

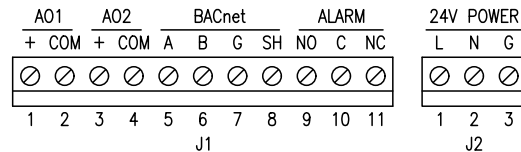
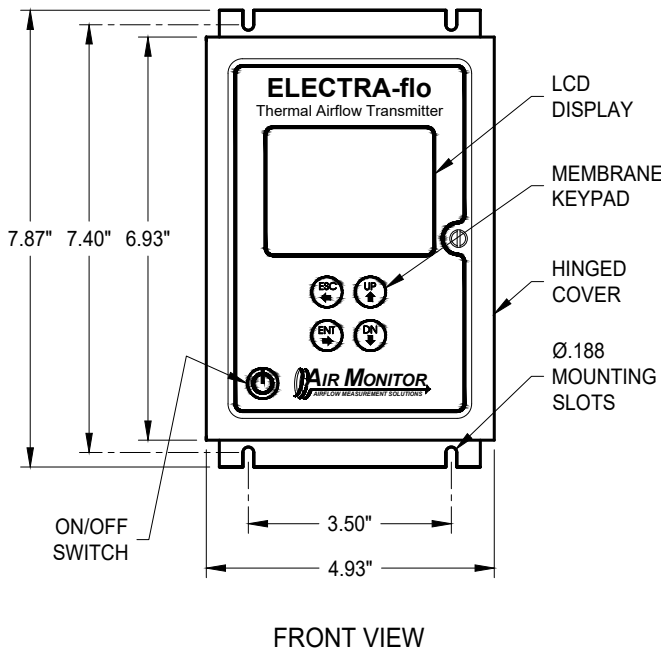
# ELECTRA-flo G5 TRANSMITTER (Version 2.4)

## THERMAL AIRFLOW MEASURING SYSTEM

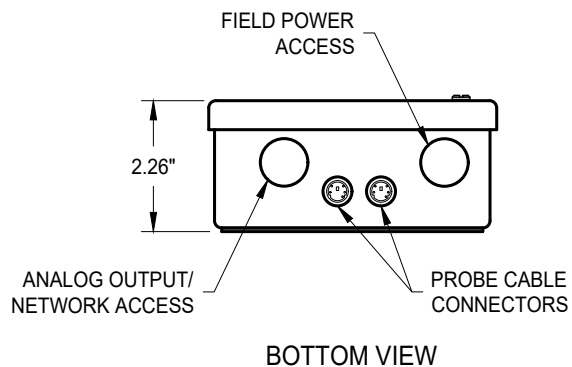
### STANDARD CONSTRUCTION

<b>Maximum Number of Sensors:</b>	32 per probe array or measuring station.
<b>Display:</b>	Backlit, 1/4 VGA (320 x 240), color TFT LCD. 2.75" x 2.0" display size.
<b>Configuration Access:</b>	Field programmable, menu driven user interface accessed via four button keypad. Field selectable in U.S. or S.I. units for velocity / flow and temperature. Password protected.
<b>Power Supply:</b>	24VAC (20-28VAC) or 24VDC (20-40VDC), isolated and fused with reverse polarity protection.
<b>Power Consumption:</b>	16 to 90VA, based on the quantity (1 to 32) of sensors in the probe array or station.
<b>Outputs:</b>	Dual analog outputs, field selectable via menu for 0-5VDC, 0-10VDC, or 4-20mA. Single alarm output, field programmable.
<b>Analog Output Scaling:</b>	Field programmable analog output scaling of airflow velocity and temperature. Velocity range for ducted applications: 0 to 4000 FPM for ELECTRA-flo/CM; 0 to 5000 FPM for Probe Arrays. Temperature range: 0 to 140°F.
<b>Analog Output Resolution:</b>	0.02%
<b>Analog Output Filtering:</b>	Field programmable over 10:1 range.
<b>Network Output Communication:</b>	BACnet® or Modbus®.
<b>Humidity Limits:</b>	0 to 99% RH, non-condensing.
<b>Temperature Limits:</b>	-20°F to 180°F Storage; -20°F to 140°F Operating.
<b>Electrical Connections:</b>	Terminal strips with plug-in connectors for field wiring. Probe to transmitter connection via shielded plenum rated cable with mini-DIN Snap & Lock connector.
<b>Enclosure:</b>	NEMA 1 aluminum with hinged cover.
<b>Approvals:</b>	UL 60730 pending; BTL pending; FCC Part 15 Subpart B, Class A Device.

