



Fume Hood Controller

Type A

REF 819700/819701



The **type A** controller is a safety device for **monitoring a fixed air flow**.

A speed sensor is used to determine the flow rate. Audible and visual alarm is set off in case of insufficient speed or too high window height and other conditions.

The HMI allows to control the ventilation of the fume cupboard and to make the adjustments on site.

This controller complies with standard EN 14175 and RoHS.



Table of contents

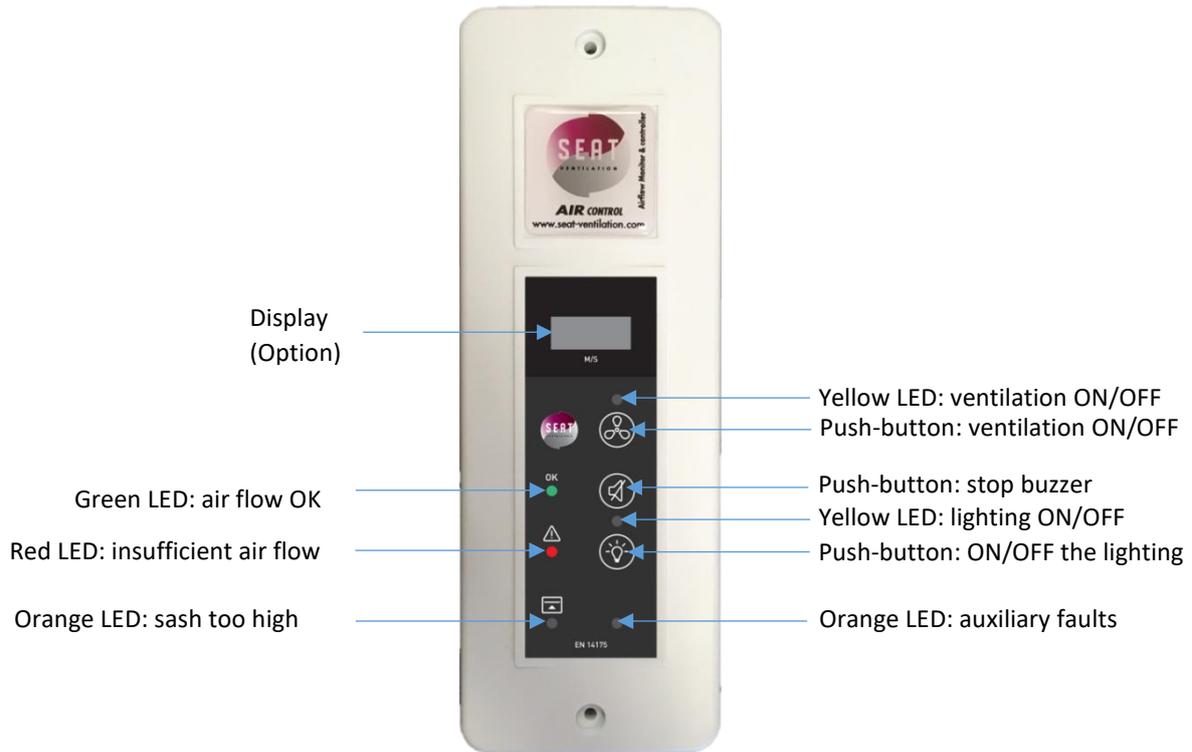
1. Presentation	3
1.1. Front panel	3
1.2. Electronic panel	3
1.3. Schematic diagram	4
1.4. Connectors specifications.....	5
2. Installation and mounting	6
2.1. Dimensions	6
2.2. Positioning on the fume hood.....	7
2.3. Cutting template	8
2.4. Installation tips	9
3. Wiring diagram	10
4. Adjustment procedure	11
5. Factory reset.....	12
6. Test mode.....	12
7. Change the audible alarm delay.....	13
8. Error messages (digital display option)	13
9. FAQ.....	14
10. Maintenance.....	15
11. Warranty.....	15



