STEP 4: VERIFICATION

1. After all components have been connected and powered on, wait 5 minutes and verify that everything is showing as connected on the status screen.
2. Do a Total System Scan by navigating to the Service Menu --> Total System Scan.
3. Verify that all probes are enabled and none are missing from the Total System Scan screen.
4. If any probes are missing:
   - Ensure they are properly connected to the G5
   - Unplug the probe cable(s)
   - Power cycle the G5
   - Reconnect the cables and wait 5 minutes (up to 15 minutes total)
   - If issues persist, contact the factor for support.

STEP 5: PROGRAMMING

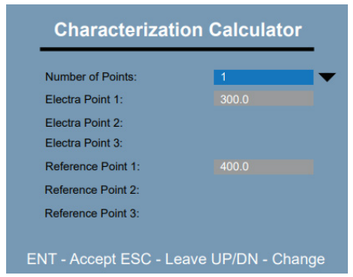
The ELECTRA-flo G5 is equipped with a field characterization (K-factor) feature which allows for the introduction of gain and/or bias factors into the transmitter's flow calculations. This feature is intended to be used in two instances:

I. To adjust for flow measurement error as a result of highly distorted airflow induced by upstream or downstream flow disturbances.
II. To adjust the transmitter's output to bring it into close correlation with field measured flow data.

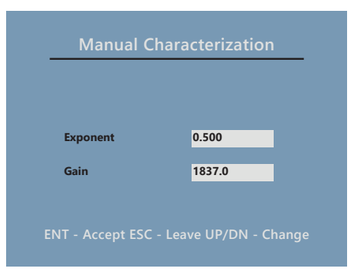
The K-Factor gain and bias values can be entered directly, or the ELECTRA-flo G5 can calculate these values based on measured and reference values from a 1, 2, or 3 point airflow traverse.

For best results, Air Monitor recommends at least 2 flow points be used to characterize the installation, with one flow reading taken in the bottom 1/3 of the operating range. When performing this measurement, it is essential that the velocity measurement be within the operating range of the ELECTRA-flo G5 and airflow sensor. Before airflow traverse readings are taken, temporarily reconfigure the display to show both flow and velocity readings and make sure the airflow velocity does not exceed or go below the airflow sensor cutoff before any airflow traverse readings are taken.

Number of Points
The number of data points (1-3) to be used for field characterization.



3 Point Field Characterization Example - For point 1, enter a flow value that is in the bottom third of the operating range. For point 2, enter a flow value that is in the middle third of the operating range. For point 3, enter a flow value that is in the upper third of the operating range.



If you select the manual option in the field characterization menu, you will be provided with data entry fields for manually entering exponent and gain values. This data will be calculated and provided by the balancer or others.

Visit the ELECTRA-flo 5 Series product page for more information.

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

QUICK START GUIDE

ELECTRA-flo Thermal Airflow Measurement System & Airflow Station

INSTALLATION PROCEDURE

STEP 1: UNPACKING

PACKING LIST
- ELECTRA-flo G5 Transmitter
- ELECTRA-flo SS Probe Array
- Quick Start Guide
- ELECTRA-flo S5 Calibration Report
- Probe Install Hardware (DO NOT DISCARD)

INSPECTION & HANDLING
ELECTRA-flo components should be carefully inspected for damage prior to Installation. Report damage to your freight department or contact the delivery carrier.

WARRANTY
Air Monitor Corporation (Herinafter referred to as "Seller") warrants that at the time of shipment, products sold pursuant to this contract will be free from defects in materials and workmanship, and will conform to the specifications furnished or approved in writing by the Seller. Please refer to Conditions of Sale on the Air Monitor website for more information.