### DIMENSIONAL INFORMATION



TERMINALS (Located Inside Enclosure)



# ELECTRA-flo PROBE & G5 TRANSMITTER

## CONSTRUCTION OPTIONS

### THERMAL AIRFLOW MEASURING SYSTEM

**Probe**

- Standard - Type 6063 Anodized Extruded Aluminum
- Type 316 Stainless Steel

**Probe Connection Box**

- Standard - Aluminum, NEMA 1
- Polycarbonate, NEMA 4X
- Stainless Steel, NEMA 4X

**Transmitter Enclosure**

- Standard - Aluminum, NEMA 1
- Fiberglass, NEMA 4X, with Clear Lid
- Stainless Steel, NEMA 4X
- Stainless Steel, NEMA 4X, with Window

**Transmitter Cable**

- Standard - 10'     25'     50'     100'

**Cable Connections**

- Standard - Cable with mini-DIN Connectors
- Liquid Tight Cordgrips
- Liquid Tight Flexible Conduit Fittings

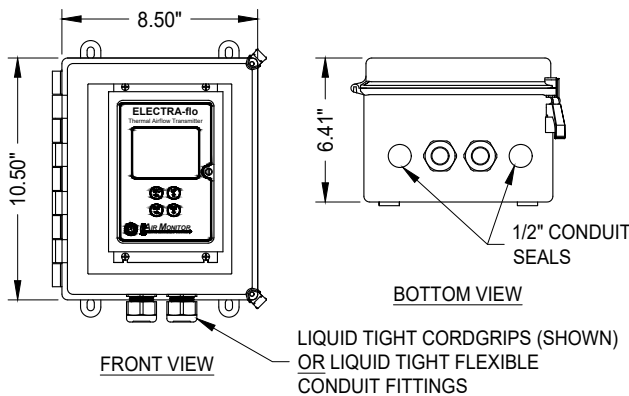
**Network Communications**

- BACnet®     Modbus®

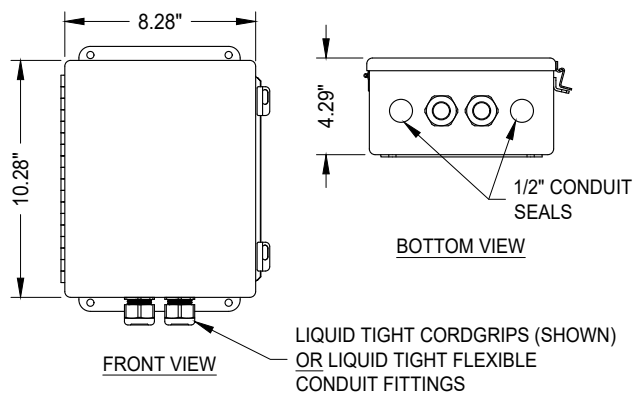
**Transmitter Mounting**

- Standard - Remote
- On ELECTRA-flo Station

**G5 TRANSMITTER ENCLOSURE OPTIONS**

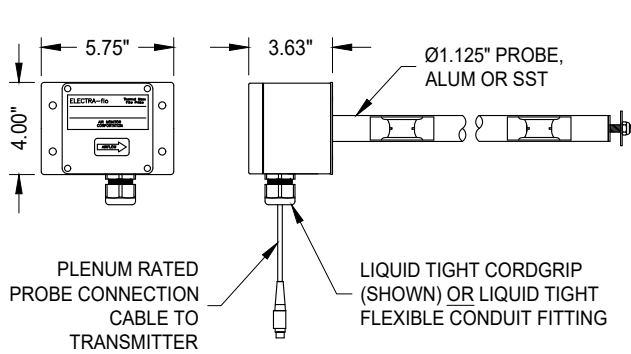


**NEMA 4X - FIBERGLASS**

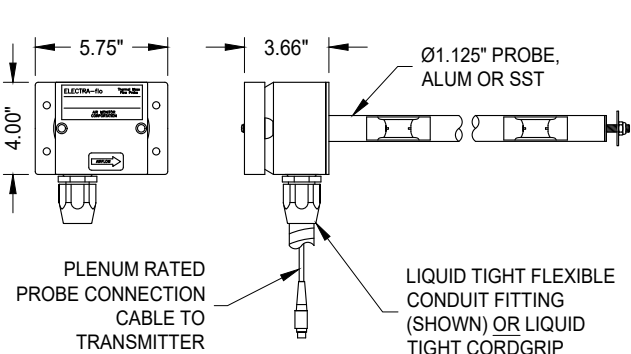


**NEMA 4X - STAINLESS STEEL**

**PROBE CONNECTION BOX OPTIONS**



**NEMA 4X - POLYCARBONATE**



**NEMA 4X - STAINLESS STEEL**

# VOLU-trol/E STATION

## WITH OPPOSED BLADE DAMPER

### THERMAL AIRFLOW MEASURING SYSTEM

**STANDARD CONSTRUCTION**

<b>Casing:</b>	14 ga. galvanized sheet metal, intermittently welded, sealed with metal caulking.
<b>Flanges:</b>	1-1/2" wide, 90° formed flanges.
<b>Probe:</b>	Type 6063 anodized extruded aluminum. 1-1/8" diameter.
<b>Sensor Housing:</b>	Injection molded polycarbonate.
