EBTRON®
a measurable difference!

EB-Flow II

Airflow Measurement with Temperature and Alarm Capability

■ Thermal Dispersion Technology

■ Cost Effective Single Probe

■ NIST-traceable Calibration

■ *%-of-reading* Accuracy

■ Airflow and Status Alarm

■ Temperature Output Capability

■ Analog and RS-485 Output Models

■ Dry Contact Relay

■ Remote Transmitter with LCD Display

■ 3-year Warranty

The EF-x2000-T is EBTRON's top-of-the-line measurement solution for round ducts between 4 and 16 inches in diameter. Ideal for most small duct airflow measurement and volumetric airflow tracking applications. More features than the EF-x1000-T make this the best choice for all small duct measurement applications.

Typical Applications

- ◆ High Performance CV/VAV Terminal Box Measurement
- ◆ Small Duct Outdoor Air Delivery Monitoring
- ◆ Small Duct Airflow Tracking
- ◆ Hospital Pressurization
- ◆ Laboratory Pressurization

Benefits

- ◆ Improve Terminal Box Performance with Turndown
- ◆ Comply with ASHRAE Standards
- ◆ Satisfy LEED Prerequisites and Credits
- ◆ Provide Acceptable IAQ
- ◆ Save Energy
- ◆ Reduce Liability
- ◆ Improve Performance

Product Highlights

- ◆ Accurate & Repeatable
- ◆ Low Airflow Capability
- ◆ Volumetric or Mass Airflow Measurement
- ◆ Long-term Stability
- ◆ "Plug-and-Play" Operation
- ◆ Intuitive User Interface
- ◆ Waterproof Sensor Assembly
- ◆ FEP Plenum Rated Cable

EF-x2000_T_Overview_r6b

General

Probe and Sensor Node Configurations
1 probe x 1 sensor node/probe (4 inch [101.6 mm] probe)
1 probe x 2 sensor nodes/probe (5 to 16 inch [127.0 to 406.4 mm] probes)

Installed Airflow Accuracy[1]
±3% of reading

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

Listings and Compliance
UL: 60730-1, 60730-2-9; CAN E60730-1, E60730-2-9 (EF-A2000-T Only)
FCC: This device complies with Part 15 of the FCC rules
RoHS: This device is RoHS2 compliant

Environmental Limits
Temperature:
Probes 0 to 2,000 fpm [0 to 10.16 m/s]**:**
-20 to 160 ºF [-28.9 to 71.1 ºC]
Probes 0 to 3,000 fpm [0 to 15.24 m/s]**:**
0 to 160 ºF [-17.8 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: ±3% of reading to NIST-traceable volumetric airflow standards (includes transmitter uncertainty)
Calibrated Range: 0 to 3,000 FPM [0 to 15.24 m/s]
Calibration Points: 7

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: Mill finish 6063 aluminum (316 stainless steel with /SS option)

Mounting Brackets
Material: 304 stainless steel

Mounting Options & Size Limits
Insertion: 4, 5, 6, 7, 8, 9, 10, 12, 14, and 16 inch round [101.6, 127.0, 152.4, 177.8, 203.2, 228.6, 254.0, 304.8, 355.6 & 406.4 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: 3, 10, 25 and 50 ft. [0.9, 3.1, 7.6 and 15.2 m]
Connecting Plug: 0.60" [15.24 mm] nominal diameter

Transmitter

Power Requirement: 24 VAC (22.8 to 26.4 under load) @8V-A
User Interface: 16-character LCD display and 4 button interface

B.A.S. Connectivity Options
EF-A2000 Transmitter: Two field selectable (0-5/1-5/0-10/2-10 VDC*), scalable and protected analog output signals (AO1=airflow, AO2 = temperature or alarm)
* The VDC output circuit of the EF-A2000 transmitter can drive the input circuit of devices designed to measure 4-wire current loops with a resistive load ≥250 ohms.
EF-N2000 Transmitter: One field selectable (BACnet MS/TP or Modbus RTU) and non-isolated RS-485 network connection - Individual sensor node airflow rates and temperatures are available via the network (provide individual 24 VAC transformers at each EF-N2000 transmitter for applications requiring isolated RS-485)

Relay
Type: Dry Contact w/ onboard jumper to drive a remote LED (R1=alarm)
Status: N.O. or N.C. via user setup configuration
Rating: 30 VDC or 24 VAC @ 3 amp. max.

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 (EF-N2000 only)
Analog Signal Indication: Yes, on AO2 assignment (EF-A2000 only)
Contact Closure Relay: Yes, on R1 assignment

System Status Alarm
Type: Sensor diagnostic system trouble indication
Visual Indication: Yes, LCD display
Network Indication: Yes (EF-N2000 only)
Analog Signal Indication: Yes, on AO2 assignment (EF-A2000 only)
Contact Closure Relay: Yes, on R1 assignment

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[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.

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