EBTRON®
a measurable difference!

Advantage IV

GTx116e-PC
OVERVIEW

Airflow and Temperature Measurement Device with Integral Relative Humidity Sensor (with /H option)

- ■ Thermal Dispersion Airflow Technology
- ■ Supports up to 16 Sensor Nodes
- ■ NIST-traceable Calibration
- ■ *%-of-reading* Airflow Accuracy
- ■ Airflow and Status Alarms
- ■ Velocity-weighted Temperature
- ■ Output %RH, Enthalpy or Dew Point[1]
- ■ Three Mounting Styles
- ■ Remote Transmitter with LCD Display
- ■ 3-year Warranty

[1] Requires /H option

The GTx116e-**PC** is EBTRON's top-of-the-line solution for accurate and repeatable measurement in ducts and plenums. Ruggedized RH sensor option (/H), onboard barometric pressure sensor and velocity-weighted temperature results in accurate relative humidity, enthalpy and dew point calculations. Ideal for supply, return and outdoor air intake applications on systems with an airside economizer. Bluetooth® low energy technology interface.[2]

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

Typical Applications

- ◆ Outdoor Air Delivery Monitoring and Control
- ◆ Differential Airflow Tracking for Building Pressurization Control
- ◆ Airside Economizer Enthalpy Switchover Detection
- ◆ Supply Air Humidity Monitoring and Control
- ◆ DOAS Dew Point Monitoring

Benefits

- ◆ Comply with ASHRAE Standards and Building Codes
- ◆ Satisfy LEED Prerequisites and Credits
- ◆ Provide Acceptable IAQ
- ◆ Save Energy
- ◆ Reduce Liability
- ◆ Improve Economizer Performance

Product Highlights

- ◆ Best Installed Accuracy
- ◆ Low Airflow Capability
- ◆ Volumetric or Mass Airflow Measurement
- ◆ Long-term Stability
- ◆ "Plug and Play" Operation
- ◆ Intuitive User Interface
- ◆ Waterproof Sensor Assembly
- ◆ FEP Plenum Rated Cables

General

Probe and Sensor Node Configurations (max.)
2 probes x 8 sensor nodes/probe
4 probes x 4 sensor nodes/probe
Installed Airflow Accuracy
Ducts/Plenums: ±3% of reading
Non-ducted OA Intakes: better than or equal to ±5% of reading
PC Sensor Density: Refer to the PC sensor density table.
Sensor Node Averaging Method
Airflow: Independent, arithmetic average
Temperature: Independent, velocity weighted average
Listings & Compliance
UL: UL 60730-1; CAN/CSA-E60730-1-15
CE: Non-UK European shipments only
UKCA: UK shipments only
BACnet International: BTL Listed (GTC116e and GTM116e 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 ºF [-28.9 to 71.1 ºC]
Transmitter: -20 to 120 ºF [-28.9 to 48.9 ºC]
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 (Kynar® with /SS option)
Sensor Potting Materials: Waterproof marine epoxy
Sensing Node Internal Wiring
Type: Kynar® coated copper
Airflow Measurement
Accuracy: ±2% of reading to NIST-traceable airflow standards (includes transmitter uncertainty)
Calibrated Range: 0 to 5,000 fpm [25.4 m/s]
Calibration Points: 16
Temperature Measurement
Type: Velocity-weighted average
Accuracy: ±0.15ºF [0.08 ºC] to NIST-traceable temperature standards (includes transmitter uncertainty)
Calibrated Range: -20 to 160 ºF [-28.9 to 71.1 ºC]

Optional Relative Humidity Sensor (/H Option)

Type: Ruggedized capacitive polymer RH sensor
Accuracy @ 77 ºF [25 ºC]
20 to 80 %RH: ±2% RH
0 to 20 and 80 to 100 %RH: ±3.5% RH
Temperature Coefficient: 0.07%/ºF [0.13%/ºC]
Long Term Drift: 0.5% RH/year
Calculated Measurements: Velocity weighted relative humidity, velocity-weighted enthalpy and dew point using measured RH, velocity-weighted temperature and on-board barometric pressure sensor.

Sensor Probe Assembly

Tube
Material: Gold anodized 6063 aluminum (316 stainless steel with /SS option)
Mounting Brackets
Material: 304 stainless steel
Mounting Options & Size Limits
Insertion: 6 to 191in. [152.4 to 4851 mm]
Stand-off: 6 to 190 in. [152.4 to 4826 mm]
Internal: 10 to 194 in. [254.0 to 4928 mm]
Note: The /H option is only available on probes >18 in.[457.2 mm]
Probe to Transmitter Cables
Type: FEP jacket, plenum rated CMP/CL2P, UL/cUL listed, -67 to 302 ºF [-55 to 150 ºC], UV tolerant
Standard Lengths: 10, 15, 20, 25, 30, 40 and 50 ft. [3.1, 4.6, 6.1, 7.6, 9.1, 12.2, and 15.2 m]
Connecting Plug: 13/16" [20.63 mm] nominal diameter with gold-plated connector pins

Transmitter

Power Requirement: 24 VAC (22.8 to 26.4 under load) @20V-A max.
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=%RH, enthalpy or dew point when /H option is provided).
GTA116e Transmitter: No additional connectivity to B.A.S.
GTC116e 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
GTM116e 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
GTF116e Transmitter: One additional isolated LonWorks Free Topology network connection
GTU116e Transmitter: One additional USB connection for thumb drive data-logging of sensor node airflow rates and temperatures; %RH, enthalpy and dew point when /H option is provided.
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
Analog Signal Indication: Yes, on AO2 assignment
System Status Alarm
Type: Sensor diagnostic system trouble indication
Visual Indication: Yes, LCD display
Analog Signal Indication: Yes, on AO2 assignment
***EB-Link* Bluetooth® low energy Interface for Android® and iPhone®:** Display real-time airflow, velocity-weighted temperature, humidity, enthalpy, dew point, individual sensor node airflow/temperature data, settings and diagnostics.[1]

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