<b>Sensor Type:</b>	Hermetically sealed, precision matched thermistors with laser trimmed resistive heating element mounted in flow conditioning aperture.
<b>Sensor Signal Processing:</b>	Microprocessor with 12 bit A/D conversion for each sensor node.
<b>Probe Mounting:</b>	Externally mounted via 4" x 4" aluminum plate, with closed cell neoprene gasket.
<b>Probe to Probe Connection:</b>	Integral plenum rated cable with mini-DIN Snap & Lock connector for signal and power. Multiple probe array connected serially in daisy chained configuration.
<b>Station to Transmitter Connection:</b>	Integral plenum rated cable with mini-DIN Snap & Lock connector. Standard length 10'.
<b>Sensor Density:</b>	ELECTRA-flo Probe Array Level 1.
<b>Damper Blades:</b>	14 ga. galvanized sheet metal, triple V-groove, opposed blade, running parallel to the long dimension.
<b>Damper Bearings:</b>	Bronze.
<b>Damper Linkage:</b>	Mechanical linkage, 12 ga. galvanized sheet metal.

**PERFORMANCE SPECIFICATIONS**

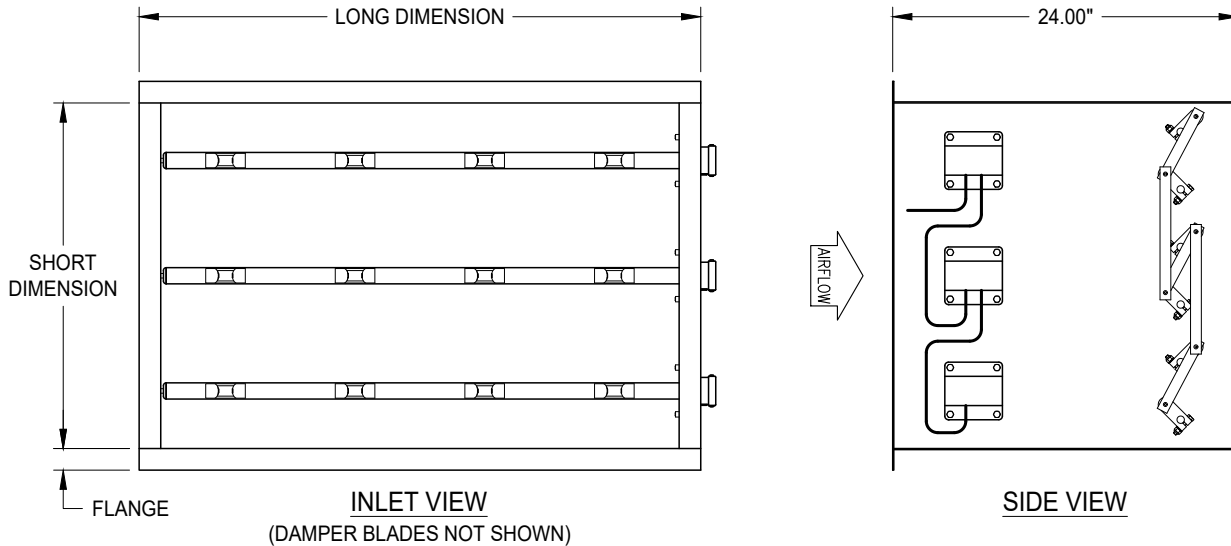
<b>Individual Sensor Accuracy:</b>	±2% of reading
<b>Station Accuracy:</b>	±2 to 3% of flow when installed per recommended minimum installation requirements
<b>Sensor Temperature Accuracy:</b>	±0.1 °F
<b>Qty. Calibration Points per Sensor:</b>	6
<b>Velocity Calibration Range:</b>	0 to 5000 FPM
<b>Operating Temperature:</b>	-20 °F to 140 °F
<b>Operating Humidity:</b>	0 to 99% RH, non-condensing

NOTE: Damper construction is without blade and jamb seals, therefore, it is NOT intended for low-leakage or tight shut-off (isolation) applications.

