

Sierra Series 600 HVAC

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REV. A

Part Number: IM-60-HVAC

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Series 600 HVAC Instruction Manual

The Sierra Model 600 HVAC is a single point mass flow meter. This meter is available in flow ranges of 50-1000 SFPM, 100-2000 SFPM, 150-3000 SFPM, and 200-40000 SFPM. A 4-20 mA output signal is proportional to flow with an accuracy of $\pm 2\%$ of full scale range.

The 600 HVAC Flow Meter is a thermal mass flow meter. The flow sensor is made up of two platinum resistance windings encapsulated in glass. One winding is heated above the ambient air temperature as measured by the second winding. As the flow of gas increases, the power carried away from the heated winding increases. The electronics of the meter measure this power and convert it into a linear 4-20 mA output.

1 INTRODUCTION

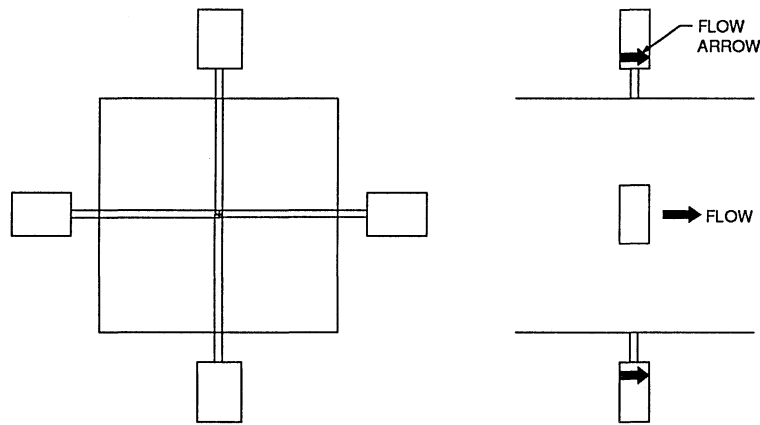
1.1 General Description

2 INSTALLATION

2.1 Locating the Flow Meter

Several general installation rules need to be followed in order to get the most accurate results. In order of importance, these are:

- Orient the flow meter so that flow passes through the machined opening in the probe shaft. Make sure that the flow direction matches the arrow label on the flow meter base.
- Orient the flow meter probe so that the sensor is near the centerline of the duct.
- Locate the flow meter $\frac{2}{3}$ the length along the longest straight run of duct available in the desired area.



FLOW METER ORIENTATION

- These orientations are all acceptable. Note that orientations other than vertical will cause a small zero shift. Under flowing conditions, this shift disappears.

2.2 Wiring the Flow Meter

The 600 HVAC Flow Meter is supplied with four fly leads exiting a non-metallic fitting for use with $\frac{3}{8}$ " conduit.

The black and white wires are for 24 VAC power.

The red wire is for the 4-20 mA output. This output requires a 50 ohm minimum load and a 500 ohm maximum load. The green wire is the 4-20 mA signal ground.

The flow meter will still function with a small amount of dirt or dust on the sensing element. A large amount of dirt or dust will block the flow over the sensor and cause the meter to read low. The sensor can be cleaned with water or alcohol.

WARNING: EXTREME CARE MUST BE TAKEN WHEN CLEANING THE SENSOR ELEMENT. The 1 mm diameter glass sensor has about the same strength as a piece of unsupported fineline pencil lead.

If you experience any problem with your Series 600 HVAC Flow Meter, call Sierra's Customer Service Department, Technical Assistance at 1-800-866-0200. Please have your model number and serial number available when you call.

If you find it necessary to return a Series 600 HVAC Mass Flow Meter to Sierra Instruments, Inc., obtain a Return Material Authorization from the Customer Service Department.

Unless specifically instructed to do otherwise, you must return the entire flow meter, including *all* electronics.

Please include information describing the difficulties experienced, purchase order number under which the equipment was purchased, and a contact name and phone number.

