information about other Davidson products, see [www.davidson-instruments.com](http://www.davidson-instruments.com)

## Guide to Configuring a Fiber Optic Sensing System

For information to assist you in planning a fiber optic sensing system, see

[www.davidson-instruments.com](http://www.davidson-instruments.com)

U.S. Patents Pending

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