Series 25 Flowmeter Installation and Operating Instructions

Wiring the Meter

The meter requires 24 volt dc power. Insert the power supply cable through the grommet at the bottom of the meter. Connect the positive lead to the dc+ terminal, the negative lead to the dc- terminal and the shield, if one is present, to the gnd terminal. If you are using the wall plug supply and adapter cable provided by Atlas, the band marked lead (not the printed lead) is positive.

Programming the Monitoring Functions

The meter has four display modes: rate, minimum, average and total. The display is controlled by a button on the underside of the meter. Pressing the button repeatedly will cycle through the four modes. LEDs above the digital display indicate which mode is active. When no LED is lit, the meter is in the rate mode.

Minimum and Average Modes

The minimum and average functions look back over the periods of time specified by the user. Each is based on 360 samples taken over the specified period of time. Minima and averages are calculated and stored for groups of 36 samples, so the displayed results are updated at an interval of one tenth of the period specified by the user. Thus, if the average is computed over 0.1 hour (six minutes), the flow will be sampled every second and the display will update every 36 seconds. Please note that, since the minimum and average are based on data stored in memory, they will not be meaningful until the specified period has elapsed.

Total Mode

Cumulative air usage is displayed in thousands of cubic feet, or in cubic meters. The total is not resettable.

Filter

A simple digital filter is provided for all situations in which flow is continuously varying and a steady, filtered display is useful. If the filter factor is programmed to zero (see below) there is no filtering. If it is one, the current value is averaged in equal parts with the previous filtered value. If it is two, one quarter of the present value is added to three quarters of the previous filtered value, and so on, with factors available up to six. Filtered values are used in calculating minima and averages. Please note that the meter has limited sensitivity to very short pulses of air flow, and filtering or averaging the output does not alter this.

Alarms

If user-specified thresholds for minimum or average are exceeded, indicating excessive air usage, the corresponding LEDs will blink. These blinks are short, with the LED lit one eighth of the time. If the same LED is lit to indicate the current display mode, it will blink off for one eighth of the timer.

Units of Measure

Five options of units are available. Units should be set in accordance with local custom and should match the markings on the cover of the meter.

Programming

With the meter displaying rate, press and hold the button. The minimum LED will light immediately; when the average LED lights, release the button. The display will now show two letters on the left and two digits, with or without a decimal point on the right. The letters indicate which parameter is being programmed. The digits indicate the current value of the parameter. When a three digit parameter is displayed, one of the letters will be overwritten. To advance the parameter, press and release the button; to advance the parameter rapidly, press and hold the button. To advance to the next parameter, just wait. Time is displayed in hours and tenths of hours.

Symbol	Meaning	Description	Range
LL	Low Limit	Threshold for minimum flow alarm	0.1 cfm to 55 cfm
LP	Low Period	Period over which minimum flow is calculated (hours)	0.1 hr to 24 hrs
AL	Average Limit	Threshold for average flow alarm	0.1 cfm to 99 cfm
AP	Average Period	Period over which average flow is calculated (hours)	0.1 hr to 24 hrs
FF	Filter Factor	Degree of filtering	0 - no filtering 6 - maximum filtering
dd	display default	0 - rate, 1 - minimum, 2 - average, 3 - total	
du	display units	Rate 0 - cfm 1 - Nm^3/hr at 0°C 2 - Nm^3/hr at 20°C 3 - Nm^3/min at 0°C 4 - Nm^3/min at 20°C	Total 1000 ft^3 m^3 at 0°C m^3 at 20°C m^3 at 0°C m^3 at 20°C