

See Figure 1 on next page

FUNCTION		ACTION
Power Up/ switch off		ON/OFF
Gas molecular weight		if air, press ZERO button, otherwise adjust using CONTR button
Apply pressures using supplied tubing		-
Select pressure or velocity range		Rotate RANGE control
Select density or temperature range		Rotate RANGE control
Adjust screen contrast		Rotate CONTR control
Change damping (this changes the number of differential pressure readings that are added together and averaged before being shown on the screen).		Rotate the DAMP control. The maximum value is 8 and the minimum is 1.
Pabs.		This is the barb for the absolute pressure transducer. If unconnected, atmospheric pressure is shown.
P + and -		These are the barbs for connecting to the differential pressure transducer
The black cable is connected to the relative humidity sensor. If not connected the instrument assumes 0% relative humidity.		-
The yellow cable is connected to the thermocouple mini-plug. Connect the K-type thermocouple to measure temperature. If not connected the instrument assumes 70°F (21.1°C).		-
Measure velocity (using a Pitot tube connected to P + and - barbs)		Turn the RANGE control to the desired velocity range. You will be prompted for the Pitot correction factor. This is usually 1 for most modern Pitot's. To proceed, press the ZERO button (You will only be asked for this the first time you select a velocity range). You will be asked if you want to perform a flow survey of a duct. If you do not want to perform a flow survey of a duct wait approximately 3 seconds to enter the velocity measurement mode.
To remove the offset from the differential pressure transducers.		No action is needed. The FKT 1DP1A-SV automatically removes any drift every 6 minutes. You do not need to disconnect the tubing, internal hardware automatically isolates the tubes from any applied pressure. Pressing the ZERO button will initiate the zero cycle.
To measure the humidity ratio		The humidity ratio (in kg water vapor to kg dry air or lb water vapor to pounds dry air) is displayed on the 2 nd line of the screen to the right of the $\frac{W}{W}$
Estimate data uncertainty (calculate the standard deviation using sequences of thirty samples). Refer to manual for details on interpreting data.		For differential pressure or velocity. Rotating the DAMP control fully clockwise changes the $\frac{W}{W}$ symbol to $\frac{W}{W}$. The display will show either $\frac{W}{W}$ or $\frac{W}{W}$ depending on the RANGE control setting. The data shown on the screen is then the standard deviation of sequences of thirty six measured values of pressure or velocity.
Survey a duct (using a Pitot tube connected to P + and - barbs)		Turn the RANGE control to the desired flow range. You will be prompted for the Pitot correction factor. This is usually 1 for most modern Pitot's. To proceed, press the ZERO button (You will only be asked for this the first time you select a velocity range). You will be asked if you want to perform a flow survey of a duct. If you want to perform a flow survey of a duct, press the ZERO button before approximately 3 seconds has elapsed to enter the survey mode. After completion, to perform another survey, turn the RANGE control to any pressure range, and then turn the control back to the desired flow units range.
Duct Survey Parameters	Duct shape	Set rectangular or round.
	Number of readings (N)	Set number for one traverse row. Use CONTR control
	Uncertainty (optional)	Select by turning DAMP control fully clockwise. Screen will show calculated standard deviation of the velocity followed by the mean velocity. These two values will continuously alternate. To record a reading, press the ZERO button.
	Action	Move the Pitot to each pre-defined point of the survey. The displayed counter showing (2,3) for example, would indicate the second row of the traverse and the third point along that row. The counter will help you keep track of the survey. To record a reading, press the ZERO button.
Completion of Survey		FKT 1DP1A will show the volumetric and mass flux measured. To calculate the volumetric flow rate and mass flow rate, simply multiply the displayed value by the cross sectional area of the duct in the same units (e.g. meters ² and feet ²). If ft ³ /m has been selected, the results will show both the SCFM as well as the actual CFM (after multiplying by the cross sectional duct area). If selected, the uncertainty (standard deviation) of the measurement will be displayed in the appropriate units. Refer to the manual for use and interpretation.

