

LABORATORY AIRFLOW MONITORS & CONTROLS

TYPE C LED & DIGITAL –VAV SYSTEM

OWNER'S MANUAL



Parc Technologique Delta Sud * 09340 Verniolle * France
Tel + 33 5 61 69 84 43 * fax + 33 5 61 67 86 03
info@seat-ventilation.com * www.seat-ventilation.com

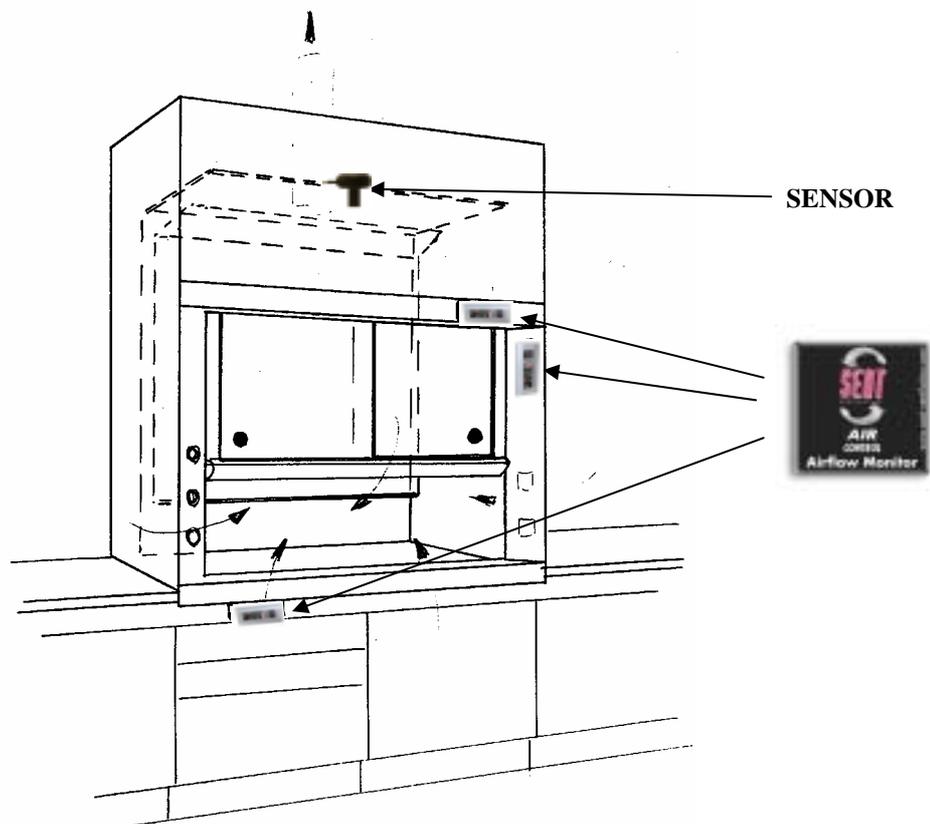
OPERATING PRINCIPLE

When the fume extraction fan is running, it causes negative pressure inside the fume cupboard. If the sash is lowered, the negative pressure become more intense causing air to be drawn through the sash opening at an increased velocity. Conversely, if the sash is raised the negative pressure becomes less intense and air velocity reduces.

If an opening is made in the wall of the fume cupboard, air will enter it at a velocity determined by the same negative pressure that is drawing air into the sash opening. By sensing the air velocity through an opening, we can determine its level at the sash opening.

SEAT AirControl type C exploits this by the placing of a numerical sensor into a hole in the cupboard and sending the air velocity measurement obtained to a display on the fascia panel. Based on air speed measured, the controller will send a signal to an inverter to increase/decrease fan speed.

