EBTRON®
Thermal Dispersion Airflow Measurement

Model HTA104-T

Technical Data Sheet
Analog Output for Small Ducts and Terminal VAV Boxes

Hybrid Series Thermal Dispersion Airflow/Temperature Measurement Device (ATMD)

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APPLICATIONS

- Combine with occupancy sensing and direct OA measurement for continuous reset of intake flow rates and true demand controlled ventilation compliance with **ASHRAE 62.1, 189.1, International Mechanical Code Chapter 4** and acquisition of **LEED® Energy and Atmosphere** and **Indoor Environmental Quality** Credits.
- High accuracy airflow measurement in terminal boxes and small ducts for improved temperature control and energy efficiency.
- Ideal for OA measurement/control on dedicated multi-zone/floor OA systems and in small duct systems for volumetric flow tracking and pressure control.

HTA104-T OVERVIEW

The Hybrid series model HTA104-T 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-T is designed to replace less accurate pneumatic devices for precise measurement and control of airflow/temperature in challenging small duct and terminal box VAV applications requiring accuracy without field adjustment. A Field Calibration Wizard feature permits simple one or two point field adjustment to factory calibration if required. The ATMD includes the HTA104 industrial grade integrated Hybrid transmitter with independent field-configurable airflow and temperature 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 in small duct and VAV boxes.
- An innovative Field Calibration Wizard allows for simple one or two point field adjustment to factory calibration if required.
- Versatile mounting bracket for installation in duct/plenum and VAV Box applications.

HYBRID SERIES *DATA SHEET*

HTA104-T SPECIFICATIONS

System

Calibrated Range: . . . . . .0 to 3,000 fpm [15.24 m/s]
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)

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 left/right edges on integral mounting plate

Sensor Probes

Probe Construction: . . . . . .Type 6063 aluminum alloy or Type 316 stainless steel (SS) optional
Mounting Brackets: . . . . . .Type 5052 aluminum
Probe Dimensions: . . . . . .0.75 in [19.05 mm] diameter
Standard Size Ranges: . . . .4 to 16 in (101.6 to 3048 mm)
Maximum Quantity
Sensing Points per probe: . .1 per probe on 4 inch probes; 2 per probe from 5 to 16 inches
Max. Probes per Transmitter:
4 inch Probes: . . . . . .4 Probes per Type C Transmitter
1 Probe per Type A Transmitter
5 to 16 inch Probes . . . .2 Probes per Type B Transmitter
1 Probe per Type A Transmitter

Probe/Transmitter Cable: . .10 ft. [3.05 m] plenum rated FEP coated cable with circular DIN plug (Optional length to 50 feet [15.24m])

Output Interface

Analog Output: . . . . . .Isolated 0-10VDC/0-5VDC or 4-20 mA
Output Resolution: . . . . . .0-10VDC: 0.010% of full scale
0-5VDC: 0.020% of full scale
Repeatability: . . . . . .0.25% of reading
Field Calibration Wizard: . . .1 or 2 point adj. to factory calibration
Airflow Output Signal Filter: .0 to 99% (via push-button interface)
Airflow Low Limit Cutoff: . . .Forces output to zero below a user-specified value

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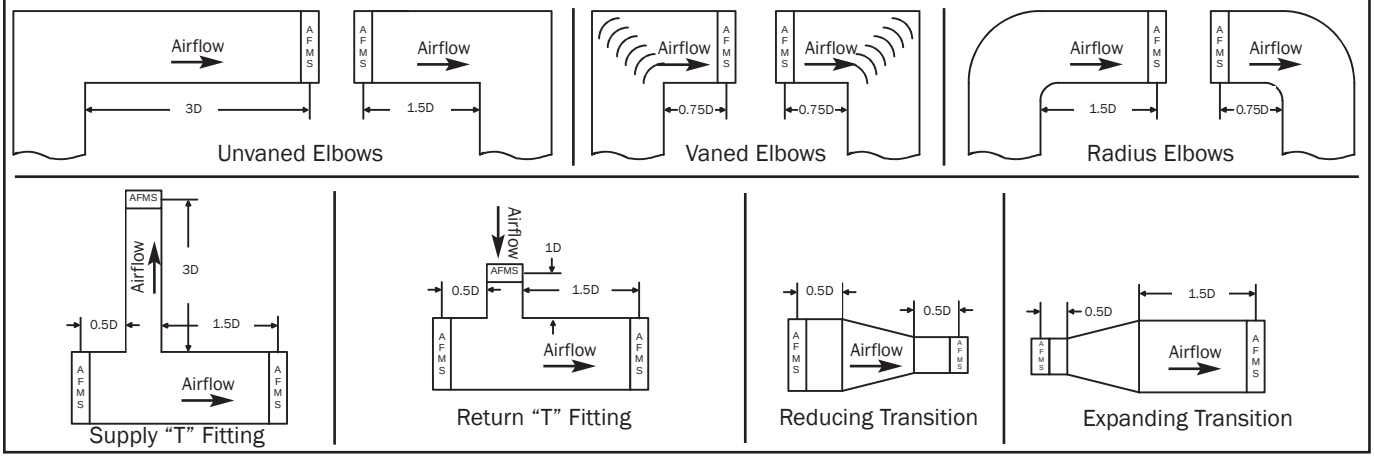
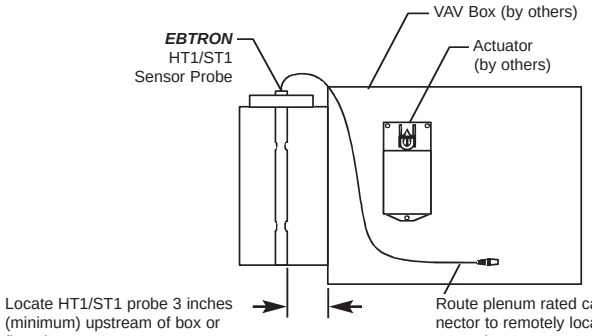
HYBRID T-PROBE DUCT PLACEMENT GUIDELINES

