

Data Center Containment Rack Airflow/Pressure and Temperature Monitor

OVERVIEW



- Thermal Dispersion Technology
- Bi-directional Airflow Measurement
- Equivalent ΔP Output Capability
- Detect ΔP as low as 0.0002" H₂O
- Alarm Capability
- Temperature Measurement
- Ethernet Network Connection
- Server Rack Mounting
- LCD Display
- 3-year Warranty

The SERVAIRE-E100 rack mount bidirectional airflow measurement device can detect very small pressure differentials (as low as 0.0002" H₂O) across containment zones by measuring the airflow bled across a false server. Temperature measurement of the bleed airflow path is also provided.

Typical Applications

- ◆ Supply Air Fan Control
- ◆ Supply Air Deficiency Detection
- ◆ Supply Air Over-pressurization Detection
- ◆ Containment Aisle Short-circuit Airflow Detection

Benefits

- ◆ Reduce Fan Energy
- ◆ Improve Server Efficiency
- ◆ Reduce Server Failures

Product Highlights

- ◆ Simple Rack Mount Design
- ◆ Self-contained Sensing Unit
- ◆ Long-term Stability
- ◆ Simultaneous BACnet and Modbus Capability
- ◆ Supports up to 10 Simultaneous Connections
- ◆ Dual Redundant 110 VAC Power Supplies



SPECIFICATIONS: SERVAIRE-E100

General

Probe and Sensor Node Configuration

1 bi-directional bleed sensor in a single rack mount housing

Listings and Compliance

FCC: This device complies with Part 15 of the FCC rules

RoHS: This device is RoHS2 compliant

Environmental Limits

Temperature: -20 to 160 °F [-28.9 to 71.1 °C]

Humidity: (non-condensing) 5 to 95%

Bleed Sensor Assembly

Sensing Node Sensors

Self-heated sensor: Two precision, hermetically sealed, bead-in-glass thermistor probes

Temperature sensor: One precision, hermetically sealed, bead-in-glass thermistor probe

Sensing Node Housing

Material: Glass-filled Polypropylene

Sensor Potting Materials: Waterproof marine epoxy

Airflow Measurement

Accuracy: $\pm 2\%$ of reading to NIST traceable-standards airflow standards (includes transmitter uncertainty)

Calibrated Range: -2,000 to 2,000 fpm [-10.16 to 10.16 m/s]

Approximate Pressure Range: -0.5 to +0.5 in. H₂O [-124.54 to +124.54 Pa]

Calibration Points: 9

Temperature Measurement

Accuracy: $\pm 0.15^\circ\text{F}$ [0.08 °C] to NIST-traceable temperature standards (includes transmitter uncertainty)

Calibrated Range: -20 to 160 °F [-28.9 to 71.1 °C]

Calibration Points: 3

Integral Transmitter

Power Requirement: 110 VAC @ 8V-A

Power Redundancy: Dual independent redundant power supplies

User Interface: 16-character LCD display and 4 button interface

B.A.S. Connectivity

SERVAIRE-E100: One isolated Ethernet (simultaneously supported BACnet Ethernet or BACnet IP, Modbus TCP and TCP/IP) network connection - supports up to 10 simultaneous connections

Airflow (or Pressure) Alarm

Type: Low and/or high user defined setpoint alarm

Tolerance: User defined setpoint

Delay: User defined

Reset Method: Manual or automatic

Visual Indication: Yes, LCD display

Network Indication: Yes

System Status Alarm

Type: Sensor diagnostic system trouble indication

Visual Indication: Yes, LCD display

Network Indication: Yes

Rack Mount Assembly

Standard 1U Rack Height Enclosure

1.75H x 19W x 12D in. [44.5 x 482.6 x 304.8 mm]