

Hybrid Series Thermal Dispersion Airflow/Temperature Measurement Device Technology



APPLICATIONS

- Maximize ERV system efficiency by accurately measuring and controlling OA intake (supply) and ERV exhaust airflow.
- Key component in strategy to acquire **LEED[®] Energy and Atmosphere** and **Indoor Environmental Quality** Credits.
- Highly accurate airflow/temperature measurement in ERV enthalpy wheel systems for improved temperature control and energy efficiency.
- Accuracy from zero flow through 2,000 fpm (10.16 m/s) is ideal for the low face velocities common in ERV enthalpy wheel systems.

HTA104-E OVERVIEW

The Hybrid series model HTA104-E advanced thermal dispersion airflow measurement device combines features of **EBTRON's** top of the line Gold Series and economical Silver Series products with innovative new features. The HTA104-E is designed for precise measurement and control of airflow/temperature from zero flow through 2,000 fpm (10.16 m/s) to maximize energy savings while improving indoor air quality in ERV enthalpy systems. The ATMD includes the HTA104 industrial grade integrated Hybrid transmitter with independent field-configurable airflow analog outputs of 0-5 VDC, 0-10 VDC and 4-20 mA for communication with virtually all modern building automation systems (BAS).

SYSTEM FEATURES

- **EBTRON** Advanced Thermal Dispersion (TD) technology ensures accurate, repeatable airflow measurement from zero flow (still air).
- Proprietary sensor design factory calibrated to **NIST-traceable standards** to ensure accuracy.
- Versatile mounting bracket for application in a wide range of ERV enthalpy wheel systems.

HYBRID SERIES
DATA SHEET

HTA104-E SPECIFICATIONS

System

Calibrated Airflow Range: .0 to 2,000 fpm [10.16 m/s] with field adjustable output for custom ERV applications
 Operating Temperature:Probe: -20 to 160 °F [-28.9 °C to 71.1 °C]
Transmitter: -20 to 120 °F [-28.9 °C to 48.9 °C]
 Operating Humidity Range: .0 to 99% non-condensing; Transmitter must be protected from exposure to precipitation
 Power Requirements:24 VAC (22.8-26.4 VAC) at 8 VA (maximum)

Sensor Probes

Probe Construction:Type 6063 aluminum alloy
 Mounting Brackets:Type 5052 aluminum alloy
 Probe Dimensions:Alum: 0.75 in [19.05 mm] diameter
 Standard Size:8 in (203.2 mm)
 Probes / Sensing Nodes: . . .2 probes/4 sensing nodes maximum
 Factory Calibrated Sensor
 Accuracy: Airflow:±3% of reading typical (4% max)
 Temperature:± 0.15 °F [± 0.08 °C]
 Probe/Transmitter Cable: . .10 ft. [3.05 m] plenum rated PVC cable with circular DIN plug (Optional cable length of up to 50 feet [15.24m])

