

GreenFlow 2000 Series



GF-2200A OVERVIEW

GreenTrol model GF-2200A is a high quality economical programmable dual-probe dual-output airflow/temperature measurement and control solution with options for analog air flow, temperature and corresponding PID output (for control of airflow set point) and alarm features. It is designed for installation in critical applications where precise air flow and temperature measurement (down to zero flow), and available PID control of air flow set point are required. The GF-2200A includes two factory calibrated probes and an advanced programmable microprocessor controlled transmitter. A simple user interface and LCD permit selection of analog output options for airflow and/or temperature measurement, and for corresponding PID control signal outputs to maintain airflow set points. Airflow sensor accuracy is typically 3% of reading (4% max) from 0 to 2,000 FPM [10.16 m/s], and temperature accuracy is $\pm 0.36^{\circ}\text{F}$ [$\pm 0.2^{\circ}\text{C}$] from -20 to 160°F [-28.9°C to 71.1°C]. Probes are equipped with high reliability bead-in-glass heated thermistors, factory calibrated to NIST traceable standards over the entire operating range. A Field Calibration Wizard feature permits field adjustment of factory calibration if required. A programmable alarm feature includes options for low/high limit and hysteresis; dead band alarm with upper/lower alarms as a percentage of flow; or as a sensor trouble alarm. The alarm condition is shown locally on the LCD display and can be configured as dry relay contacts or as an external LED driver (15mA typical). Analog outputs are field-configurable for 0-10VDC, 0-5VDC or 2-10 VDC (20 mA max.) for communication with virtually all modern controls and building automation systems (BAS).

APPLICATIONS

- Available for applications where accurate monitoring/control of low airflow and temperature is required.
- Maximize system efficiency by accurately measuring and controlling separate flows with a single instrument.
- Key in the acquisition of **LEED®** credits for **Energy and Atmosphere** and **Indoor Environmental Quality** when applied in OA applications.

SYSTEM FEATURES

- Advanced Thermal Dispersion (TD) technology ensures accurate, repeatable airflow measurement from zero flow (still air).
- Proprietary sensor design features high reliability bead-in-glass heated thermistors factory calibrated in wind tunnels to NIST traceable standards for placement in more locations than other sensing technologies.
- Variable airflow signal integration to minimize airflow fluctuations (transient wind gusts) at low air flows.
- Programmable relay or LED alarm feature for low or high limit, and operating deadband.
- Versatile Field Calibration Wizard for simple field adjustment if required.
- Simple push-button user interface for simple field configuration.
- Innovative universal mounting bracket and adjustable insertion mount bracket available.

GF-2200A SPECIFICATIONS

System

Sensor Accuracy*: Airflow: $\pm 3\%$ of reading typical (4% max)
Temperature: $\pm 0.36^{\circ}\text{F}$ [$\pm 0.2^{\circ}\text{C}$]
Calibrated Range:0 to 2,000 fpm [10.16 m/s]
Operating Temperature:Sensor: -20 to 160°F [-28.9 to 71.1°C]
Xmtr: -20 to 120°F [-28.9 to 48.9°C]
Operating Humidity:0 to 99% non-condensing;
Transmitter must be protected from exposure to precipitation
Programmable Modes:Independently configurable outputs for flow, temperature, differential, control, alarm or disabled
Power Requirements:24 VAC (22.8-26.4 VAC) at 8VA max

Transmitter Enclosure

Enclosure Material:Durable housing with cover
Enclosure Rating:UL94V-0
Transmitter Dimensions:3.570 x 6.006 x 1.502 in (HxWxD)
[90.68 x 152.55 x 38.15 mm], with integral 0.502 [12.75 mm] flanges.

Sensor Probes

Probe Construction:6063 alum standard (316 SS optional)

Mounting Brackets:Universal and Insertion available
Probe Diameter:0.75 in [19 mm]
Standard Sizes:8 and 16 inches (203.2, 406.4 mm)
Probes / Sensing Nodes:2 probes per transmitter; 1 sensing node per probe; 2 nodes total max.
Probe/Transmitter Cable:10 ft [3.05m] Plenum rated FEP cable (Other lengths avail.)

