

GreenFlow 2000 Series



GF-2100A OVERVIEW

GreenTrol model GF-2100A is a high quality economical programmable single 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-2100A includes one factory calibrated probe and an advanced programmable microprocessor controlled transmitter. A simple user interface and LCD permit selection of analog output options for airflow, and for temperature measurement or for corresponding PID control signal output to maintain airflow set point. 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 airflow 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 local and remote relay or LED alarms for low/high limit, and 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-2100A 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, 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 Probe

Probe Construction:6063 alum standard (316 SS optional)

* 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.

Mounting Brackets: Universal and Insertion available
 Probe Diameter:075 in [19 mm]
 Standard Size:8 and 16 inches (203.2, 406.4 mm)
 Probes / Sensing Nodes: 1 probe per transmitter; 1 sensing node per probe
 Probe/Transmitter Cable: 10 ft [3.05m] Plenum rated FEP cable (Other lengths avail.)

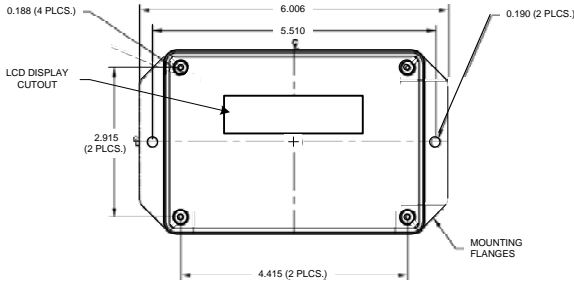
Output Interface

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 or dead band alarm (percentage above or below a specified flow)
 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

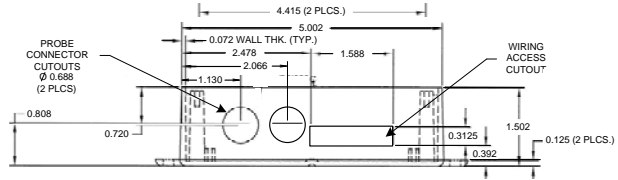
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GF-2100A TRANSMITTER MECHANICAL DETAIL

