

**FAN AIRFLOW MEASUREMENT WITH TEMPERATURE AND ALARM CAPABILITY**



**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 and connector pins
- Unsurpassed connectivity options
- Five 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

**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<sup>1</sup>

±(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 °F [-28.9 to 71.1 °C]

**Transmitter:** -20 to 120 °F [-28.9 to 48.9 °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°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

### Sensor Probe Assembly

#### Mounting Rods

**Material:** Zinc plated steel

#### Mounting Brackets (Throat, Forward, Face, Flare)

**Material:** 304 stainless steel

#### Mounting Brackets (Cantilever)

**Material:** Zinc plated 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)

**Cantilever:** 11 to 82 inches [279.4 to 2082.8 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 °F [-55 to 150 °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 with gold-plated connector pins

### Transmitter

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

**Connector Receptacle Pins and PCB Connections:** Gold-plated receptacle pins, 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

**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

#### Airflow Alarm

**Type:** Low and/or high user defined setpoint alarm

**Tolerance:** User defined % of setpoint

**Delay:** User defined

**Zero Disable:** Alarm can be disabled when the airflow rate falls below the low limit cutoff value (unoccupied periods)

**Reset Method:** Manual or automatic

**Visual Indication:** Yes, LCD display

**Network Indication:** Yes (GTM108e and GTC108e only)

**Analog Signal Indication:** Yes, on AO2 assignment

#### Fan Alarm (An models)

**Type:** Minimum airflow, % deviation from median airflow, or % deviation from maximum airflow stored in memory

**Tolerance:** User defined % of setpoint

**Delay:** User defined

**Zero Disable:** Alarm can be disabled when the airflow rate falls below the low limit cutoff value (unoccupied periods)

**Reset Method:** Manual or automatic

**Visual Indication:** Yes, LCD display

**Network Indication:** Yes (GTM108e and GTC108e only)

**Analog Signal Indication:** Yes, on AO2 assignment

#### System Status Alarm

**Type:** Sensor diagnostic system trouble indication

**Visual Indication:** Yes, LCD display

**Network Indication:** Yes

**Analog Signal Indication:** Yes, on AO2 assignment

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

<sup>1</sup> Installed airflow accuracy is the actual system accuracy expected and includes sampling uncertainty of the sensor probes.