Output Interface

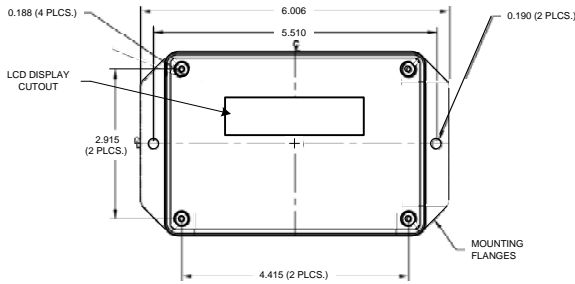
Analog Outputs:Dual non-isolated analog 0-10VDC, 0-5VDC or 2-10 VDC (20 mA max)
Output Resolution:0.21% of full scale (0-10/2-10VDC)
0.42% of full scale (0-5VDC)
Output Load:500 ohm minimum (20 mA max)
Programmable Alarm:Low limit, High limit, dead band alarm (percentage above or below a specified flow) or trouble alarm
Alarm type:LCD indication and dry relay contacts (30VDC/24VAC @ 3 amp max) or direct LED drive (15 mA typical).
Field Cal Wizard:Simple field adjustment of factory calibration if required
Standard Warranty:12 months

* Sensor accuracy is the accuracy of the individual sensor. Installed accuracy of the overall airflow station is application-dependent based on application size and resulting sensor density and is typically better than 15% of reading.

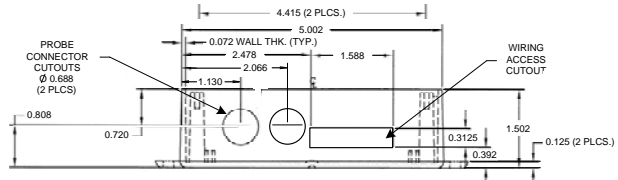
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GF-2200A TRANSMITTER MECHANICAL DETAIL