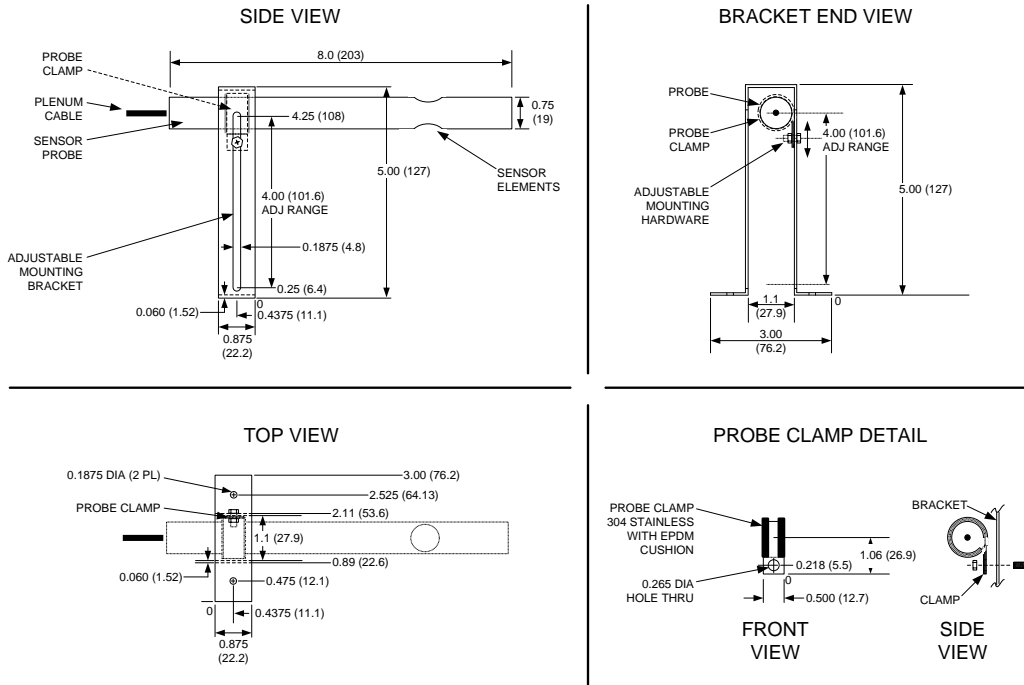
Transmitter and Enclosure

Transmitter Construction: . .Heavy duty with industrial grade IC's and rugged aluminum chassis with sliding cover
 Transmitter Dimensions: . . .6.475 x 5.750 x 2.000 in (HxWxD) [164.47 x 146.05 x 50.8 mm]
 Transmitter Mounting:Four 0.188 in [4.76 mm] dia mounting holes at 0.375 in from top/bottom and from left/right edges on integral mounting plate

Output Interface

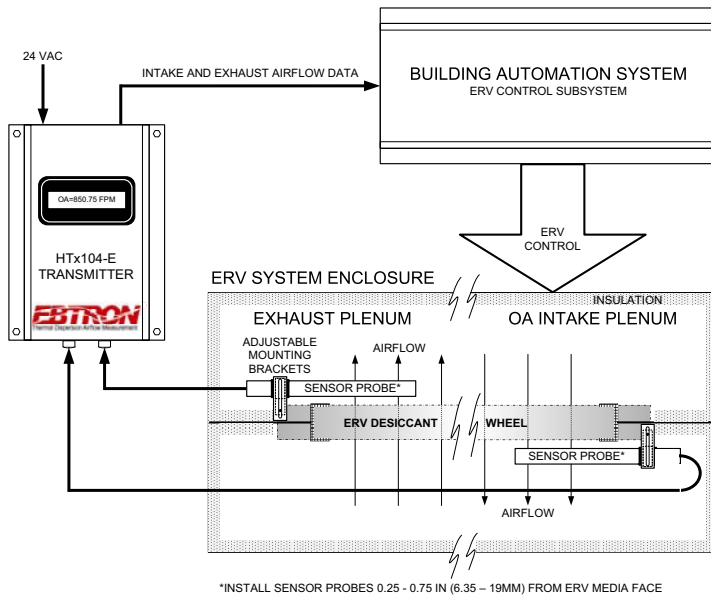
Analog Output:Isolated analog 0-5VDC, 0-10 VDC or 4-20 mA linear airflow
 Output Resolution:0.025% of full scale
 Repeatability:0.25% of reading
 Airflow Signal Adjustment: .Field adjustable offset/gain (via push-button interface)
 Airflow Output Signal Filter: .0 to 99% (via push-button interface)
 Airflow Low Limit Cutoff: . . .Forces output to zero below a user-specified value

HE1 ERV PROBE AND UNIVERSAL BRACKET DIMENSIONS

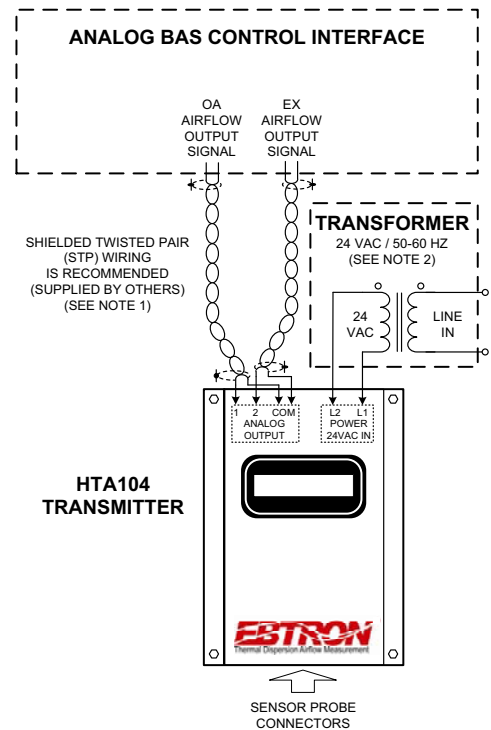


NOTES:
1. DIMENSIONS IN INCHES (MILLIMETERS).
2. TO VIEW ENLARGED DETAIL, VISIT www.EBTRON.com.

TYPICAL HTx104-E APPLICATION



TYPICAL WIRING DIAGRAM



NOTES:
1. CONNECT OUTPUT SIGNAL CABLE DRAINS TO EARTH GROUND AT ONE END OF EACH CABLE ONLY.
2. ON MULTIPLE HTA104 TRANSMITTER INSTALLATIONS WITH A COMMON 24VAC SOURCE, ENSURE THAT 24 VAC POWER TO ALL TRANSMITTERS IS WIRED IN-PHASE TO THE SAME TERMINALS (e.g.: L1 to L1, L2 to L2).

TS-HTA104E-R1B