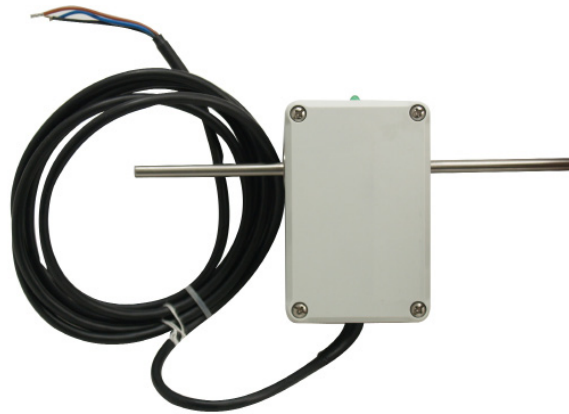




OPERATING INSTRUCTIONS

CALFLO™ CFAM THERMAL MASS AIR FLOW METER



Introduction

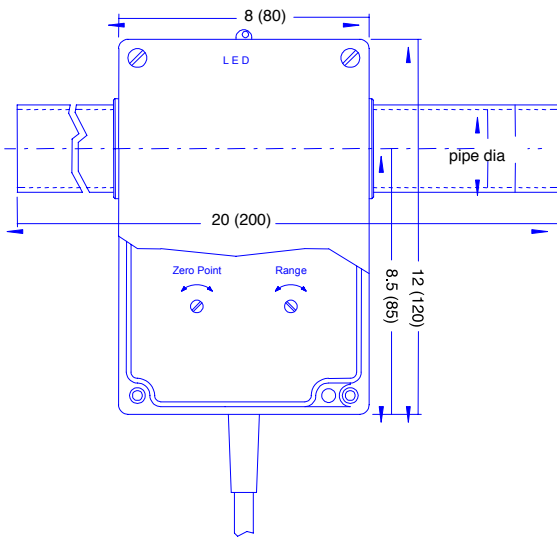
Please read carefully! No liability can be accepted for damage caused by improper use or installation of the CalFlo™ CFAM Flow Meter

Ideal for small pipe and low flow applications, the CalFlo™ CFAM is an inline thermal mass air flow meter that will accurately measure and control a variety of gaseous media. Completely encapsulated in epoxy resin, CFAM features solid-state sensing, adjustable measuring range, LED output display and is well-suited for small pipes up to 3/4" in diameter. Typical applications include vent gas, wet stack gas, sample line flow, purge flow, nitrogen blanket flow and many others. Select the appropriate configurations based on your application or contact our Application Specialist for additional assistance.

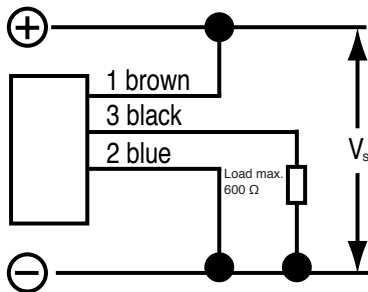
⚠ Safety Precautions

If you are unsure of the suitability of the CalFlo™ CFAM Thermal Mass Air Flow Meter for your installation, please consult your FLO-CORP representative for further information.

Dimensions cm (mm)



Connection Diagram



Specifications



Sensor	
Service	Compatible Gasses
Measuring Range	CFAM-00: 0.25 to 16 fps (5 mps) CFAM-01: 0.25 to 32 fps (10 mps) CFAM-02: 0.25 to 65 fps (20 mps) CFAM-03: 0.25 to 98 fps (30 mps)
Measuring Range Adjustment	Continually adjustable from 20% to 100% of the special measuring range, 2 potentiometers (zero point range)
Accuracy	< 3%
Repeatability	< 1%
Temperature Drift	< 0.3% / K
Process Temperature	F: -4° to 158° C: -20° to 70°
Ambient Temperature	F: -4° to 158° C: -20° to 70°
Pressure	140 psi (10 bar)
Protection Rating	NEMA 4 (IP65)
Approval	CE
Mechanical	
Inline Sensor Pipe Material	Stainless Steel
Sensor Material	Ceramic, platinum with overglaze
Enclosure Material	Makrolon®
Connection Size	1/4", 1/2", 3/4"
Connection Type	Male NPT (Std.); Special Connection (Optional)
Electrical	
Supply Voltage	24 VDC ±15%
Consumption	Approx. 800 mW to 1.3 W (at max. flow)
Output Current	4-20 mA
Loop Resistance	0-600 ohm
Cable	
Cable Jacket Material	Oilflex
Cable Length	6.5 ft, 3-conductor 18 AWG

Note: Please Consult Factory for Special Requirements

Installation Instructions

Depending on the pipe system a variety of connectors can be used. (i.e. screw fittings, hose clamps, etc.)