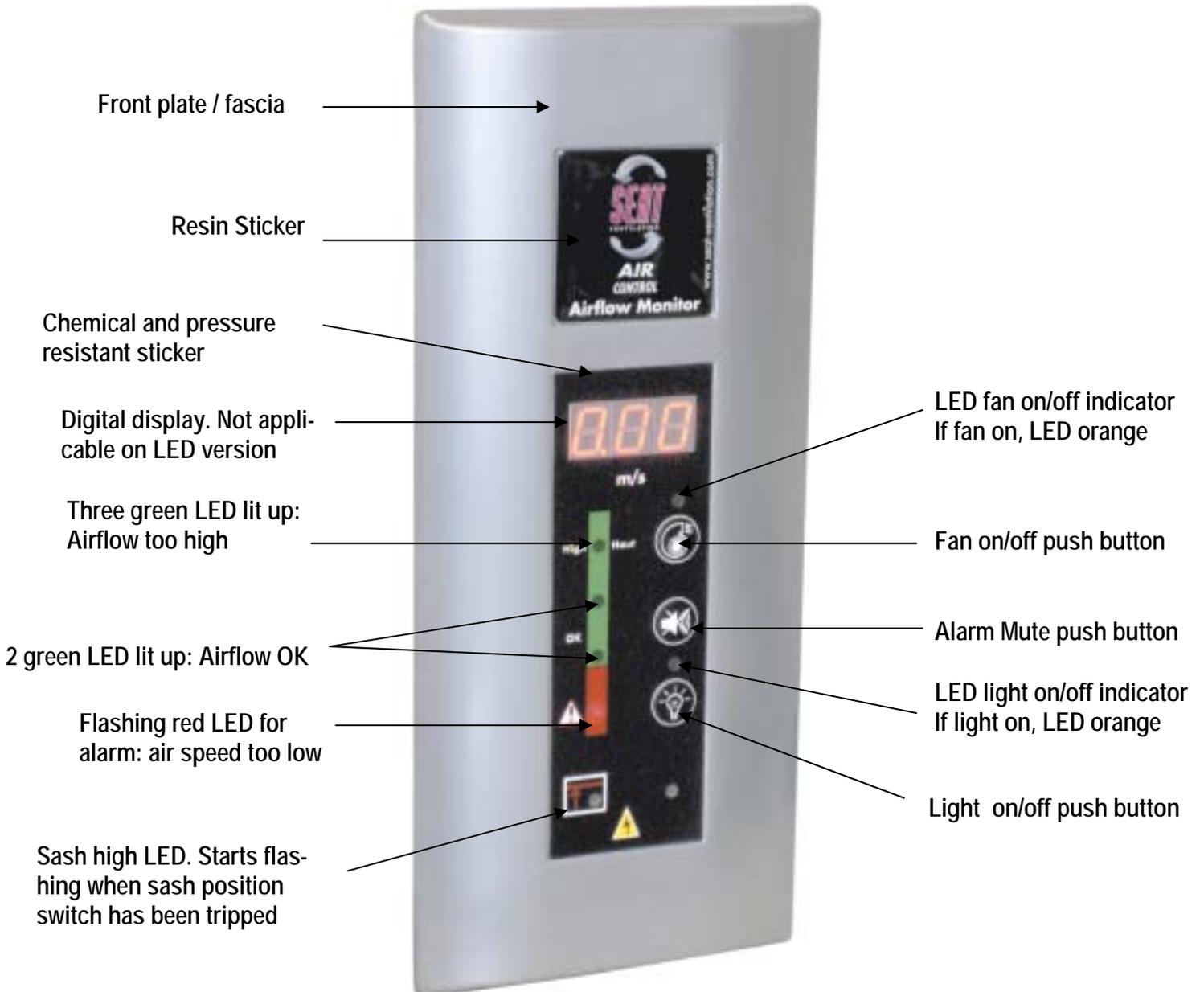
The air velocity level is displayed on the fascia either by LED illumination or digital read-out. An audible alarm will also sound if the air velocity is too low.



