



EBTRON® Advantage 3

High-performance Airflow Measurement
with Temperature & Alarm Capability

GOLD SERIES
GTx116-P+

FEATURES



EBTRON’s GTx116-P+ remains the gold standard by which all other airflow measuring devices have been compared to for more than a decade.

The release of the **Advantage 3** product line is the culmination of the Company’s more than 30 years of experience in the design and manufacture of high performance thermal dispersion airflow and temperature measuring devices.

Compare the new **Advantage 3 Gold Series** GTx116-P+ to the competition and you will see why EBTRON truly is *a measurable difference!*

Compare **EBTRON®** to the competition and see why we are *a measurable difference!*

	EBTRON	Others
General Features	✓	Compare!
Construction Features	✓	Compare!
Display Features	✓	Compare!
Connectivity Features	✓	Compare!
Data-logging Features	✓	Compare!
Commissioning Tool Features	✓	Compare!
Airflow Alarming Features	✓	Compare!
Airflow Adjustment Features	✓	Compare!
Special Tool Features	✓	Compare!
Diagnostic Features	✓	Compare!

✓ GENERAL	
✓ Field configurable in I-P or S.I. units	Meets the system of units requirements anywhere in the world.
✓ Location name can be stored in memory	Improves functionality of <i>EB-Link Reader</i> and simplifies setup on network connected transmitters.
✓ Up to 16 sensing nodes per transmitter	High number of independent sensing nodes results in true average airflow measurement close to up and downstream disturbances.
✓ 16-point airflow calibration between 0 and 5,000 fpm to NIST-traceable standards	Percent of reading accuracy over the entire calibrated range to an internationally recognized standards organization.
✓ Actual or Standard airflow measurement	Flexibility for applications that require either <i>actual</i> airflow or <i>mass</i> airflow measurement.
✓ Altitude adjustment	Corrects <i>actual</i> airflow measurement at elevations other than sea level.
✓ Low limit airflow cutoff	Eliminates false wind readings on closed outdoor air intakes. Improves unoccupied alarm performance on all systems.
✓ Free-area stored in sensor probe memory	Simplifies setup when volumetric airflow (CFM) is required. Can be overridden by user if duct size differs from ordered size.
✓ 3-point temperature calibration to NIST-traceable calibration standards	Accurate measurement over the entire calibrated range to an internationally recognized standards organization.
✓ Velocity weighted or arithmetic average temperature measurement	Velocity weighted temperature reduces uncertainty when temperature and velocity profiles exist.
✓ Advanced <i>Sensor Detection System</i> (SDS)	The SDS continuously monitors sensors and provides alarm notification if a fault is detected.
✓ UL 873 Listed with 3-year Warranty	Peace of mind!
✓ CONSTRUCTION	
<input type="checkbox"/> Gold anodized 6063 aluminum tube	Strong, lightweight construction. Easy to install.
<input type="checkbox"/> 316 stainless steel tube option available	Ideal for corrosive applications.
✓ 304 stainless steel mounting brackets	Strong, durable and corrosion resistant. More suitable than aluminum on galvanized ducts.
✓ FEP jacket plenum rated cable	Excellent cold and UV tolerance. Will not crack like PVC jacketed cable. Plenum rated.
✓ Gold-plated receptacle pins, PCB interconnects, PCB edge fingers, and test points	Negligible contact resistance. Long-term performance.
✓ DISPLAY	
✓ Sixteen character alpha-numeric LCD display	Display average airflow and temperature, individual sensor airflows and temperatures, airflow alarm and system status.
✓ User-defined display modes	Airflow and temperature, airflow only, temperature only, or display off modes.
✓ Adjustable LCD airflow integration buffer	Smooth airflow output fluctuations from transient wind gusts or turbulence on display only.