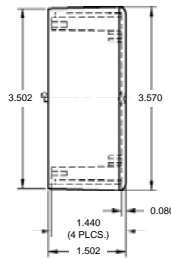
FRONT VIEW DETAIL



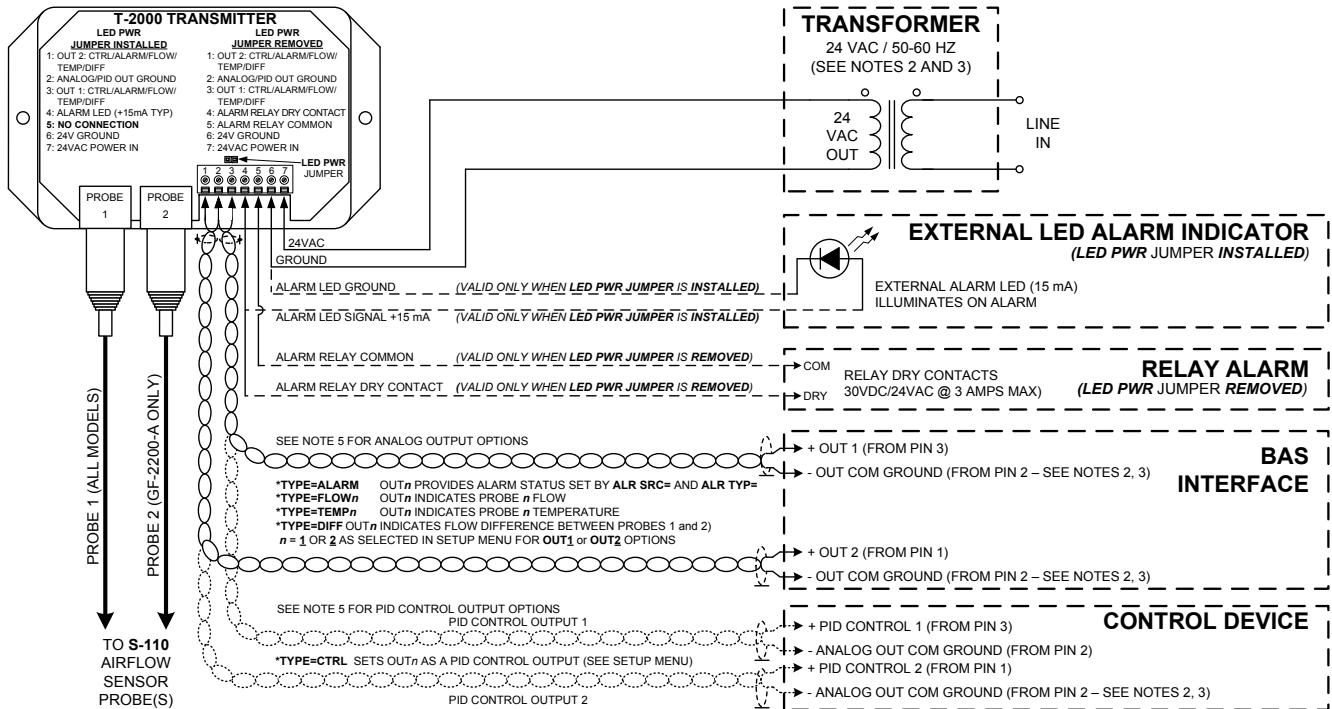
SIDE VIEW (CONNECTOR) DETAIL



EDGE VIEW DETAIL



GF-2200A TYPICAL WIRING DIAGRAM



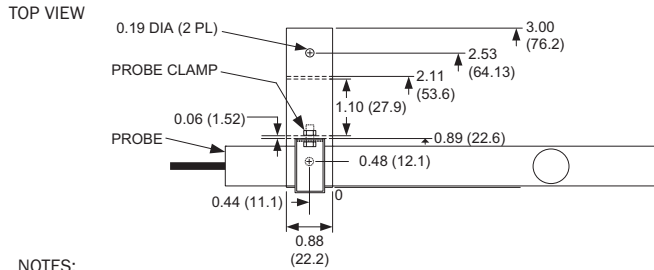
NOTES:

- CONNECT OUTPUT SIGNAL CABLE DRAINS TO EARTH GROUND AT ONE END OF CABLE ONLY.
- GF-2100-A AND GF-2200-A ARE NON-ISOLATED DEVICES USING A HALF-WAVE RECTIFIER ON THE 24VAC POWER INPUT. IF MULTIPLE DEVICES ARE POWERED BY THE SAME TRANSFORMER OUTPUT, ALL GND CONNECTIONS MUST BE COMMON, OR AN ISOLATION TRANSFORMER MAY BE USED TO PREVENT EQUIPMENT DAMAGE.
- ALL DEVICES ON MULTIPLE GF-2200-A/GF-2200-A INSTALLATIONS WITH A COMMON POWER 24VAC SOURCE MUST BE WIRED IN-PHASE TO THE SAME TERMINALS (e.g.: PIN 6 to PIN 6, PIN 7 to PIN 7).
- SHIELDED TWISTED PAIR (STP) WIRING (SUPPLIED BY OTHERS) IS RECOMMENDED.
- OUT1 AND OUT2 TYPE CAN EACH BE SELECTED AS EITHER AN ANALOG OUTPUT (TYPE=ALARM; FLOW; TEMP; DIFF FLOW) OR AS A PID CONTROL OUTPUT (TYPE=CTRL) - SEE SETUP MENU DETAIL.
- DASHED LINES INDICATE ALTERNATE SHIELDED TWISTED PAIR WIRING CONNECTIONS FOR PID CONTROL DEVICES.

