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Advantage III

Gold Series

GTx116-P+

OVERVIEW

Airflow Measurement with Temperature and Alarm Capability

- Thermal Dispersion Technology
- High Sensor Density
- 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 measurement 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.

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: GTx116-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/Plenum: ±3% of reading
Non-ducted OA Intakes: better than or equal to ±5% of reading

P+ Sensor Density Rules

Area (sq.ft.) [sq.m]	Sensor Nodes	Area (sq.ft.) [sq.m]	Sensor Nodes
≤ 0.5 [0.046]	1	> 4 & ≤ 8 [0.743]	8
> 0.5 & ≤ 1 [0.092]	2	> 8 & ≤ 12 [1.11]	12
> 1 & ≤ 2 [0.185]	4	> 12 & ≤ 14 [1.30]	14
> 2 & ≤ 4 [0.371]	6	> 14 [1.30]	16

Sensor Node Averaging Method
Airflow: Independent, arithmetic average
Temperature: Independent, velocity weighted or arithmetic average

Listings
UL: UL 873 Listed
CE: European shipments only
BACnet International: BTL Listed (GTC116 and GTM116 transmitters)

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 (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: ±0.15°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

Tube
Material: Gold anodized 6063 aluminum (316 stainless steel with /SS option)

Mounting Brackets
Material: 304 stainless steel

Mounting Options & Standard Size Limits[2]
Insertion and Stand-off: 6 to 120 in. [152.4 to 3048 mm]
Internal: 8 to 120 in. [203.2 to 3048 mm]

Probe to Transmitter Cables
Type: FEP jacket, plenum rated CMP/CL2P, UL/cUL listed, -67 to 392 °F [-55 to 200 °C], 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
Connector Receptacle Pins and PCB Connections: Gold-plated receptacle pins, PCB interconnects, PCB edge fingers, and test points
User Interface: 16-character LCD display and 4 button interface

B.A.S. Connectivity Options
GTC116 Transmitter: Two field selectable (0-5/0-10 VDC or 4-20mA), scalable and isolated analog output signals (AO1=airflow, AO2=temperature or alarm) plus one 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
GTM116 Transmitter: Two field selectable (0-5/0-10 VDC or 4-20mA), scalable and isolated analog output signals (AO1=airflow, AO2=temperature or alarm) plus one 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
GTL116 Transmitter: One isolated Lonworks Free Topology network connection
GTD116 Transmitter: One USB connection for thumb drive data-logging of sensor node airflow rates and temperatures over specified time intervals

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 (GTC116 and GTM116 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 (GTC116 and GTM116 only)
Analog Signal Indication: Yes, on AO2 assignment

EB-Link Infra-red Interface (with /EL option): Provides individual airflow and temperature data to an *EB-Link Reader*

[1] Installed airflow accuracy is the actual system accuracy expected and includes sampling uncertainty of the sensor probes when installation meets or exceeds placement guidelines.
[2] Custom probes are available up to 192 inches. Sensing nodes/probe limitations apply on sizes greater than 120 inches to ensure structural stability of the probe tube and may not meet P+ sensor density rules. Contact factory for more information.

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