**OPTIONAL CONSTRUCTION**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Probes mounted on the long side. | <input type="checkbox"/> Engraved identification tag. | Station to Transmitter Cable Length:<br><input type="checkbox"/> 25' <input type="checkbox"/> 50' <input type="checkbox"/> 100' |
| <input type="checkbox"/> Damper shaft on the long side.   | <input type="checkbox"/> Factory mounted transmitter. |   |

**DIMENSIONAL SPECIFICATIONS**



# ELECTRA-flo Probe Array - Level 1

## ELECTRA-flo/M Station - Level 1

## ELECTRA-flo/CM Station- Level 2

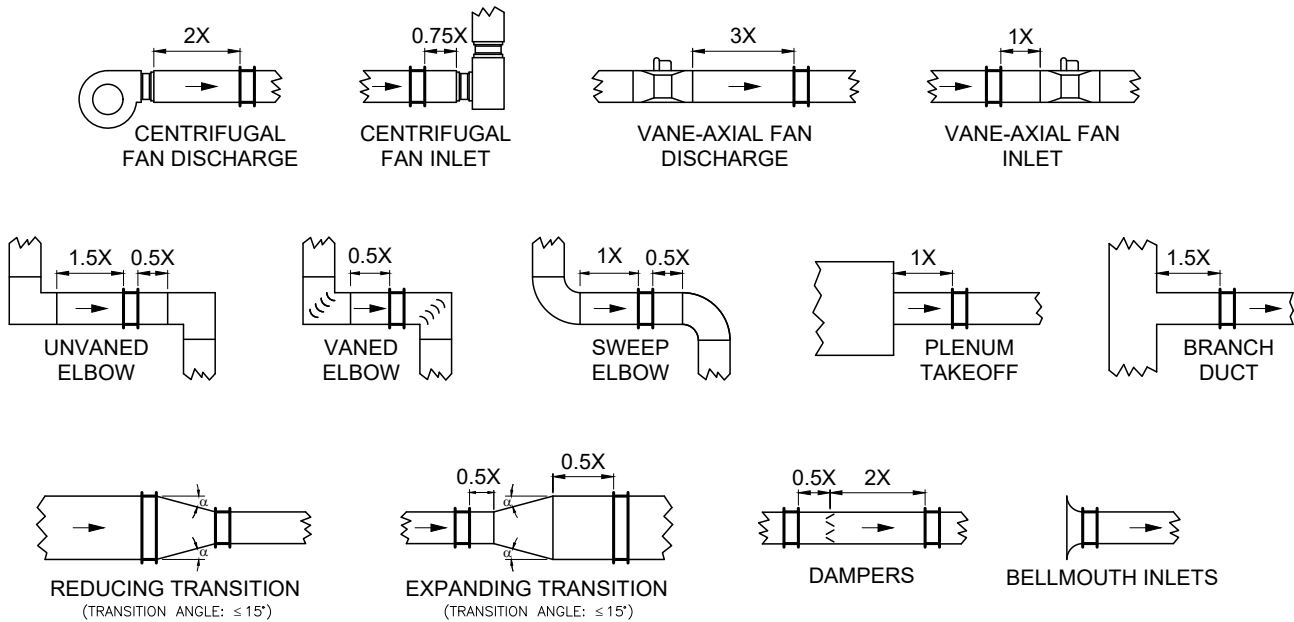
### MINIMUM INSTALLATION REQUIREMENTS

**INSTALLATION CONSIDERATIONS.** Installation factors to be considered when applying the ELECTRA-flo Probe Array-Level 1, ELECTRA-flo/M Station-Level 1 or ELECTRA-flo/CM Station-Level 2 are as follows:

**Turbulent Airflow.** The distance between the airflow disturbance (i.e., fittings, transitions, etc.) and the installed location, as shown below, is the **minimum** requirement for installation to assure accurate airflow measurement. Wherever possible, the ELECTRA-flo Probe Array-Level 1, ELECTRA-flo/M Station-Level 1 or ELECTRA-flo/CM Station-Level 2 should be installed with longer runs of straight duct (or clearances) than shown.

**Airborne Contaminants.** The levels of air filtration and cleanliness associated with commercial HVAC Systems, whether supply/return/exhaust air, are satisfactory for operation of the ELECTRA-flo Probe Array-Level 1, ELECTRA-flo/M Station-Level 1 or ELECTRA-flo/CM Station-Level 2. Applications containing airborne contaminants may require periodic manual cleaning using compressed air and/or physical cleaning.

**Direction of Airflow.** To prevent improper installation, each ELECTRA-flo Probe Array-Level 1, ELECTRA-flo/M Station-Level 1 or ELECTRA-flo/CM Station-Level 2 is marked with an arrow indicating the required direction of airflow.



NOTE: 'X' Distances are to leading or trailing edges for STATIONS (shown), or to centerline for PROBES.

Equivalent Duct Diameter X

Rectangular Duct:  $X = \frac{2(H \times W)}{H + W}$

Circular Duct:  $X = \text{Duct Diameter}$