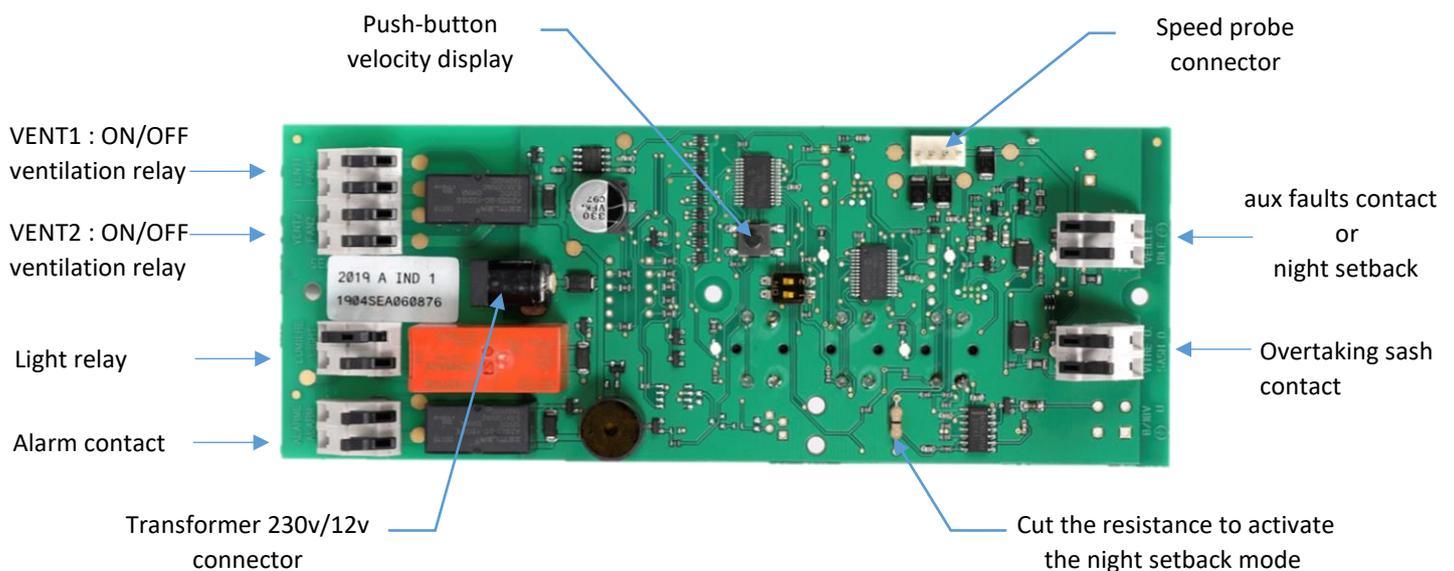
1. Presentation

The **type A** flow controller is an electronic unit that can be easily installed on all fume hood. The front panel controls the ventilation while the rear panel provides wiring.

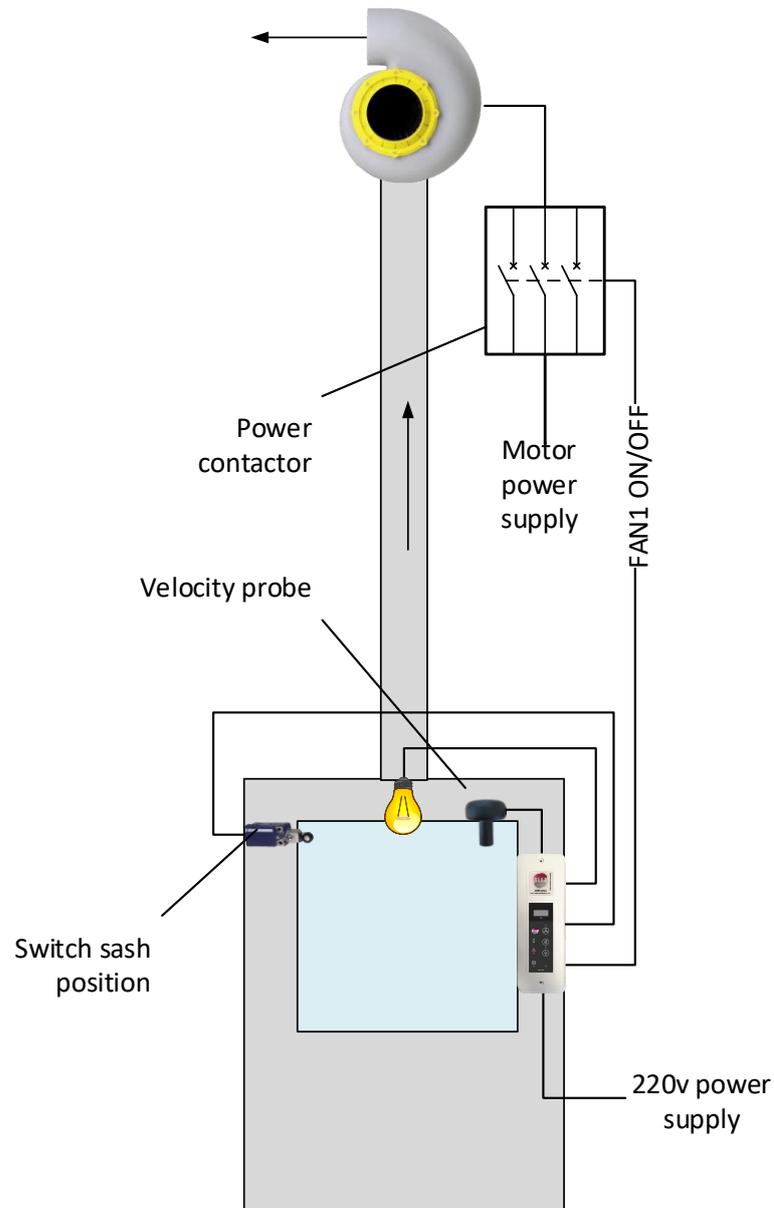
1.1. Front panel



1.2. Electronic panel



1.3. Schematic diagram



The **type A** flow controller is used to control the air flow of a fume hood.

Pressing the ON/OFF ventilation button on the remote interface closes the two relays VENT 1 and VENT 2, which supplies the fan via a power contactor. It is a **fixed flow controller**.