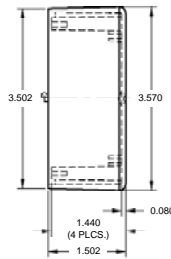
FRONT VIEW DETAIL



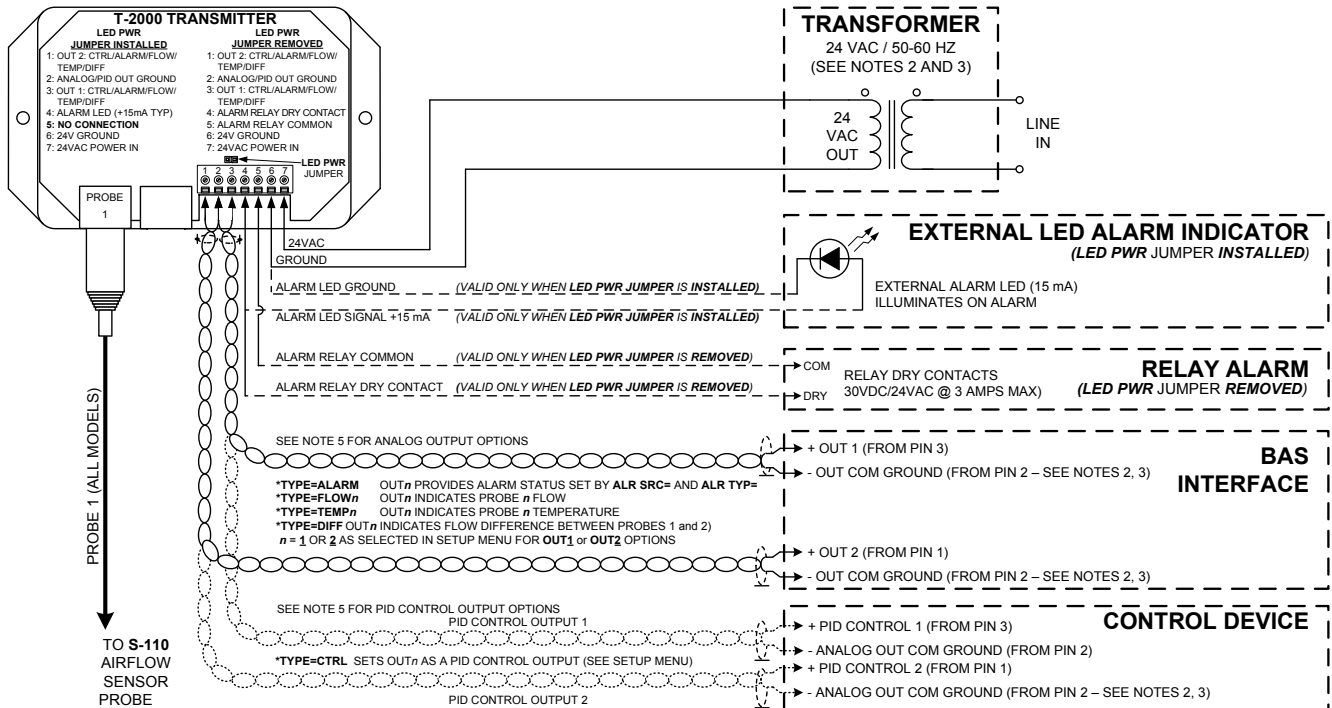
SIDE VIEW (CONNECTOR) DETAIL



EDGE VIEW DETAIL



GF-2100A TYPICAL WIRING DIAGRAM

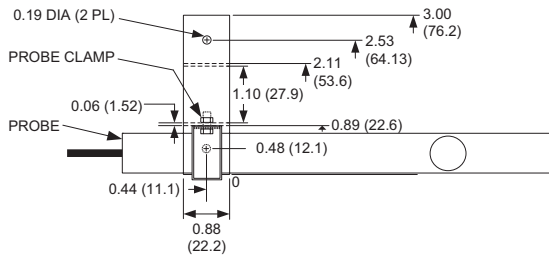


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GF-2100A PROBE MECHANICAL DETAIL

**UNIVERSAL MOUNT
PROBE MECHANICAL DETAIL**

TOP VIEW

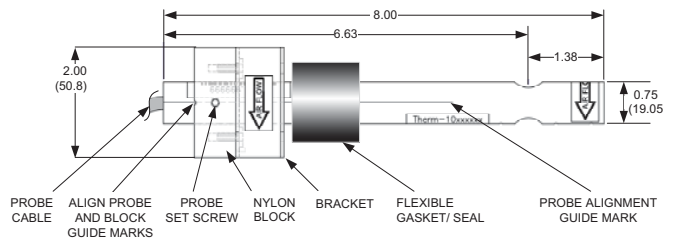


NOTES:

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

**ADJUSTABLE INSERTION MOUNT
PROBE MECHANICAL DETAIL**

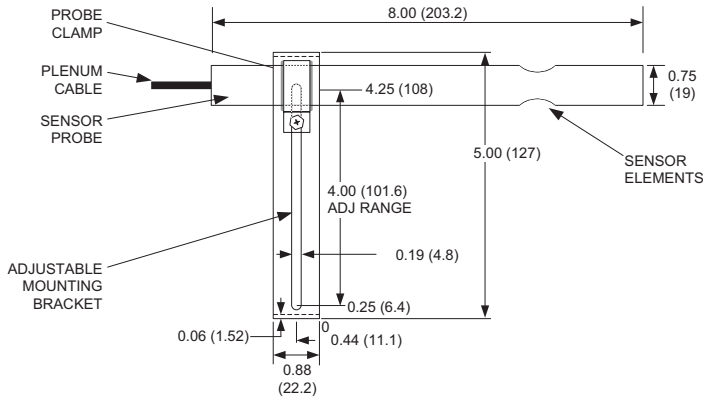
TOP VIEW



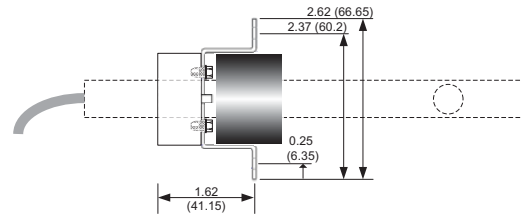
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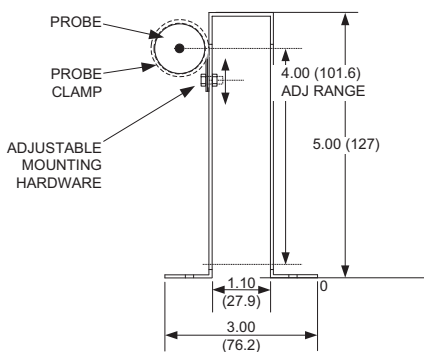
SIDE VIEW