SPECIFICATIONS

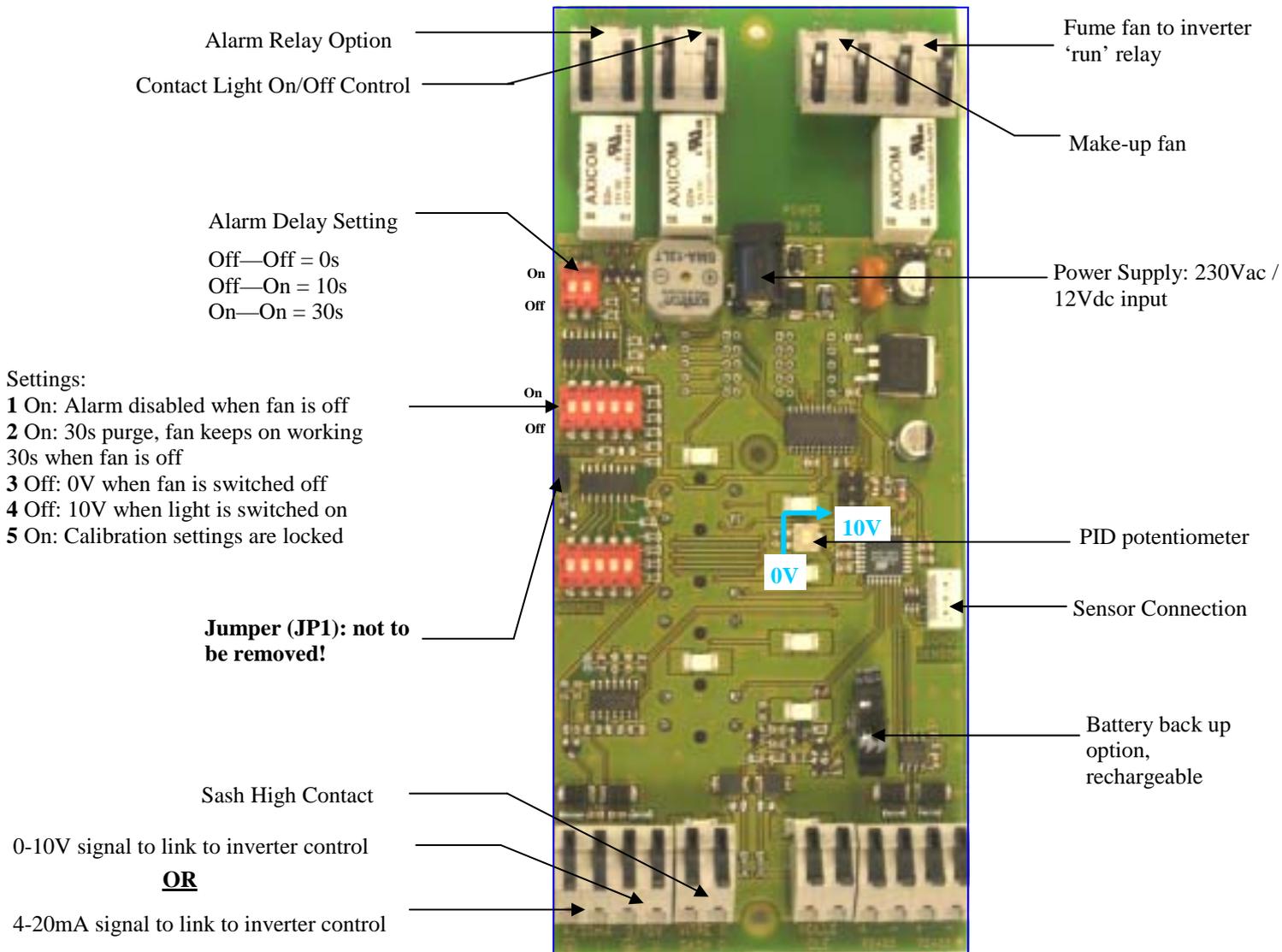
	AirControl C LED	AirControl C Digital
		
Part Number	819703	819704
Display-Visual	2 Green LED for normal air speed 3 Green LED for high air speed 1 Red LED flashing for alarm No digital display	2 Green LED for normal air speed 3 Green LED for high air speed 1 Red LED flashing for alarm 3 digit display with velocity reading
Units	N/A	meter per second (m/s)
Display Range	N/A	0 - 2.00 m/s
Alarm Setpoint	Standard : below 0.39m/s	Standard: below 0.39m/s
Alarm Delay	Selectable: 0s, 10s or 30s	Selectable: 0s, 10s or 30s
Analog Output	0-10V or 4-20 mA	0-10V or 4-20mA
Alarm Indication	1 red LED flashing and audible buzzer	1 red LED flashing and audible buzzer
Purge	Selectable: for 30s after fan is off	Selectable: for 30s after fan fan is off
Alarm Mute		
Light On/Off		
Fan On/Off		
Alarm Relay	Yes, optional	Yes, optional
Battery Back up	Yes, optional	Yes, optional
Sash High Input	Audible and orange flashing LED indicate sash position switch has been tripped	Audible and orange flashing LED indicate sash position switch has been tripped
Mounting	Flush or surface box (option)	Flush or surface box (option)
Calibration	Factory pre-calibrated @ 0.5m/s . Recalibration possible	Factory pre-calibrated @ 0.5m/s . Recalibration possible
Power Requirement	12Vdc (power supply included)	12Vdc (power supply included)
Orientation	Vertical / Horizontal	Vertical
Monitor Dimensions	Front fascia: 210L x 90W x 10D mm Surface box: 205L x 85W x 14D mm	Front fascia: 210L x 90W x 10D mm Surface box: 205L x 85W x 14D mm

OVERALL VIEW





CONTACTS & FEATURES



All relays are no-volts contacts rated at 230V AC 3 Amps maximum
Relays 'Fan 1' and 'Fan 2' should only be used to energise a motor starter relay or inverter 'Run'

CALIBRATION & ALARM TEST

Installation

- 1) Drill a Ø 23mm hole either in the top or side of the fume cupboard to allow sensor positioning. Make sure sensor is not in a turbulent zone where the pressure can fluctuate but where it can monitor stable change in pressure. Attention should be paid to **dead zones** near the top of the fume cupboard.
- 2) Proceed with wiring as seen on page 'Contacts & Features'
- 3) Position and secure monitor to service panel of the fume cupboard with the two self-tapping screws supplied. Do not forget to position 'O'ring seal into the moulded groove in the back of the face plate .

Controller Set Up Procedure

