ELECTRA-flo SD Series

THERMAL AIRFLOW MEASUREMENT SYSTEM

The ELECTRA-flo/SD Series uses the ELECTRA-flo state-of-the-art technology for small duct applications from 4" to 16". This can be ideal for direct VAV control in critical space applications.

We believe in our products, so should you.
1 YEAR NO FAULT WARRANTY
3 YEAR MANUFACTURER WARRANTY

FACTORY CONFIGURED

ON TIME DELIVERY

BEST CUSTOMER SERVICE

Multiple pairs of surface mounted precision thermistors utilize the principle of thermal dispersion to accurately measure both average flow velocity and air temperature within the duct.

DESCRIPTION

Air Monitor's ELECTRA-flo/SD is an accurate, cost effective thermal airflow and temperature measurement system designed for applications in small ducts ranging in size from 4" to 16" in diameter. The ELECTRA-flo/SD provides a calibrated output with an accuracy of ±3% of airflow reading from 0-3000 FPM and a temperature measurement accuracy of ±0.15˚F.

To maximize application flexibility, the ELECTRA-flo/SD transmitter has four different user selectable flow velocity ranges and four user selectable flow filter settings. Flow can be reported in ft/min (FPM) or as the equivalent velocity pressure (inches of w.c.). The ELECTRA-flo/SD may be ordered with dual analog outputs for flow and temperature or with an RS485 output for BACnet® MS/TP or MODBUS® RTU.

APPLICATIONS

- Accurate, cost effective, low flow measurement for improved control and efficiency in multi-zone VAV systems.
- Allows for energy savings while complying with ASHRAE 62.1 indoor air quality standards.
- Provides analog inputs required for direct VAV control: airflow velocity, CFM or velocity pressure.
- Ideal for remotely monitoring volumetric airflow and temperature of individual spaces.
- Provides real time airflow monitoring of single space supply and exhaust airflow, including fume hoods, in critical space control applications.

CALIBRATION

Individual sensors receive a multi-point, N.I.S.T.* traceable calibration of air velocity and temperature across the entire operating range.

FEATURES

Dual Analog Outputs
Separate analog outputs are provided for flow and temperature. Flow output is field scalable with four different operating ranges.

Multiple Filter Settings
Four different flow filter settings are available to allow for stable measurement, even in difficult applications.

BACnet or MODBUS Communications
When ordered with serial communications, network data points include: velocity, velocity pressure, temperature, and volumetric flow.

Simple Installation and Setup
Simple dip-switches make the ELECTRA-flo/SD easy to set up and install.

N.I.S.T. Traceable Calibration with Certification
Each ELECTRA-flo/SD is individually calibrated for flow and temperature and is provided with a N.I.S.T. calibration certificate.

NEMA 4 Electronics Enclosure
Electronics are protected from outside conditions in a NEMA 4 rated polycarbonate enclosure.

Field configurable flow range scales in FPM or the equivalent velocity pressure in inches of W.C.	
FPM	Inches W.C.
0 - 500	0 - 0.016
0 - 1,000	0 - 0.062
0 - 2,000	0 - 0.249
0 - 3,000	0 - 0.561

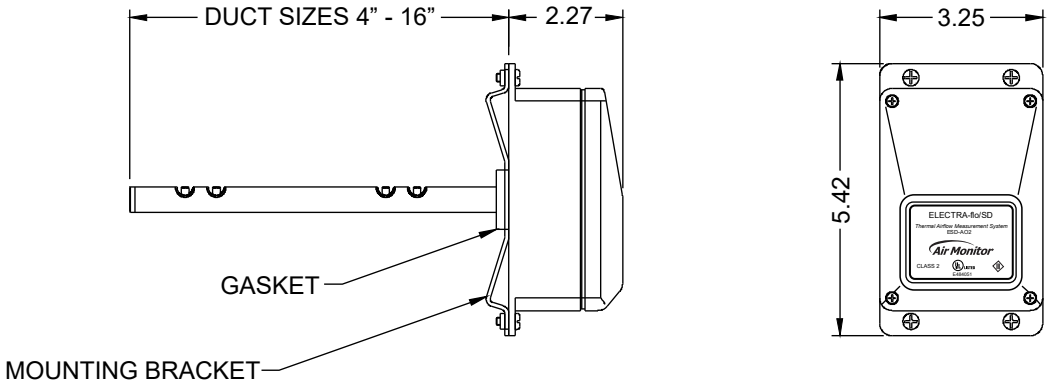
*National Institute of Standards and Technology