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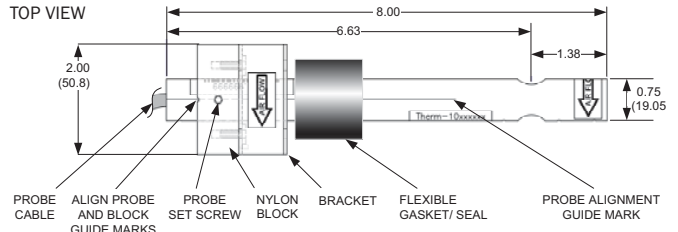
GF-2200A PROBE MECHANICAL DETAIL

**UNIVERSAL MOUNT
PROBE MECHANICAL DETAIL**

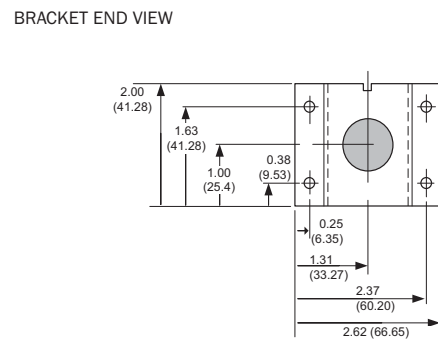
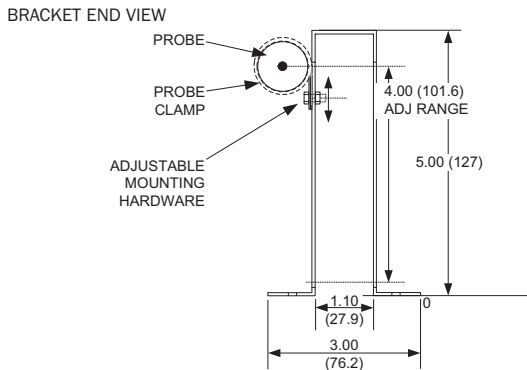
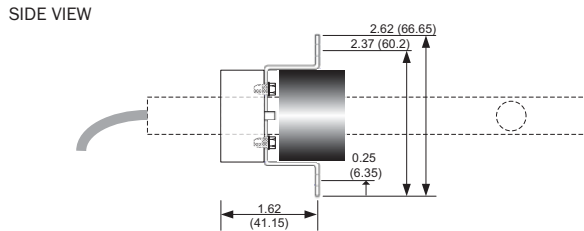
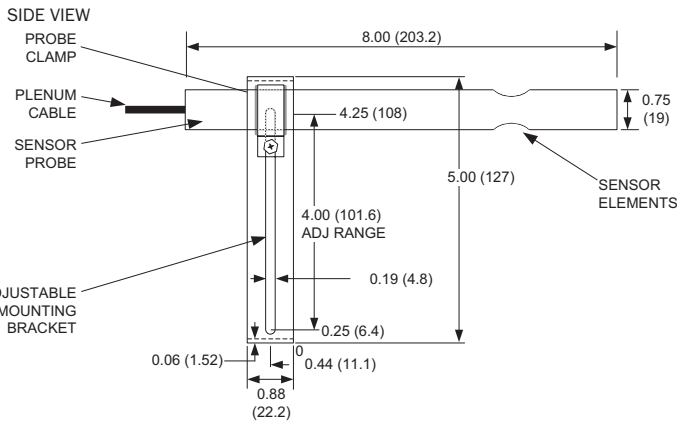


- NOTES:
1. Dimensions in inches (millimeters).
2. 8 inch probe is shown; 16 inch probe is also available.

