

WALL-MOUNTED RS-485 COMBINATION SENSOR WITH CO₂, TEMPERATURE AND RELATIVE HUMIDITY CAPABILITY



PRODUCT HIGHLIGHTS

- Up to 3 sensors in one package
- Telaire NDIR CO₂ sensor
- Self-calibrating ABC logic circuitry for CO₂ measurement
- Planar capacitive polymer RH sensor
- Integral bandgap PTAT temp. sensor
- Accurate measurement
- Reliable design
- RS-485 BACnet/Modbus connection
- BTL listed
- Attractive wall-mount enclosure
- One-year warranty
- Toll-free customer support for the lifetime of the product

TYPICAL APPLICATIONS

- Room CO₂, relative humidity and temperature monitoring
- CO₂ Demand Control Ventilation (DCV)
- CO₂/airflow population estimation DCV when an air-flow monitoring device is provided

MODEL DESCRIPTION

The IAQSENS family of wall mounted devices simplifies wiring and installation by providing up to three sensors over a single RS-485 connection. The device is available as a stand-alone CO₂ sensor, dual output RH/Temperature sensor or a combination of all three.

IAQ-Ny00-W TECHNICAL SPECIFICATIONS

General

Sensor Configurations

CO₂ only - IAQ-N100-W

RH and Temperature only - IAQ-N200-W

CO₂, RH and Temperature - IAQ-N300-W

Listings and Compliance

BACnet International: BTL Listed

FCC: This device complies with Part 15 of the FCC rules

RoHS: This device is RoHS2 compliant

Environmental Limits (Recommended)

Temperature: 32 to 122 °F [0 to 50 °C]

Humidity: 5 to 95%

Sensors

CO₂ Sensor

Technology: Telaire 6613 Non Dispersive Infrared (NDIR)

Range: 0 to 2,000 ppm

Accuracy:

400 to 1,250 ppm ±30 ppm or 3% of reading, whichever is greater

1,250 to 2,000 ppm ±30 ppm

Temperature Dependence: 0.36% FS/°F [0.2% FS/°C]

Stability: <2% of FS over life of sensor (15 year typical)

Calibration Interval: Not required

Response Time: <2 minutes for 90% step change typical

Temperature Sensor

Technology: Integral Bandgap PTAT

Range: 32 to 122 °F [0 to 50 °C]

Accuracy: ±1.08 °F [0.6 °C] @77 °F [25 °C]

Resolution: 0.36 °F [0.2 °C]

Relative Humidity Sensor

Technology: Planar Capacitive Polymer

Range: 0 to 100% RH

Accuracy:

±3% <20% RH

±2% 20% to 80% RH

±3% >80% RH

Resolution: 0.4% RH

Integral Transmitter

Power Requirement: 24 VAC (22.8 to 26.4 under load) @1.5V-A

User Interface: DIP switch

B.A.S. Connectivity Options

IAQ-N100, IAQ-N200, IAQ-N300 Transmitters: One field selectable (BACnet MS/TP or Modbus RTU) and non-isolated RS-485 network connection (provide individual 24 VAC transformers at each IAQ-Ny00 for applications requiring isolated RS-485)

Supported Baud Rates: 9.6, 19.2, 38.4 and 76.8 kbaud

System Status Alarm

Type: Sensor diagnostic system trouble indication

Visual Indication: Yes, LED indication

Network Indication: Yes

Enclosure

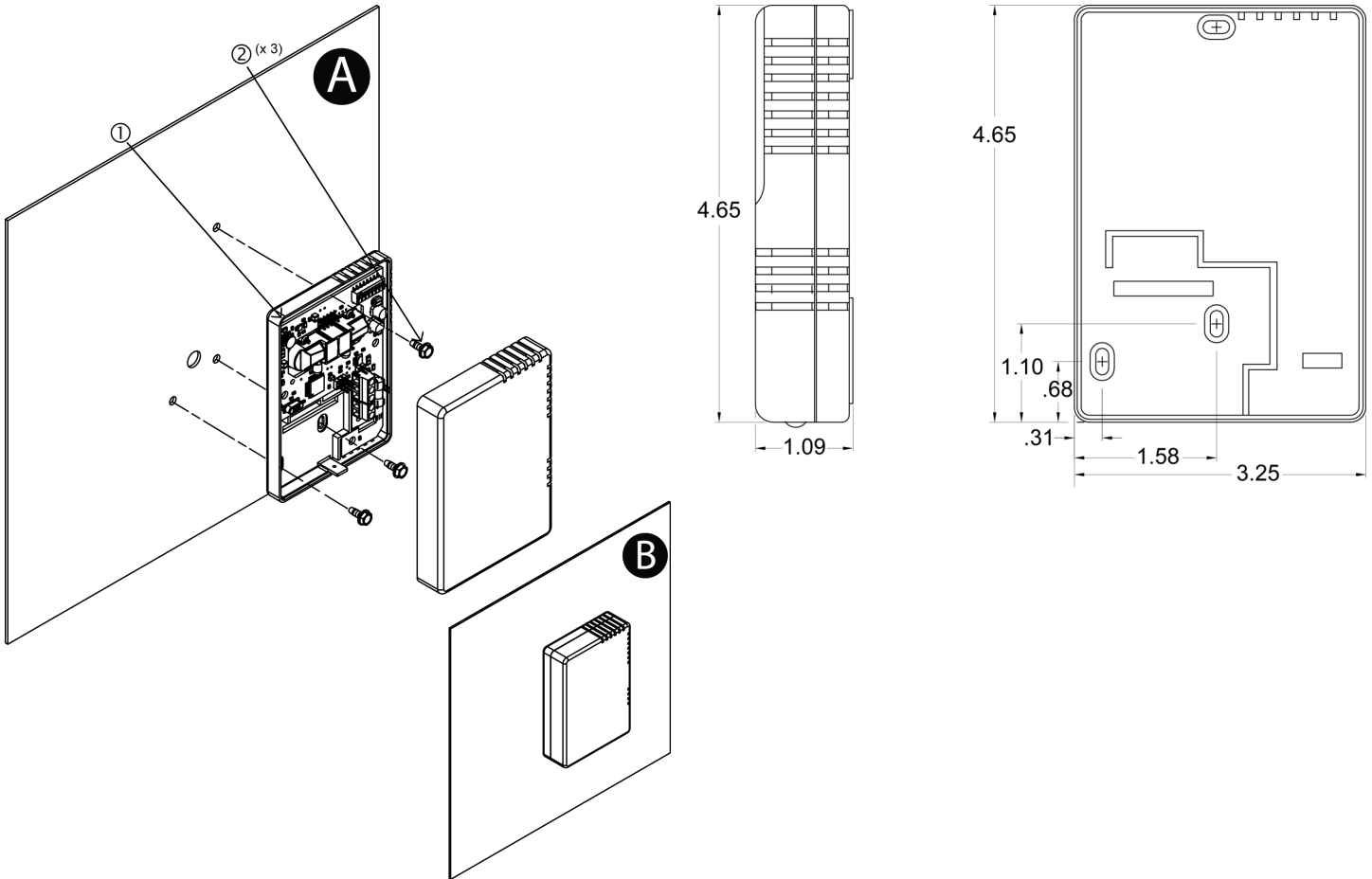
Dimensions: 4.56H x 3.25W x 1.09D in. [115.8 x 82.6 x 27.7 mm]