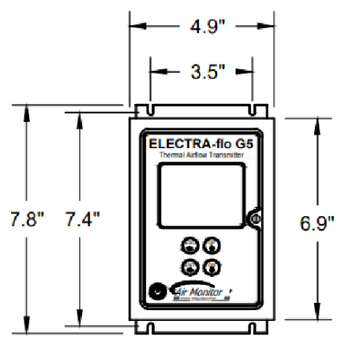
STEP 2: MECHANICAL INSTALLATION

STEP 2.1: TRANSMITTER

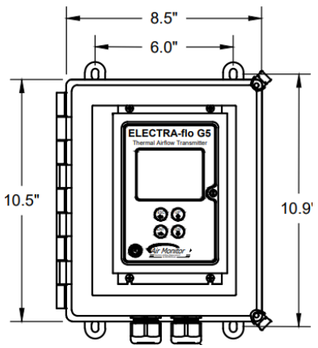
Find an easily accessible location where electrical connections can be made and display readings can be taken from the floor level. The mounting surface must be structurally sound and capable of withstanding a minimum weight of 10lbs (4.5kg). Use the following screws for mounting.

For NEMA 1 Enclosure:
(4) Machine screws - #8-32 x 1.5"
(4) Wood screws - #8 x 1.5"
(4) Concrete screws - 0.1875" x 1.5"

For NEMA 4X Enclosure:
(4) Machine screws - HHMS 0.25-20 x 1.5"
(4) Wood screws - FHLS 0.25 x 1.5"
(4) Concrete screws - HHCS 0.25 x 1.5"



NEMA 1 Enclosure

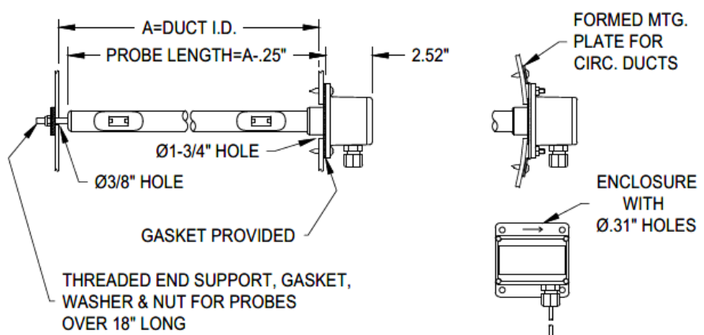


NEMA 4X Enclosure

Install the probe array or flow station per manufacturer recommendations. The transmitter must be installed in a way that will allow the probe-to-transmitter cables from the probe arrays or stations to reach the Mini-DIN receptacles on the bottom of the transmitter. Standard probe-to-transmitter cable lengths are 10' with optional 25', 50' and 100' cables available. Contact Air Monitor for assistance if longer cable lengths are required.

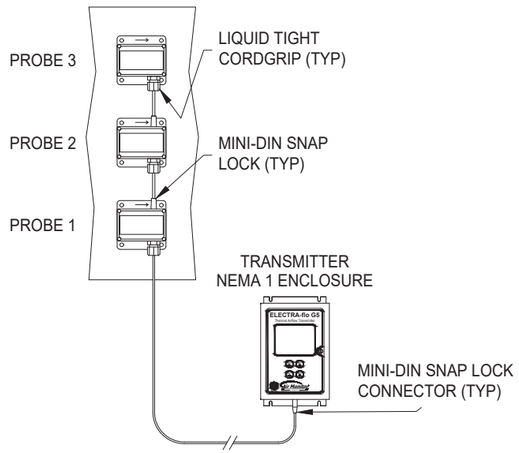
STEP 2.2: PROBE

1. PROBE ARRAY SET UP
   I. All probes for an array are packaged together when shipped from factory. The probes and the transmitter for a particular measurement location can be identified by means of the transmitter S/N on the end of each probe, transmitter package, and the transmitter itself. Transmitters and probes have specific addressing, do not mix different probe arrays or transmitters together. Each probe has an airflow on the electronics enclosure to assist in the correct installation relative to the direction of airflow in the duct. Airflow direction will impact accuracy.



2. EXTERNAL PROBE MOUNTING
   I. Mounting requires a 1¾" hole on one side of the duct and ⅜" hole on the opposite side for the threaded end support (for probe lengths longer than 18").