**ADJUSTABLE INSERTION MOUNT
PROBE MECHANICAL DETAIL**

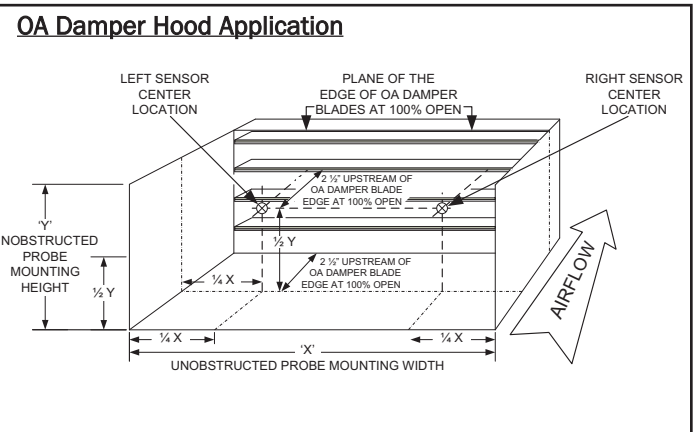
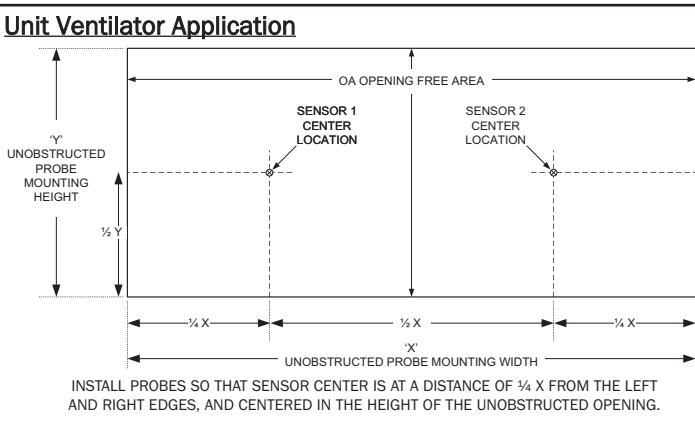


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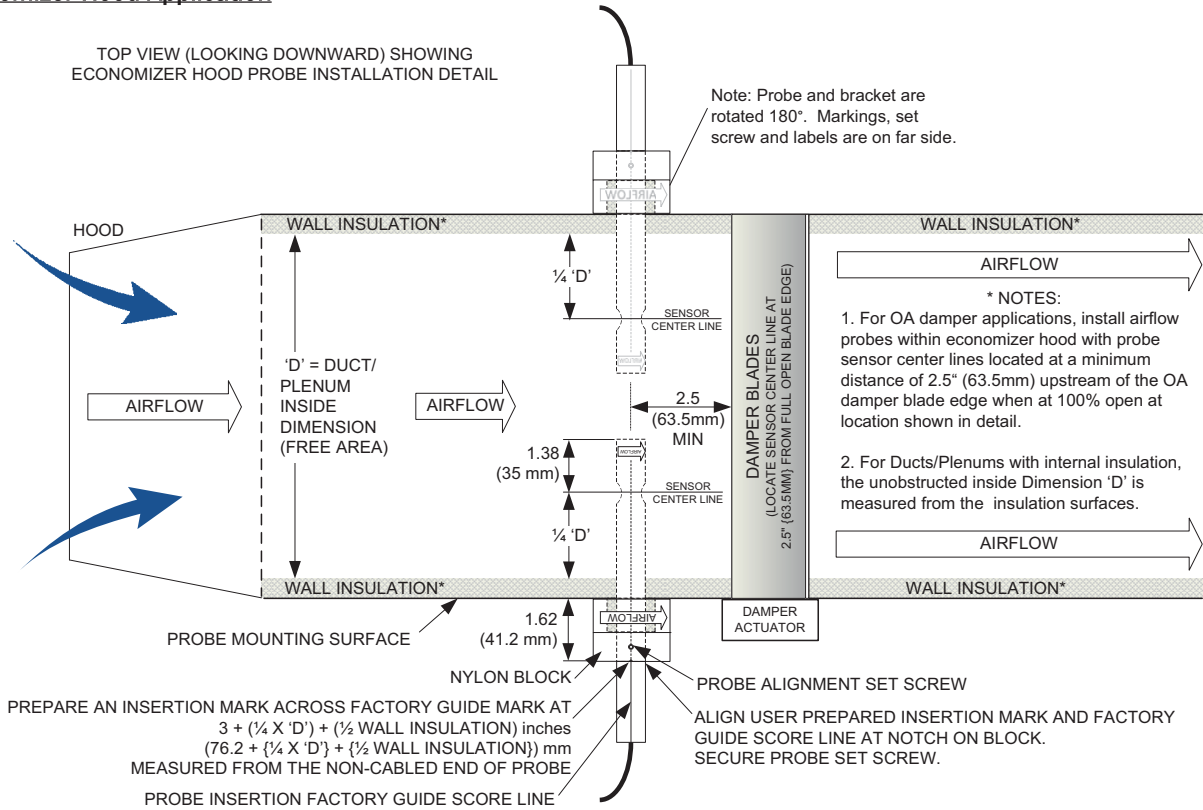
GF-2200A TYPICAL APPLICATIONS