IAQ-Ny00-W INSTALLATION AND WIRING

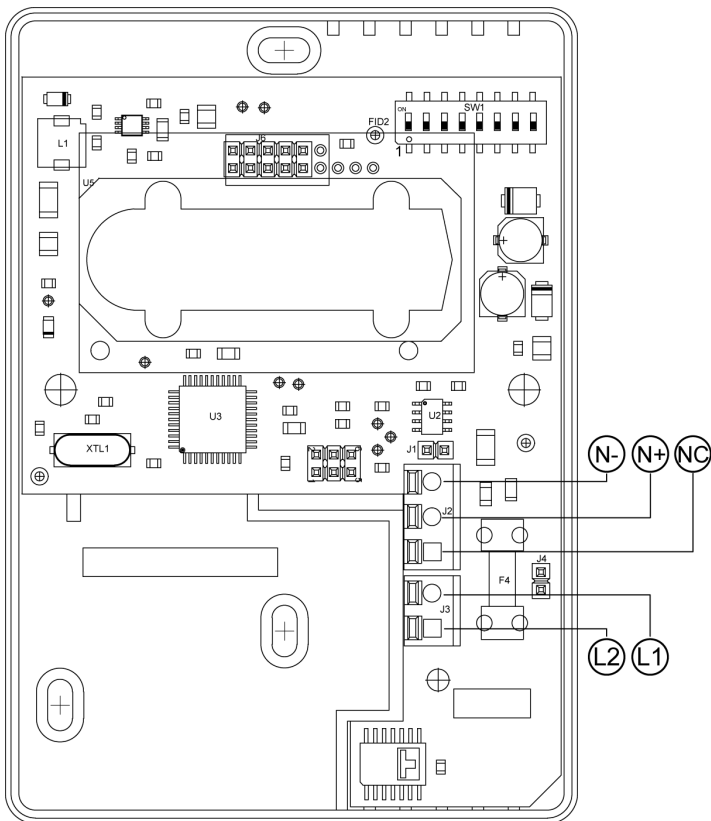
Detailed installation and wiring instructions are provided in the IAQ-Ny00-W Installation Guide.

Mounting Diagram and Dimensions

IAQ-Ny00-W Installation



IAQ-Ny00-W - Wiring Connections



IAQ-Ny00 CONNECTIONS

Power		RS-485 (non-isolated)		
L1	L2	N+	N-	NC
24 VAC (hot)	24 VAC (neutral)	Network +	Network -	Network Common

Use a 3-conductor network cable meeting the corresponding BACnet or Modbus standards. Ensure that all three connections, N+, N- and NC are connected.

- i* Refer to the IAQ-Ny00-W Installation Guide for information regarding network configuration, BACnet objects, and Modbus registers.
- i* The IAQ-Ny00-W is preconfigured for BACnet MS/TP. Consult the IAQ-Ny00-W Installation Guide to change the output to Modbus RTU network protocol.
- ⚠** If a 2-conductor network cable or other non-conforming cable is used, network speed, length and reliability may be compromised or network failure may occur.
- i* If the IAQ-Ny00-W is the first or last device on the network run, place the shunt jumper across the J1 posts.

STARTUP

Detailed startup instructions are provided in the IAQ-Ny00-W Installation Guide.

QUOTATIONS AND ORDERING

Use the model code below to request a quote or place an order. Quotations and orders are provided by your local EBTRON representative.

IAQ -N 0 0 -W

└── Sensor Options

1 = CO₂ Only, 2 = Relative Humidity and Temperature, 3 = CO₂, Relative Humidity, and Temperature