<input type="checkbox"/> CONNECTIVITY - ANALOG OUTPUT CONNECTIONS	
✓ Two isolated analog output signals (field selectable 0-5/0-10 VDC or 4-20mA)	Simplifies ordering. Isolation simplifies field wiring and allows for circuit board grounding in electrical noisy environments.
✓ Dedicated airflow output on analog output 1 (AO1)	Connect to any B.A.S. to monitor and control airflow rates.
✓ User adjustable full scale for airflow	Complete flexibility for B.A.S. signal conversion.
✓ Adjustable airflow output integration buffer	Smooth airflow output fluctuations from transient wind gusts or turbulence on the analog output only (AO1 and network variable).
✓ Analog output 2 (AO2) can be assigned to temperature output	Use the temperature measurement capability of the device as a control input to your B.A.S.
✓ User adjustable minimum and full scale for temperature	Complete flexibility for B.A.S. signal conversion. Default value is ideal for most applications since accuracy is not a function of span.
✓ Analog output 2 (AO2) can be assigned to airflow alarm	Use AO2 as an airflow alarm input to your B.A.S. or remote alarm indication device (such as the EBTRON ALRT-100 or ALRT-200).
✓ Analog output 2 (AO2) can be assigned to system status alarm	Use AO2 as a system status alarm input to your B.A.S. or remote alarm indication device (such as the EBTRON ALRT-100 or ALRT-200).
<input type="checkbox"/> CONNECTIVITY - RS-485 NETWORK CONNECTION	
✓ Field selectable BACnet (BTL listed) or Modbus protocols	Flexibility in protocol selection. Average airflow and temperature, individual sensor node airflow and temperature, airflow alarm and system status available.
✓ 1/8 unit load BACnet MS/TP Master on RS-485 networks	1/8 unit load allows for more devices on the network. BACnet Master auto-configures on network.
✓ Network settings configured using pushbutton interface and LCD display	Simplifies setup.
✓ Baud rates of 9600, 19200, 38400, and 76800 supported	All network baud rates are supported.
<input type="checkbox"/> CONNECTIVITY - ETHERNET NETWORK CONNECTION	
✓ Simultaneously supports BACnet IP (or BACnet Ethernet), Modbus TCP and TCP/IP	Flexibility in protocol selection. Average airflow and temperature, individual sensor node airflow and temperature, airflow alarm and system status available.
✓ Network settings configured using pushbutton interface and LCD display	Simplifies setup.
<input type="checkbox"/> CONNECTIVITY - LON NETWORK CONNECTION	
✓ Lonworks Free Topology	Average airflow and temperature. System status available.
<input type="checkbox"/> DATA-LOGGING	
✓ Thumb-drive data-logger card (in place of output card)	Log average airflow and temperature plus individual sensor node airflow and temperature over user specified time intervals. Simple PC setup.

☐ COMMISSIONING TOOLS	
✓ Transfer average airflow, average temperature and individual sensor node airflow and temperature data to a handheld <i>EB-Link Reader</i>	Ideal for commissioning agents and air balancers. Any field adjustments are applied to the average and individual readings prior to data transfer.
✓ Adjustable airflow integration buffer for individual sensors	Improves traverse data readings.
✓ AIRFLOW ALARM	
✓ High and/or low setpoint alarm	Ideal for LEED, ASHRAE 189.1 or any application requiring airflow alarming.
✓ Adjustable setpoint, tolerance % and delay	User defined alarming.
✓ Zero disable feature	Disables alarm when airflow output is zero.
✓ Manual or auto reset	Flexible alarm reset options.
✓ FIELD ADJUSTMENT CAPABILITY	
✓ Digital airflow gain and offset adjustment	Allows for field adjustment when the airflow measuring device is located in a marginal location or adjustment is required by the balancing authority.
✓ TOOLS	
✓ Analog output test signal	Allows an analog test signal between 0 and 100% to be generated on AO1 or AO2 for diagnostic evaluation and signal verification at the transmitter and B.A.S.
✓ Field Adjust Wizard (FAW)	Facilitates field adjustment when required. Prompts the user for a reference airflow rate (FPM or CFM) and automatically samples the airflow rate calculated by the transmitter over a user-defined integration period. Gain and offset parameters are calculated and automatically stored in the transmitter.
✓ Security lock (low, medium, high)	Locks the current configuration settings in the transmitter so that configuration parameters cannot be modified by an unauthorized agent.
✓ Transmitter reset	Resets transmitter to factory default configuration settings.
✓ Sensor reset	Re-flashes sensor probe data when a new probe is installed on the transmitter without interruption of operation.
✓ Adjustment reset	Resets the Gain to 1 and Offset to 0 and disables field adjustment.
✓ Reset network	Resets network parameters to factory default settings.
✓ DIAGNOSTICS	
✓ Trouble codes	Simplifies troubleshooting. Individual trouble codes can be disabled but remain visible in the diagnostic menu.
✓ Serial numbers (unit, circuit board, probes)	Simplifies troubleshooting.
✓ View individual sensor node airflow and temperature	Displays the real-time uncorrected velocity and temperature of each individual sensor node.
✓ View individual sensor node airflow and temperature sensor voltages	Simplifies troubleshooting. Eliminates the need for a volt-meter.