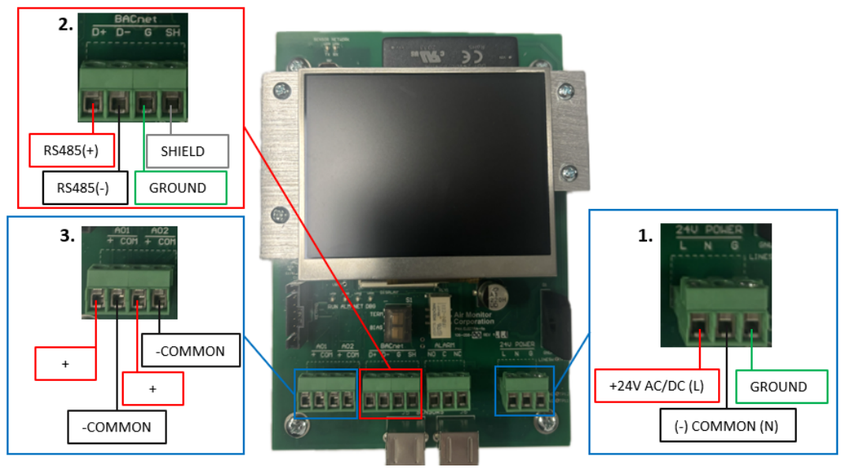
Wiring Connections



**Internally mounted probes will have internally mounted brackets and an externally mounted gland plate. Please refer to installation instructions online.

3. WIRING
   I. All probe-to-probe and probe array-to-transmitter cables are included. All NEMA 1 probes have integral plenum rated cables terminated with positive locking mini-DIN connectors. Multiple externally mounted probes can be connected to each other using a daisy chain method, with the final probe in the chain connecting to the transmitter. See image above. NEMA 4 probes require conduit (Not provided by Air Monitor) please refer to installation instructions online.

STEP 3: ELECTRICAL INSTALLATION



1. POWER
   I. Verify that correct AC/DC voltage is available at the power supply input terminals per its wiring diagram.
   II. Input voltages should be supplied via one of the two methods below:
      • 24 VAC (20-28 VAC)
      • 24 VDC (20-40 VDC)

2. CONNECTING VIA BACNET MS/TP or MODBUS RS485
   I. Power on unit to verify it is functioning properly. After verifying, power down the unit.
   II. Wire RS485 Cables to the unit. Please note the following.:
      • The RS485 network cable connections are polarity sensitive and must be connected the same way on every device (i.e. + to + and - to -).
      • Shield drain connections should be daisy chained in the same manner as the signal cables for RS485. The shield drain wire should be left unterminated at the end of the cable and connected to earth only at the network master controller. Shield wires must not be connected to the RS485 connector on ELECTRA-flo G5.
      • The maximum number of devices allowed on an RS485 network segment without a repeater is 32. Adding more than 32 devices to a single segment may reduce the transceiver output voltage to a level that is too low to be distinguished from back ground noise on the cable.
   III. Connect power to unit.
   IV. Navigate to the ELECTRA-flo G5 network configuration. Select Main Menu→Network Configuration→BACnet or MODBUS.
   V. Configure the device Baud Rates, Device Address Range, Device Instance Range, and Max Master.
   VI. Power cycle the device and it is now ready to connect to the controller or next device in the trunk.

   Note: If connected to an active network, a voltage check of RS485 can be performed by setting a Multimeter to DC and verifying the reading between A- and B+ lead is 0.2 VDC, if not the network connections may need to be investigated.

3. ANALOG OUTPUT
   I. Each analog output channel will use two wires, a signal and common, which will provide the 4-20mA, 0-5V, or 0-10V signal, depending on how the device's analog output settings are configured.
   II. Analog signal should not have power supplied to or it will damage the analog output.

   NOTE: The temperature analog output has a fixed scale of -40°F to 140°F.