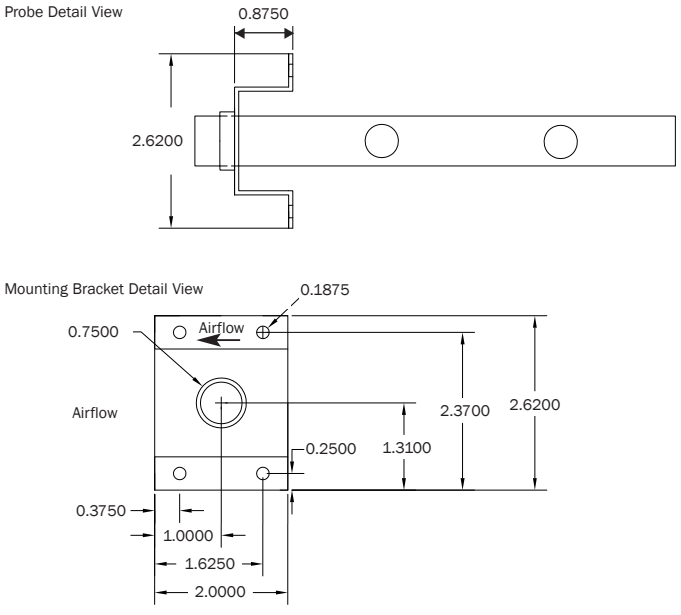


Minimum placement is shown in multiples of Simple Equivalent Duct Diameter ***D,*** *where* ***D*** = (duct width + height)/2.
Consult ***EBTRON*** for applications not indicated in the diagrams above.
See diagram below for mounting in VAV box collars.

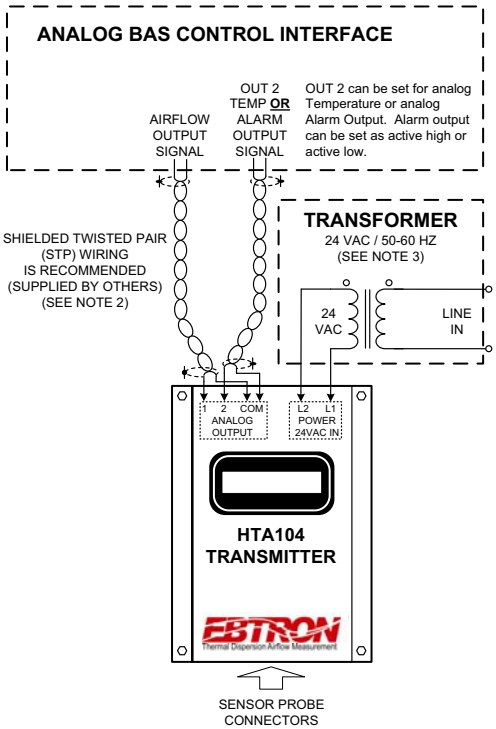
HYBRID T-PROBE VAV BOX INSTALLATION



'T' PROBE DIMENSIONS



TYPICAL WIRING DIAGRAM



NOTES:
1. OUTPUT 2 CAN BE SET AS TEMPERATURE OR AS AN ALARM. ALARM CAN BE SET AS ACTIVE HIGH OR ACTIVE LOW.
2. CONNECT OUTPUT SIGNAL CABLE DRAINS TO EARTH GROUND AT ONE END OF EACH CABLE ONLY.
3. ON MULTIPLE TRANSMITTER INSTALLATIONS WITH A COMMON 24VAC SOURCE, WIRE 24 VAC POWER IN-PHASE TO THE SAME TERMINALS ON ALL TRANSMITTERS (e.g.: L1 to L1, L2 to L2).

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