Be sure to **complete** return shipping instructions. **We cannot deliver to post office boxes.** Ship to the following address:

Sierra Instruments, Inc.
5 Harris Court, Building L
Monterey, CA 93940
ATTN: SERVICE DEPARTMENT

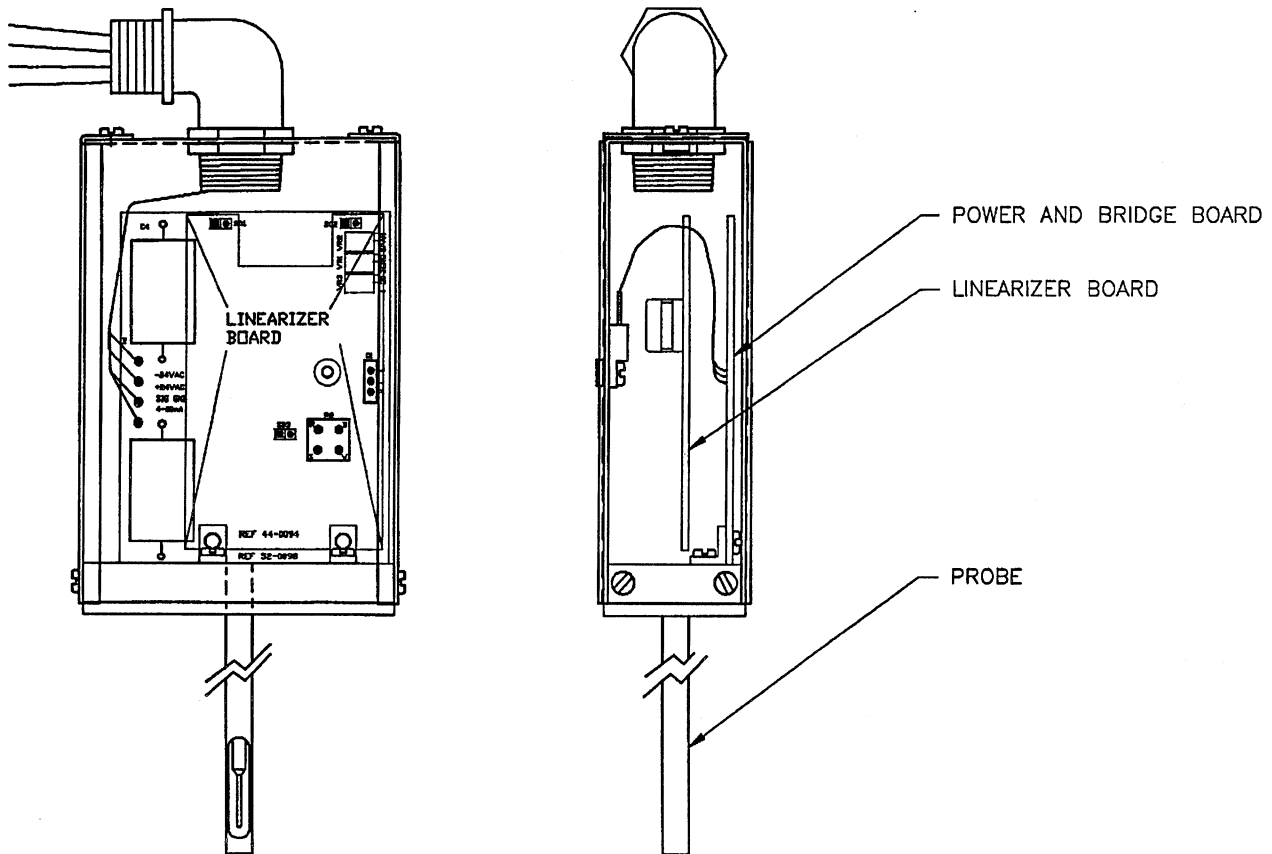