CAUTION: The inline pipe element must not be subjected to any kind of force (i.e. twisting) or high temperatures (i.e. in welding processes). Torsion: 10 Nm up to 40° C

Installation Site: Preferably in horizontal pipes or vertical pipes with ascending flow.

Initial Operation

1. Connect unit to 24 VDC as in connection diagram and wait approx. 5 minutes before adjusting.
2. Adjustment is possible in 4 different ranges: 0.25-16 fps / 0.25-32 fps / 0.25-65 fps and 0.25-98 fps.
3. Settings are possible of 20% within every measuring range - Based on air with normal pressure.
4. The zero point potentiometer is pre-adjusted. The range potentiometer is in position of max. value (i.e. set measuring range).

Initial State

1. The zero point potentiometer P2 is adjusted ex works to 4 mA
2. The range potentiometer is adjusted to the extreme clockwise position
3. Where ex works adjustment of measuring range has been requested, both potentiometers are sealed with silicone. Adjustment is carried out under manufacturer's test rig conditions. Under different installation conditions on site, deviations in output signal may be possible.

ATTENTION: 18-potentiometers are employed with no mechanical end stop.

Adjustment Procedure

1. Zero point adjustment in stationary medium (roughly)
Adjust the potentiometer P2 after 5 minutes in that way that $I_a = 4$ mA.
i.e. if $I_a = > 4$ mA turn potentiometer P2 slowly to the **left**.
if $I_a = < 4$ mA turn potentiometer P2 to the **right**.
2. Adjustments of measuring range at the max. flow rate, which must correspond to 20 mA output.
After 3 minutes at max. flow rate turn potentiometer P1 until $I_a = 20$ mA
i.e. if $I_a = > 20$ mA turn potentiometer P1 slowly to the right
if $I_a = < 20$ mA turn potentiometer P1 slowly to the left
3. Check zero point and range adjustments as previously mentioned in step 1 and 2
Correct any discrepancies if necessary
4. LED indicates well operation within the measuring range up to 20 mA.
LED goes off when flow rate exceeds the adjusted range ($I_a = > 20$ mA)

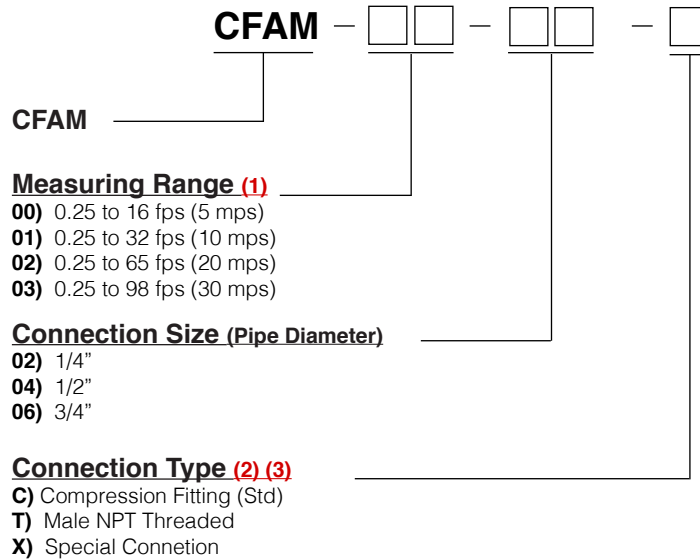
Ordering Information

FLO-CORP MODEL NUMBER BUILDER

For Assistance Call **877.356.5463**

Use the diagram below, working from left to right to construct your Flo-Corp Model Number.
Simply match the category number to the corresponding box number.

Example: CFAM-00-06-T CalFlo™ CFAM Thermal Mass Air Flow Meter, 0.25 to 16 fps Measuring Range, 3/4" Sensor Pipe Diameter, Male NPT Connection



Ordering Notes:

- (1) Select the best configuration based on your requirements
- (2) If you require a Special Connection (X), please consult factory with your requirements
- (3) Comes complete with 6.5' (2m) pre-wired cable and manual

Specifications are subject to change without notice.