FAN AIRFLOW MEASUREMENT WITH TEMPERATURE AND ALARM CAPABILITY

SUPPORTS UP TO 8 FANS!

PRODUCT HIGHLIGHTS

- *"Plug and Play"* operation
- EBTRON exclusive bead-in-glass thermistor sensors
- Sensor nodes are individually calibrated at 16 airflow rates to NIST traceable standards
- 0 to 10,000 FPM calibrated range with percent-of-reading accuracy
- Actual (CFM) or mass (SCFM) airflow measurement
- Velocity-weighted temperature measurement between -20° F to 160° F
- Smart *Sensor Detection System* (*SDS*) continuously monitors for sensor and transmitter faults
- Standard FEP plenum rated cable between sensor probes and transmitter
- No compromise construction uses gold plated interconnects
- Unsurpassed connectivity options
- Four mounting styles
- *EB-Link* BLE interface to phone or tablet provides real-time monitoring and diagnostics
- Three-year warranty
- Toll-free customer support for the lifetime of the product

PATENTS

- US Patent Nos.: 12,066,199; 12,066,205
- CA Patent Nos.: 3,069,531; 3,169,641
- EP Patent No.: 4081741
- MX Patent No.: 417881

TYPICAL APPLICATIONS

- Fan airflow tracking
- Air change verification and monitoring
- Individual fan performance monitoring and fault detection
- Air change verification and control

EBTRON ADVANCED THERMAL DISPERSION TECHNOLOGY

EBTRON pioneered bead-in-glass thermistor based thermal dispersion over 40 years ago. EBTRON's thermal dispersion technology relates the power dissipated by a self-heated thermistor to the airflow rate at one or more sensor nodes in an airstream. All EBTRON airflow monitoring systems use this time-tested thermal dispersion technology.

MODEL DESCRIPTION

The GTx108e-F/SI and GTx108e-F/DI are EBTRON's solution for accurate and repeatable airflow measurement in SWSI and DWDI fans. The GTx108e-F/An is EBTRON's solution for accurate and repeatable airflow measurement in fan arrays. One to eight fans are supported. Airflow, temperature and/or airflow alarming are available on all models. The GTx108e-F/An provides individual fan airflow rates and fan alarming with combination analog output/network models. Does not affect fan performance.

GTx108e-F TECHNICAL SPECIFICATIONS

General

Probe and Sensor Node Configurations

Fan Arrays (less than or equal to 4 fans): 2 probes x 1 sensor node per probe or 1 probe x 1 sensor node per probe in each fan

Fan Arrays (greater than 4 fans): 1 probe x 1 sensor node per probe in each fan (8 probe maximum)

SWSI and DWDI fans: 2 probes x 1 sensor node per probe in each fan inlet

Installed Airflow Accuracy[1]

±(3% to 10%) of reading, depending on fan type and installation. May be improved by field adjustment using the Field Adjust Wizard (FAW) to a reliable reference

Sensor Node Averaging Method

Airflow: Independent, arithmetic average per fan

Temperature: Independent, velocity weighted average

Listings & Compliance

UL: 60730-1; CAN/CSA-E60730-1

CE: Yes

UKCA: Yes

BACnet International: BTL Listed (GTC108e and GTM108e transmitters)

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

RoHS: This device is RoHS2 compliant

Environmental Limits

Temperature:

Probes: -20 to 160 ^{o}F [-28.9 to 71.1 ^{o}C]

Transmitter: -20 to 120 ^{o}F [-28.9 to 48.9 ^{o}C]

Humidity: (non-condensing)

Probes: 0 to 100%

Transmitter: 5 to 95%

Individual Sensing Nodes

Sensing Node Sensors

Self-heated sensor: Precision, hermetically sealed, bead-in-glass thermistor probe

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

Sensing Node Housing

Material: Glass-filled Polypropylene

Sensor Potting Materials: Waterproof marine epoxy

Airflow Measurement

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

Calibrated Range: 0 to 10,000 fpm [0 to 50.8 m/s]

Calibration Points: 16

Temperature Measurement

Type: Velocity-weighted average

Accuracy: ±0.15^{o}F [0.08 ^{o}C] to NIST-traceable temperature standards (includes transmitter uncertainty)

Calibrated Range: -20 to 160 ^{o}F [-28.9 to 71.1 ^{o}C]

Calibration Points: 3

Sensor Probe Assembly

Mounting Rods

Material: Zinc plated steel

Mounting Brackets (Throat, Forward, Face, Flare)

Material: 304 stainless steel

Mounting Options & Size Limits

Throat: 6 to 66 inches [152.4 to 1676.4 mm] (throat diameter)

Face: 11 to 77 inches [279.4 to 1955.8 mm] (diameter at inlet entrance)

Forward: 6 to 64 inches [152.4 to 1625.6 mm] (diameter at inlet entrance)

Flare: 6 to 57 inches [152.4 to 1447.8 mm] (opening size at backdraft damper inlet)

Probe to Transmitter Cables

Type: FEP jacket, plenum rated CMP/FT6/CL2P, UL/cUL listed, -67 to 302 ^{o}F [-55 to 150 ^{o}C], UV tolerant

Standard Lengths: 10, 25, and 50 ft. [3.1, 7.6, and 15.2 m]

Connecting Plug: 9/16" [14.29 mm] nominal diameter

Transmitter

Power Requirement: 24 VAC (22.8 to 26.4 under load) @16V-A

PCB Connections: Gold-plated PCB interconnects, PCB edge fingers, and test points

User Interface: 2 line x16-character backlit LCD display and 4 button interface

B.A.S. Connectivity Options

All Transmitters: Three field selectable (0-5/0-10 VDC or 4-20mA), scalable and isolated analog output signals (AO1=airflow, AO2=temperature or alarm, AO3=Not Used).

GTA108e Transmitter: No additional connectivity to B.A.S.

GTC108e Transmitter: One additional field selectable (BACnet MS/TP or Modbus RTU) and isolated RS-485 network connection - Individual sensor node airflow rates and temperatures are available via the network

GTB108e Transmitter: One additional field selectable (BACnet MS/TP or Modbus RTU) and isolated RS-485 network connection and one additional isolated Ethernet (simultaneously supported BACnet Ethernet or BACnet IP, Modbus TCP and TCP/IP) network connection - Individual sensor node airflow rates and temperatures are available via the network

GTM108e Transmitter: One additional isolated Ethernet (simultaneously supported BACnet Ethernet or BACnet IP, Modbus TCP and TCP/IP) network connection - Individual sensor node airflow rates and temperatures are available via the network

GTF108e Transmitter: One additional isolated Lonworks Free Topology network connection

GTU108e Transmitter: One additional USB connection for thumb drive data-logging of sensor node airflow rates and temperatures

Alarms

Airflow: Low and/or high user defined setpoint alarm

Fan (An modelsType): Minimum airflow, % deviation from median airflow, or % deviation from maximum airflow stored in memory

System Status: Sensor diagnostic system trouble indication

***EB-Link* Bluetooth® low energy Interface for Android® and iPhone®:** Download individual sensor node airflow/temperature data, settings and diagnostics[2].

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[1] Installed airflow accuracy is the actual system accuracy expected and includes sampling uncertainty of the sensor probes.

[2] Order with the /NR option when RF devices are not permitted.