

### IAQSens Series - Advanced Indoor Air Quality (IAQ) Sensing Technology



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## IAQ-200-N OVERVIEW

EBTRON's 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.

## APPLICATIONS

- Combined precision relative humidity and temperature sensing elements in a single instrument for integration in modern BAS systems eliminates compatibility and communications issues typical with individual sensors.
- Key in the acquisition of LEED® Energy and Atmosphere and Indoor Environmental Quality Credits.

## SYSTEM FEATURES

- Integrated BACnet®/Modbus® RTU device with complement of precision sensing elements for relative humidity and temperature measurement.
- Integral RS-485 BACnet® MS/TP and Modbus® RTU interface for interoperability with modern BAS devices.
- Microprocessor-based electronics with industrial grade integrated circuits.
- Convenient DIP switch user interface for simple field configuration.
- Architecturally neutral enclosure with tamper resistant hardware option compatible with standard single-gang electrical box, and surface mount applications.

## IAQ-200-N SPECIFICATIONS

### Sensor Complement

Advanced precision sensing elements for relative humidity and temperature measurement via RS-485 BACnet® MS/TP and Modbus® RTU communication interface

### Relative Humidity Sensor Performance

Technology: Planar Capacitive Polymer  
 RH Range: 0 to 100% RH, non condensing  
 RH Accuracy: ±2% @ 20% to 80% RH, 77 °F (25 °C)  
 ±3%: <20% to >80% RH, 77 °F (25 °C)  
 RH Resolution: 0.4% RH

### Temperature Sensor Performance

Technology: Integral band gap PTAT  
 Range: -58 °F to 302 °F (-50 °C to 150 °C)  
 Accuracy: ±1.08 °F at 77 °F (±0.6 °C at 25 °C)  
 Resolution: 0.36 °F (0.2 °C)

**Signal Processing:** Microprocessor-based

### Power Supply Performance

Technology: Integral power supply powered by external 24 VAC (22.8-26.4VAC), 50/60 Hz source.  
 Brownout Watchdog protection reset circuit  
 Overvoltage, overcurrent, and 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 rate: Selectable 76,800, 38,400, 19,200, 9,600  
 Default: RS-485 BACnet® MS/TP 76,800  
 Default: Modbus® RTU: 19,200

### System Diagnostics

On board LED status indicator

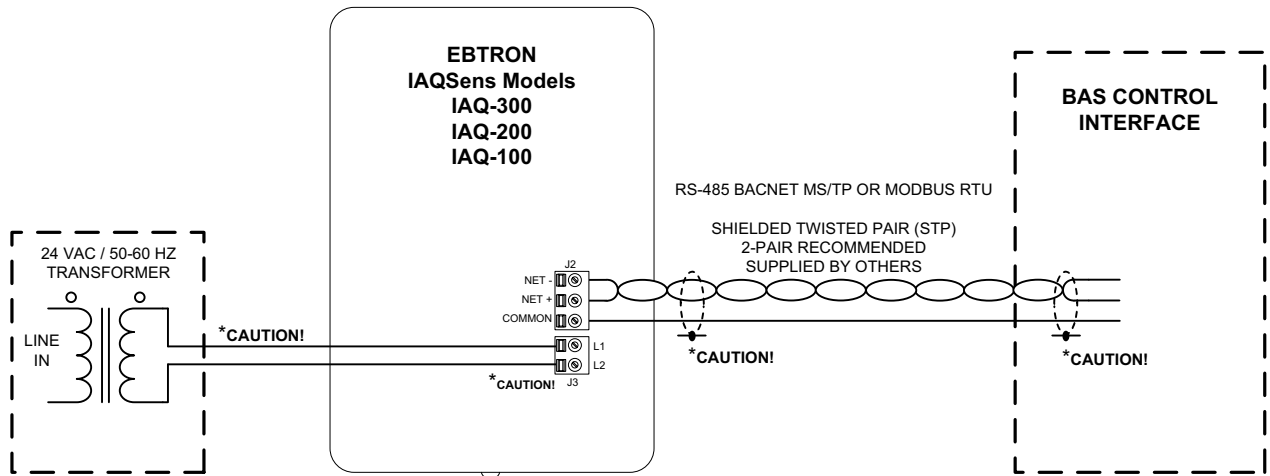
### Environmental Limits

Operating Temperature: 32° F to 122° F (0° C to 50° C)  
 Moisture: 0 to 95% RH, noncondensing

### Limited Warranty

36 months from shipment - refer to EBTRON Standard Terms and Conditions of Sale" for complete information.

**IAQ-200-N TYPICAL WIRING DIAGRAM**

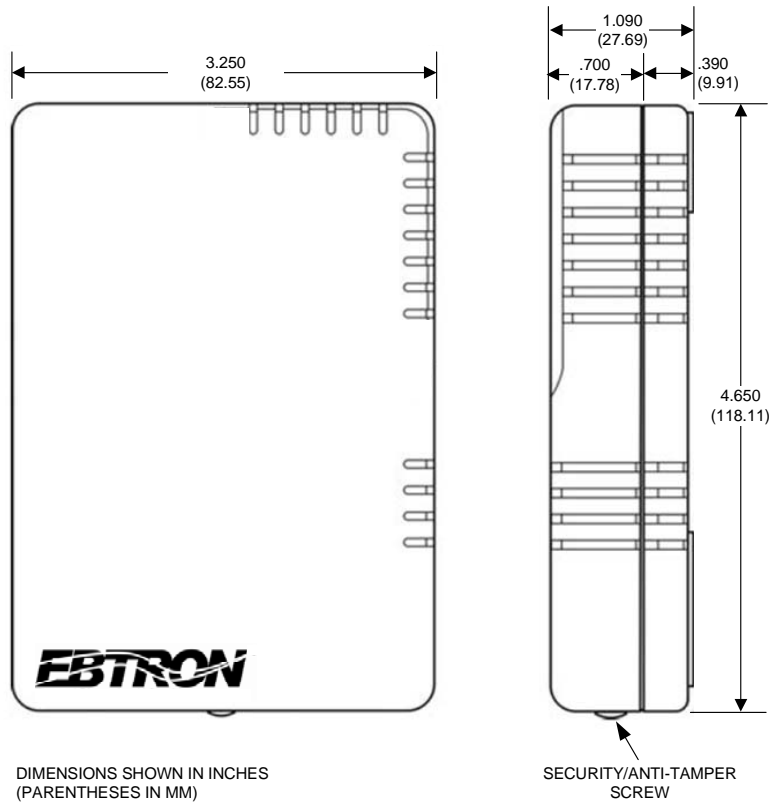


**\* CAUTION!**

When multiple devices are powered from a common 24VAC power source, ensure that all devices are wired in phase with 24VAC power at L1, and 24VAC return at L2! Damage will occur to the IAQSens device and/or other devices if this caution is not observed.

On RS-485 networks that are ground referenced to earth, IAQSens terminal L2 may also be connected to a wire ground referenced to earth. However, on RS-485 networks that are not ground referenced to earth, terminal L2 must not be connected to a wire ground referenced to earth. Damage may occur to the IAQSens or other network devices if this caution is not observed.

**IAQ-200-N DIMENSIONS**



DIMENSIONS SHOWN IN INCHES  
(PARENTHESES IN MM)

SECURITY/ANTI-TAMPER  
SCREW