EBTRON®
a measurable difference!

Advantage IV

Gold Series

GTx116e-P+

OVERVIEW

Airflow Measurement with Temperature and Alarm Capability

- Thermal Dispersion Technology
- Supports up to 16 Sensor Nodes
- NIST-traceable Calibration
- *%-of-reading* Accuracy
- Airflow and Status Alarm
- Temperature Output Capability
- Combination Analog/Network Models
- Three Mounting Styles
- Remote Transmitter with LCD Display
- 3-year Warranty

The GTx116-P+ is EBTRON's top-of-the-line solution for accurate and repeatable measurement in ducts and plenums. Ideal for outdoor air delivery monitoring and airflow tracking applications. Temperature and alarm capability plus unsurpassed product features and connectivity options make this the best choice for today's high performance buildings. Bluetooth® low energy technology interface.

Typical Applications

- Outdoor Air Delivery Monitoring
- Differential Airflow Tracking
- Hospital Pressurization
- Laboratory Pressurization
- Air Change Verification & Monitoring
- System Performance Monitoring

Benefits

- Comply with ASHRAE Standards
- Demonstrate Code Compliance
- Satisfy LEED Prerequisites and Credits
- Provide Acceptable IAQ
- Save Energy
- Reduce Liability
- Improve 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-P+

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
- P+ Sensor Density: Refer to the P+ sensor density table.
- Sensor Node Averaging Method
  - Airflow: Independent, arithmetic average
  - Temperature: Independent, velocity weighted average
- Listings & Compliance
  - UL: UL-873 and CSA C22.2 No. 24
  - CE: Yes
  - 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
  - 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]
  - Calibration Points: 3

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: 8 to 194 in. [203.2 to 4928 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=Not Used).
  - 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
- 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 P+ sensor density rules for installations that meet or exceed EBTRON minimum placement requirements. P+ sensor density rules may not be available in certain duct sizes due to sensor placement limitations.

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