



Oxygen Sensor 8TJ330AAA1

DESCRIPTION

From the AMETEK that has made oxygen sensors for decades, AMETEK has now developed the lowest weight oxygen sensor available for aircraft fuel tank inerting systems. Qualification is underway for a business jet application. The oxygen sensor contains the sensing element and the electronics to convert the oxygen concentration to a 10 Volt output.

The oxygen sensor uses a heated zirconia ceramic coated with platinum with specialized signal processing to measure oxygen. As such, the oxygen sensor is intended for an inerting gas ducting installation as opposed to the fuel tank itself. The internal heater warms up the element within 2 minutes. Output voltage reflects the oxygen concentration, with 10 Volts correlating to 21%, and accuracy with 0.5 %.

Internal Built In Test (IBIT) capability indicates detected failures with an out of range signal.

The oxygen sensor has passed tests in accordance with DO160 substantiating that the sensor does not ignite in the presence of a flammable fluid mixture. The ports are designed to prevent flames from passing through the sensor.

An optional pressure sensor output can be incorporated.



FEATURES

- ✓ *Explosion Proof per DO160 Section 9 Category A*
- ✓ *Standard Electrical and Pneumatic Connectors*
- ✓ *Analog 10V Output*
- ✓ *Internal Built In Test*
- ✓ *Optional Pressure Output*

Oxygen Sensor

SPECIFICATIONS

Range: 0 to 21% oxygen

Accuracy: $\pm 0.5\%$

Input: 18 to 32 VDC

Current: 1 Amp Maximum

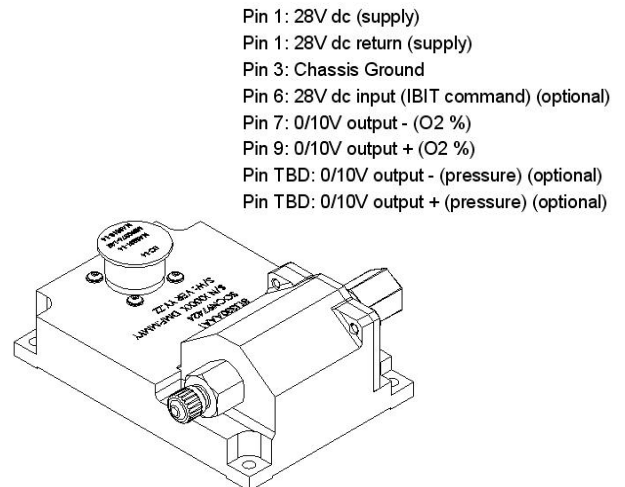
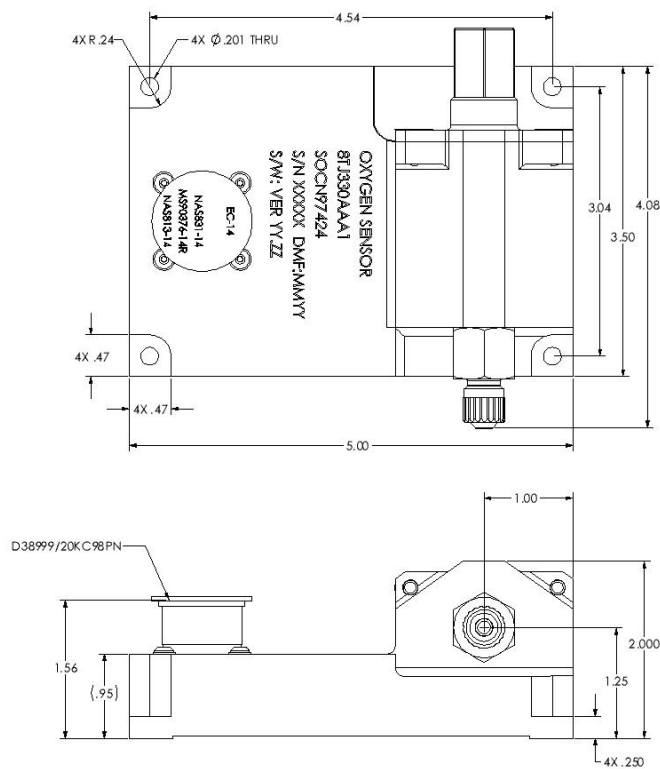
Output: 0 Volts non-IBIT fault
0.5 Volts IBIT fault
0.75 Volts Heater Warm-Up
1 to 10 Volts

Operating Temperature: -40°C to $+70^{\circ}\text{C}$ (-40°F to 158°F)

Inlet gas: 49°C to 93°C (120°F to 200°F), 15 psig to 82.5 psig.

Weight: 1.4 lbs.

Time Response from 20% to 10% oxygen concentration: 2 seconds typical



- Pin 1: 28V dc (supply)
- Pin 1: 28V dc return (supply)
- Pin 3: Chassis Ground
- Pin 6: 28V dc input (IBIT command) (optional)
- Pin 7: 0/10V output - (O₂ %)
- Pin 9: 0/10V output + (O₂ %)
- Pin TBD: 0/10V output - (pressure) (optional)
- Pin TBD: 0/10V output + (pressure) (optional)

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