

EBTRON[®]

Thermal Dispersion Airflow Measurement

BACnet Wall Mount Sensors



IAQSens SERIES FAMILY

EBTRON introduces the IAQSens series of wall mount RS-485 MS/TP BACnet[®], products that include three innovative models with single, dual and triple sensor suites. The triple sensor IAQ-300-N provides CO₂, R/H and temperature sensing; the dual sensor IAQ-200-N provides R/H and temperature sensing; and the IAQ-100-N provides CO₂ sensing only. The IAQ-300 and IAQ-100 feature an advanced CO₂ sensing module and patented self-calibration system from GE Sensing & Inspection Technologies that ensures extremely accurate, stable and reliable readings over the life of the sensor. Equally impressive relative humidity (RH) and temperature sensing elements on the IAQ-300 and IAQ-200 make the IAQSens series attractive in applications where measurement of one, two or all three IAQ variables is required. The BACnet International Testing Labs BTL[®] mark confirms that the products have successfully completed rigorous testing to ensure network interoperability in modern BAS infrastructures. Combining sensor elements into a single integrated package is an attractive alternative to fielding multiple discrete sensor packages from disparate vendors; reducing device installation, wiring, networking, setup and maintenance costs.

IAQ-100-N CO₂ Sensor (BACnet/MODBUS)

EBTRON's IAQ-100-N is an innovative wall mount CO₂ sensor that provides precision measurement in a single device packaged with BACnet MS/TP or Modbus[®] RTU interface for interoperability with all modern building automation systems (BAS). It is ideal for maintenance of IAQ in variable occupancy spaces where direct occupant counting is not well suited. The IAQ-100-N is key in the acquisition of LEED[®] credits as well as for true demand controlled ventilation in compliance with the Ventilation Rate Procedure (VRP) of ASHRAE[®] Standard 62.1-2007. A patented continuous CO₂ self-calibration feature eliminates routine maintenance. Microprocessor-based electronics with industrial grade integrated circuits ensure exceptional accuracy and long term reliability. Simple field configuration is accomplished by DIP switches on the main circuit board, or through the BACnet and Modbus RTU interface.

IAQ-200-N Relative Humidity+Temperature Sensor (BACnet/MODBUS)

The IAQ-200-N is an innovative wall mount relative humidity (RH)/temperature sensor that provides precision measurement in a single device packaged with BACnet MS/TP or Modbus RTU interface for interoperability with all modern building automation systems (BAS). Microprocessor-based electronics, with industrial grade integrated circuits ensure exceptional accuracy and long term reliability. Simple field configuration is accomplished by DIP switches on the main circuit board, or through the BACnet and Modbus RTU interface.

IAQ-300-N CO₂+RH+Temperature Sensor (BACnet/MODBUS)

The IAQ-300-N is an innovative wall mount precision CO₂ /relative humidity (RH)/temperature sensor in a single device, packaged with BACnet MS/TP or Modbus RTU interface for interoperability with all modern building automation systems (BAS). It is ideal for maintenance of IAQ in variable occupancy spaces where direct occupant counting is not well suited. The model IAQ-300-N is key in the acquisition of LEED credits as well as for true demand controlled ventilation in compliance with the Ventilation Rate Procedure (VRP) of ASHRAE Standard 62.1-2007. A patented continuous CO₂ self-calibration feature eliminates routine maintenance, and microprocessor-based electronics with industrial grade integrated circuits ensure exceptional accuracy and long term reliability. Simple field configuration is accomplished by DIP switches on the main circuit board, or through the BACnet and Modbus RTU interface.



Technical Specifications

Sensor Specifications

	IAQ-100-N	IAQ-200-N	IAQ-300-N
Sensor Complement	Advanced precision CO2 sensing element with RS-485 BACnet MS/TP and Modbus RTU interface	Advanced precision sensing elements for relative humidity and temperature measurement via RS-485 BACnet MS/TP and Modbus RTU communication interface	Advanced precision sensing elements for CO2, relative humidity and temperature measurement via RS-485 BACnet MS/TP and Modbus RTU interface
CO ₂ Sensor Technology:	Non Dispersive Infrared (NDIR), gold plated optics, diffusion sampling with patented self-calibration algorithm	N/A	Non Dispersive Infrared (NDIR), gold plated optics, diffusion sampling with patented self-calibration algorithm
CO ₂ Range:	400-2,000 ppm (factory default) Adjustable to 10,000 ppm		400-2,000 ppm (factory default) Adjustable to 10,000 ppm
CO ₂ Accuracy*:	±35ppm at up to 500ppm ±60ppm at up to 800ppm ±75ppm at up to 1000ppm ±90ppm at up to 1200ppm *77°F (25°C)		±35ppm at up to 500ppm ±60ppm at up to 800ppm ±75ppm at up to 1000ppm ±90ppm at up to 1200ppm *77°F (25°C)
CO2 Stability:	<2% of FS over life of sensor (15 years typical)		<2% of FS over life of sensor (15 years typical)
RH Sensor Technology:	N/A		Planar Capacitive Polymer
RH Range:		0 to 100% RH, non condensing	
RH Accuracy:		±2% @ 20% - 80% RH, 77°F (25°C) ±3%: <20% ->80% RH, 77°F (25°C)	
RH Resolution:		0.4% RH	
Temperature Sensor Technology:		Integral band gap PTAT	
Temperature Range:		-58°F to 302°F (-50°C to 150°C)	
Temperature Accuracy:		±1.08°F at 77°F (±0.6°C at 25°C)	
Temperature Resolution:	0.36°F (0.2°C)		
Signal Processing:	Microprocessor-based		
Power Supply Performance:	Integral power supply powered by external 24 VAC (22.8-26.4VAC), 50/60 Hz source.		
Brownout Protection:	Internal brownout watchdog circuit		
Electrical Protection:	Over voltage, over current, surge protection		
Enclosure:	Attractive low profile wall mount enclosure compatible with standard single gang electrical box, and surface mount applications.		
Dimensions:	4.650 x 3.250 x 1.090 in (118.11 x 82.55 x 27.69 mm)		
User Interface:	Simple DIP switch selection		
Output to Host Controls:	RS-485 BACnet® MS/TP or Modbus® RTU		
Baud rates:	Selectable 76.8K, 38.4K, 19.2K, 9.6K baud		
System Diagnostics:	On board LED status indicator		
Operating Temperature Range:	Operating Temperature: 32° F to 122° F (0° C to 50° C)		
Operating Humidity Range:	Moisture: 0 to 95% RH, non condensing		

Listings & Warranty

UL Listings	UL 873 Airflow & Temperature Indicating Devices
BTL Listings	Tested by BACnet International Testing Laboratories
Standard Warranty	36 months from shipment (see Terms & Conditions of Sale for details)