3 MAINTENANCE

3.1 Probe Maintenance

3.2 Flow Meter Repair

APPENDIX A

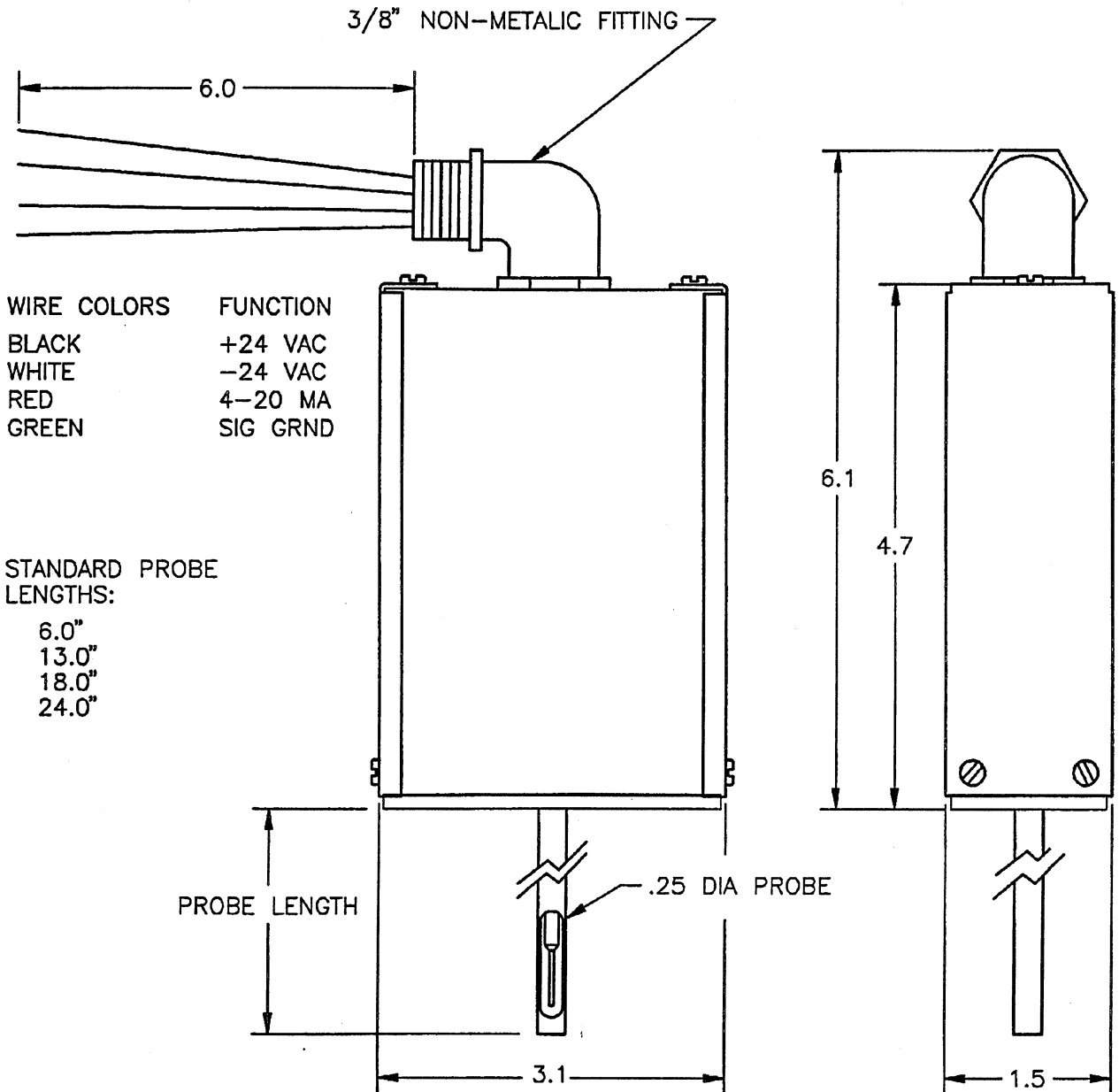
Assembly Drawing



M99-0440

APPENDIX B

Installation Drawing



M99-0439

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