Universal Mount Probe Applications

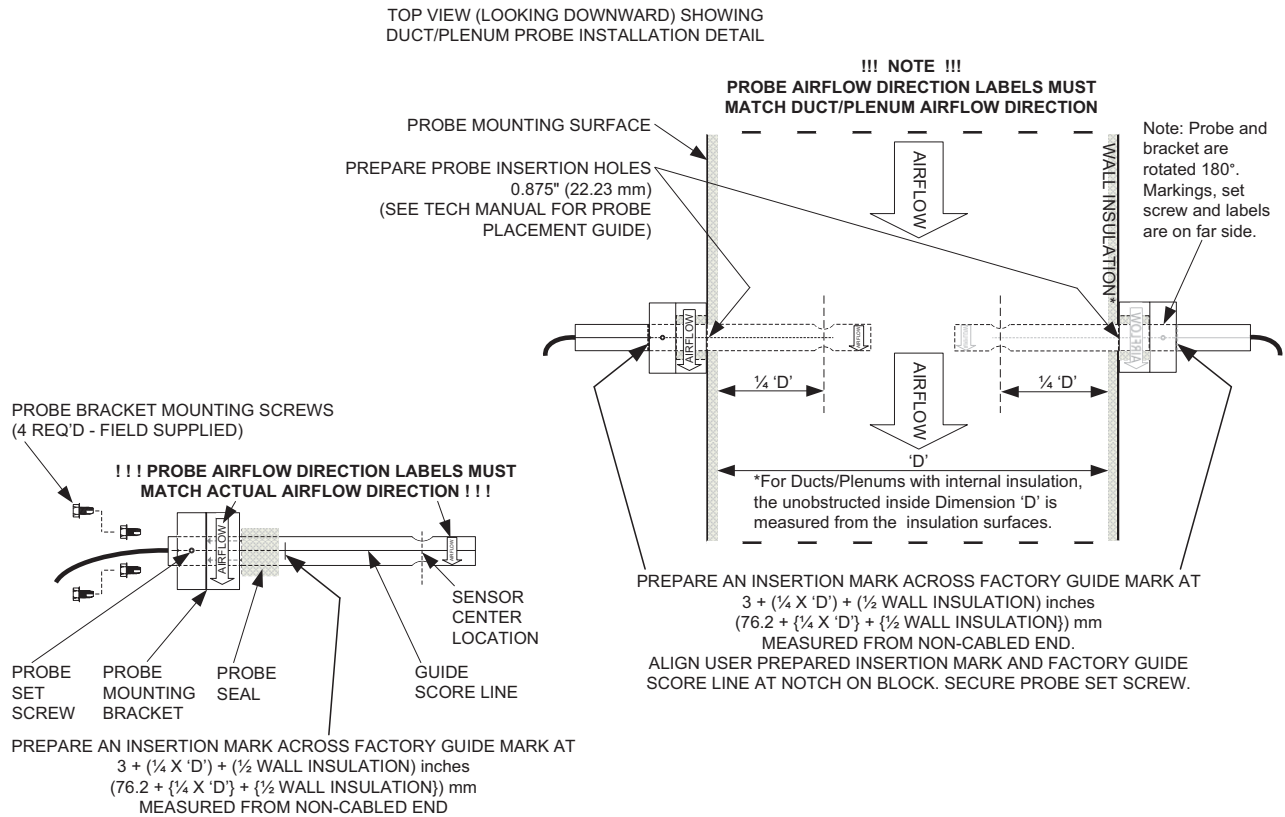


Adjustable Insertion Mount Probe Applications

Economizer Hood Application



Ducted Application



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