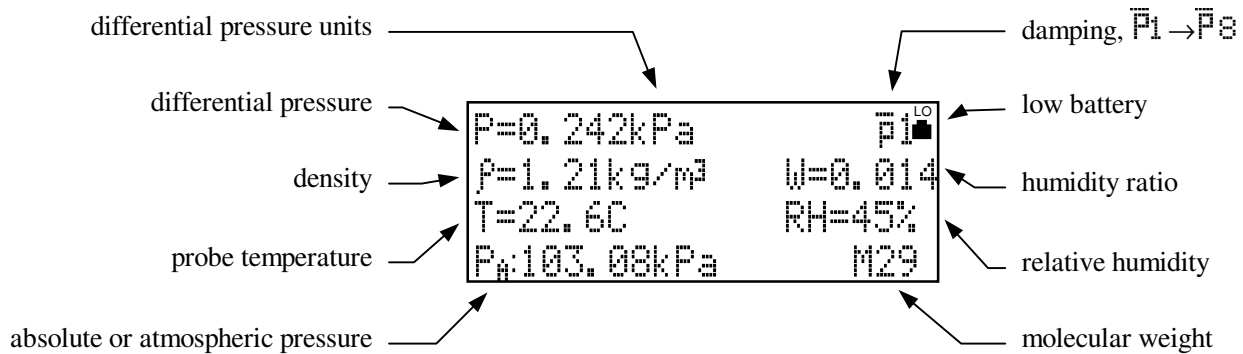
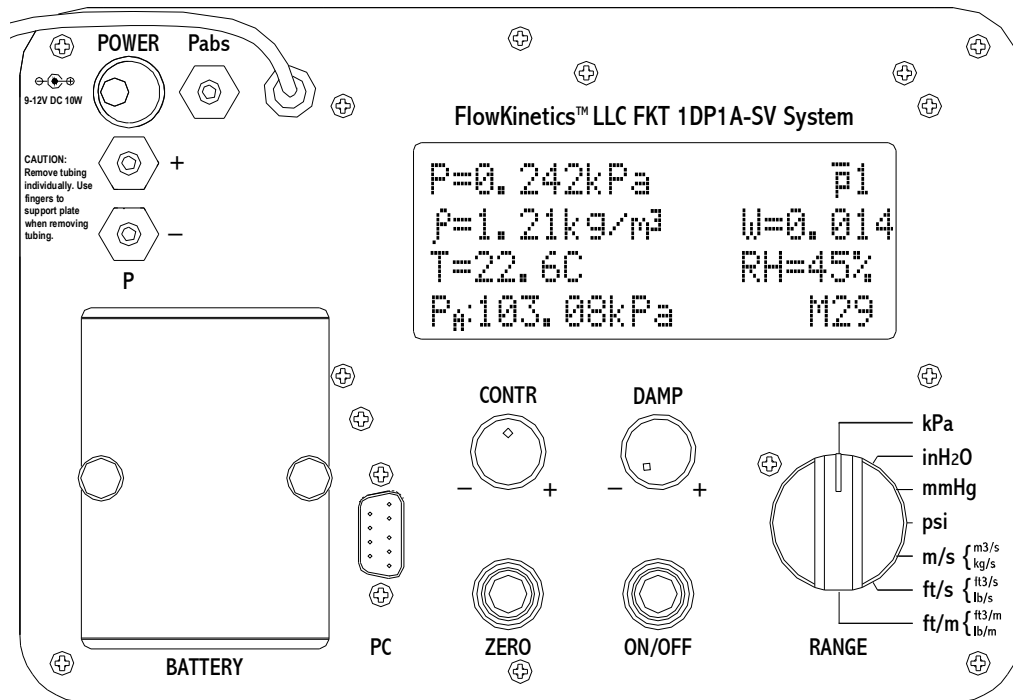


Figure 1. FKT 1DP1A-SV series LCD presentation