SPECIFICATIONS*

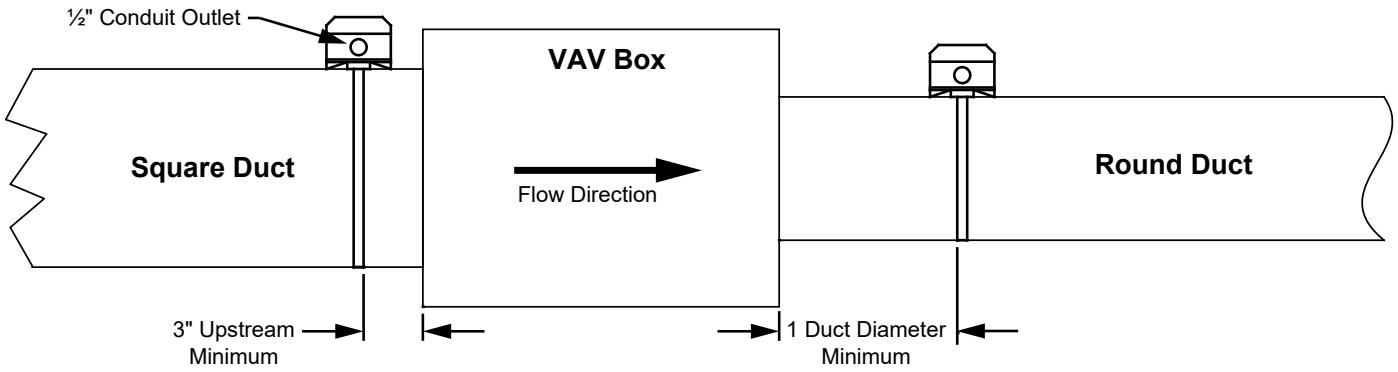
ELECTRA-flo/SD Thermal Dispersion Probe Array		
PERFORMANCE	SYSTEM ACCURACY	±3% of reading
	VELOCITY RANGE	User selectable via DIP switches 0 to 500 FPM 0 to 1000 FPM 0 to 2000 FPM 0 to 3000 FPM
SENSOR DESIGN	Multi-point precision thermal dispersion flow sensors	
	TEMPERATURE ACCURACY	±0.15°F over operating range of -20°F to 140°F
	SENSOR CAPACITY	1 Sensor for 4", 2 sensors for 5" to 16"
SUPPLY VOLTAGE	AUTOMATICALLY SELECTED	• 24 ± 4V AC, 5VA • 20 - 40V DC, 5W
PROBE MATERIALS OF CONSTRUCTION	STANDARD	Type 6063 anodized aluminum ½" diameter tubing
	OPTIONAL	316 stainless steel
OPERATING CONDITIONS	AIRFLOW TEMPERATURE	-20°F to 120°F
	HUMIDITY	0 to 99% RH, non-condensing
WIRING CONNECTIONS	STANDARD	Separate power and signal terminal strips with plug-in connectors
OUTPUT SIGNALS PROVIDED	STANDARD	Isolated dual analog outputs for airflow and temperature configurable to 0-5 VDC, 0-10 VDC or 4-20 mA
	OPTIONAL	RS485 serial communications via BACnet MS/TP or MODBUS RTU
ELECTRONICS ENCLOSURE	STANDARD	NEMA 4 rated injection molded polycarbonate enclosure is UL 94 rated

* SPECIFICATIONS subject to change without notice.

DIMENSIONS



TYPICAL ELECTRA-FLO/SD INSTALLATION



VAV Installation Option 1: Locate ELECTRA-flo/SD a minimum of 3" upstream of the VAV box, or 3" upstream of the pneumatic flow ring (remove the ring).

VAV Installation Option 2: When mounted downstream of the VAV box, position the ELECTRA-flo/SD a minimum of one duct diameter downstream of the VAV box.

Equivalent Duct Diameter X

Rectangular Duct: X = $\frac{2\,(HxW)}{H+W}$ **Circular Duct: X = Duct Diameter**

MODEL SELECTION GUIDE

Model Number Coding = E-flo/SD-ABC-DDEE

A= Output
- 1 = Dual analog output
- 2 = BACnet MS/TP serial communication
- 3 = MODBUS RTU serial communication

B= Configuration
- R = Rectangular
- C = Circular

C= Probe Material
- 1 = 6063 anodized aluminum
- 2 = 316 stainless steel

DD = Nominal Length
- 04 = 4" nominal length
- 05 = 5" nominal length
- 06 = 6" nominal length
- 07 = 7" nominal length
- 08 = 8" nominal length
- 09 = 9" nominal length
- 10 = 10" nominal length
- 12 = 12" nominal length
- 14 = 14" nominal length
- 16 = 16" nominal length

EE = Extended Length
- 00 = Standard
- 02 = Extended Length

Air Monitor
Precision Airflow Measurement
An ONICON Brand

11451 Belcher Road South, Largo, FL 33773 • USA • Tel +1 (727) 447-6140
www.airmonitor.com/hvac/ • hvacsales@airmonitor.com