All monitors unless indicated otherwise are factory pre-calibrated at **0.5 m/s** or 100fpm. If you need a different sensor calibration (i.e. 0.4 or 0.5m/s) :

- 1) Make sure that controller is properly linked to inverter
- 2) Push simultaneously buttons   buzzer sounds twice indicating controller is in manual mode calibration
- 3) Raise the fume cupboard to its test height e.g. 500mm
- 4) Turn PID trimmer in a clockwise rotation to increase fan speed via the inverter until the anemometer is reading minimum air speed. Wait for 15 seconds or so for air speed to stabilize.
- 5) Push simultaneously   again to return to 'AUTO' mode. Buzzer beeps 3 times and 2 green LED are illuminated: new calibration is accepted
- 6) Lock calibration in place by positioning switch/setting '5' to 'On' position
- 7)

Test Mode

Test mode is to confirm that all functions are operational. To access test mode, follow this procedure:

- 1) Press simultaneously following buttons   
 - * Buzzer sounds twice
- 2) Press following buttons one after the other   
 - * Buzzer sounds 3 times indicating normal operating mode
 - * Buzzer sounds 10 times if malfunction

MAINTENANCE & TROUBLESHOOTING WARRANTY

Maintenance

Front plate and stickers of airflow monitor may be cleaned with mild soap and water on a damp cloth to remove finger marks, oils or residue. Do not use abrasives. Do not allow liquids to enter the plastic casing. Dry the monitor thoroughly after cleaning.

Troubleshooting

Problem	Check
No indicators	Power supply may not be plugged into AC supply.
Improper alarm setpoint	Airflow sensor is factory precalibrated at 0.5m/s or 100fpm. Alarm setpoint may not be accurate if sensor is not properly located. Sensor needs to be recalibrated if setpoint is different than 0.5m/s. Follow Sensor Recalibration procedure page 6.
Fan On/Off push button non operational	Jumper (JP1) might have been removed. Make sure jumper is in place.
Alarm is too sensitive, buzzer rings often for short periods of time	Change alarm delay setting to 10 or 30s if already set to 0. See contact & features section.

Warranty

SEAT Ventilation SA warrants its equipment, products and parts, to be free from defects in workmanship and material under normal use and service for one year after delivery to the first user. Product must be returned to point of purchase, with dated bill of sale, within one year of purchase. If factory return is required, please consult distributor first.