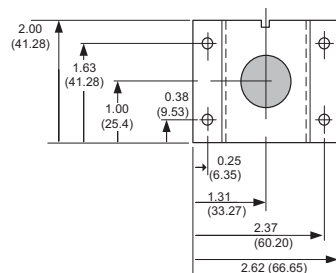
SIDE VIEW



BRACKET END VIEW



BRACKET END VIEW

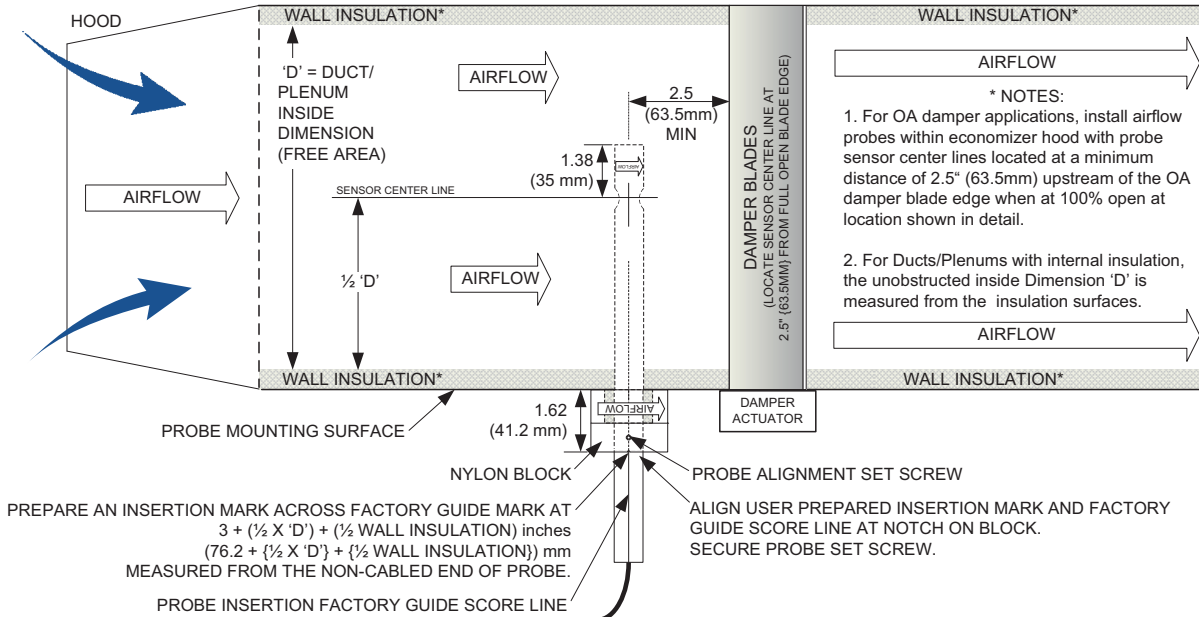


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GF-2100A TYPICAL APPLICATIONS

Economizer Hood Application

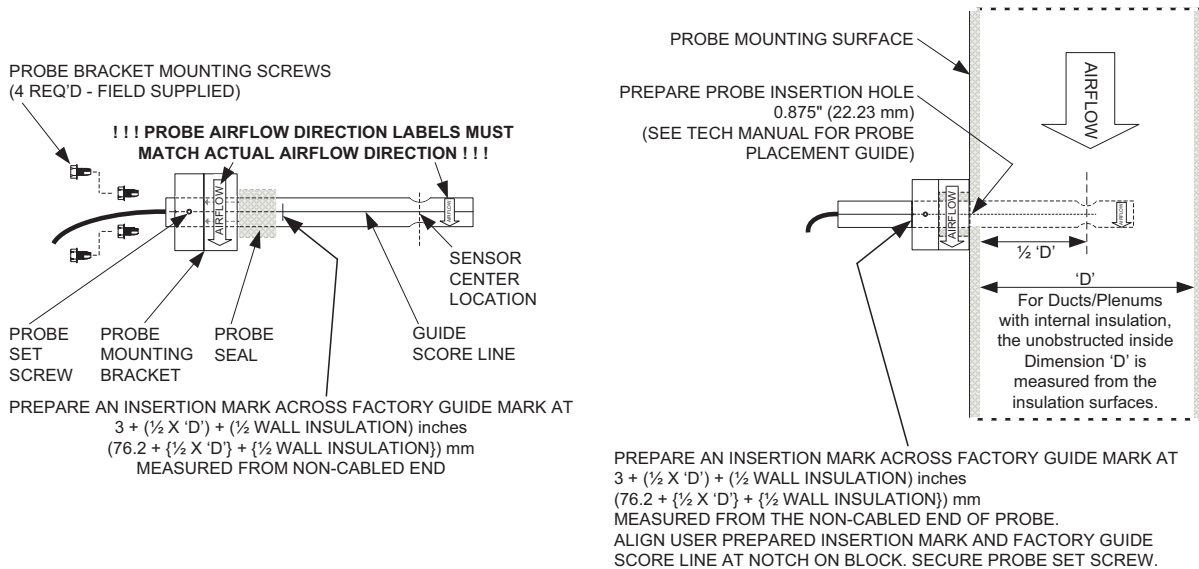
TOP VIEW (LOOKING DOWNWARD) SHOWING ECONOMIZER HOOD PROBE INSTALLATION DETAIL



Ducted Application

TOP VIEW (LOOKING DOWNWARD) SHOWING DUCT PROBE INSTALLATION DETAIL

!!! NOTE !!!
PROBE AIRFLOW DIRECTION LABELS MUST MATCH DUCT AIRFLOW DIRECTION



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