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Advantage IV

Gold Series

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 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.

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

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

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SPECIFICATIONS: GTx116e-PC

General

Probe and Sensor Node Configurations (max.)
2 probes x 8 sensor nodes/probe
4 probes x 4 sensor nodes/probe

Installed Airflow Accuracy[1]
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: European 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: 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[1]
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
GTA116e Transmitter: 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).

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] Installed airflow accuracy allows for additional uncertainty that results from averaging a finite number of sensors in a contorted velocity profile created from up and downstream disturbances. The specified installed accuracy is based on the PC sensor density rules for installations that meet or exceed EBTRON minimum placement requirements. PC sensor density rules may not be available in certain smaller duct sizes due to sensor placement limitations. The PC sensor density meets or exceeds the P+ sensor density.

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