A speed sensor permits to measure whether the suction flow is sufficient (≥ 0.4 m/s) and indicates, the ventilation status by a green and a red LED.

The front panel allows you to control the operation of the fume cupboard and in particular:

- An ON/OFF for lighting
- An ON/OFF for ventilation
- An alarm stop button



1.4. Connectors specifications

Power supply	Electrical transformer 230v/12v 500mA. (delivered with)
VENT1/FAN1	ON/OFF ventilation relay driving by  Disconnection voltage : 120v Disconnection current : 0.5 A
VENT2/FAN2	Same VENT1
LIGHT	ON/OFF lighting relay driving by  Disconnection voltage : 220v Disconnection current : 3 A
ALARM	Relay controlled by alarm activation. Normally open contact Disconnection voltage : 120v Disconnection current : 0.5 A
SASH Open	Sash contact which triggers a visual and audible alarm.
IDLE	Auxiliary fault contact which triggers a visual and audible alarm. This contact can be used to enable night standby mode by cutting the resistance shown on page 3.



2. Installation and mounting

2.1. Dimensions

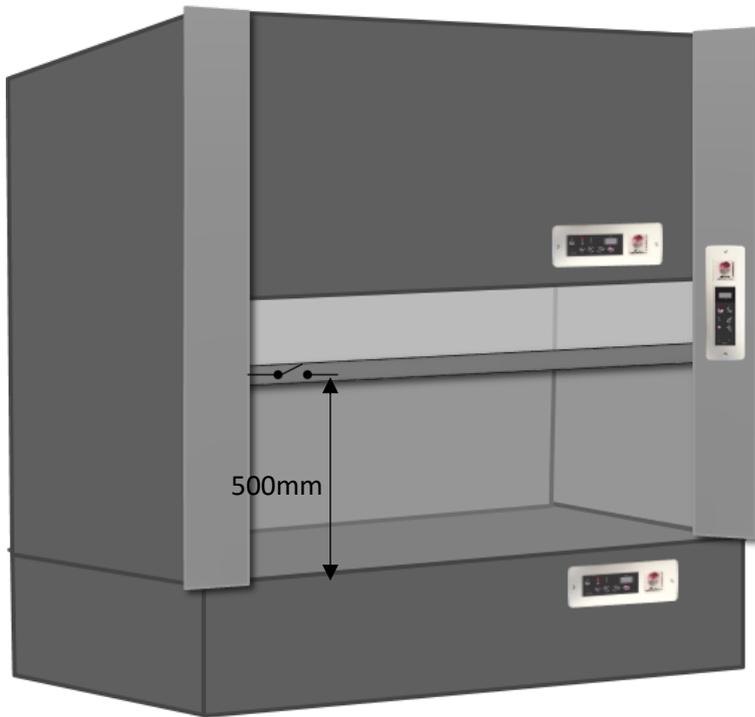


HMI
(Front and side view with surface box mounting)



Speed sensor

2.2. Positioning on the fume hood



- Vertical HMI are usually attached to the side frame of fume hoods.
Horizontal HMI's can be set at the user's convenience.
- The sash contact must be fixed so that it sets off when the sash exceeds 400mm or 500mm.



To comply with EN 14175 standard, you must install a sash contact.

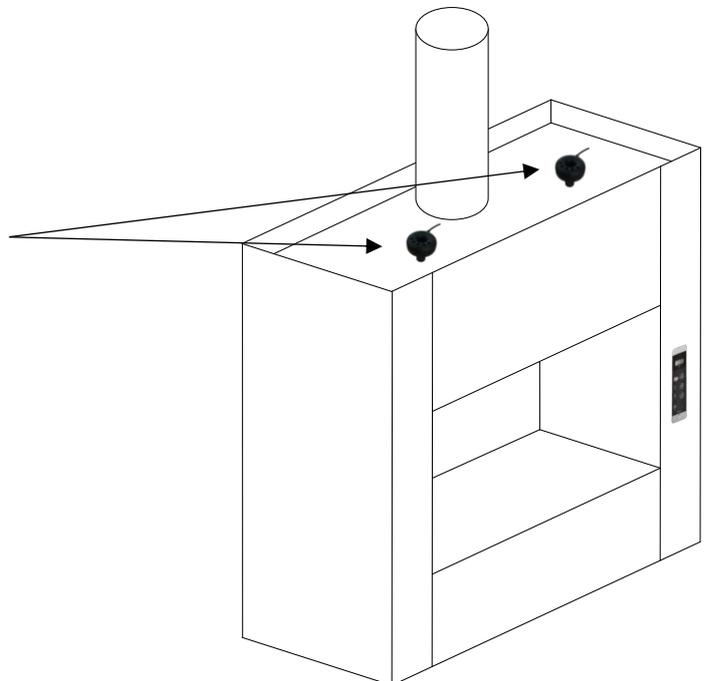
Where to install the speed probe?

The speed sensor must be positioned on the fume hood ceiling in one of the two positions shown in the diagram.

These locations must be respected so that the probe is accurate.

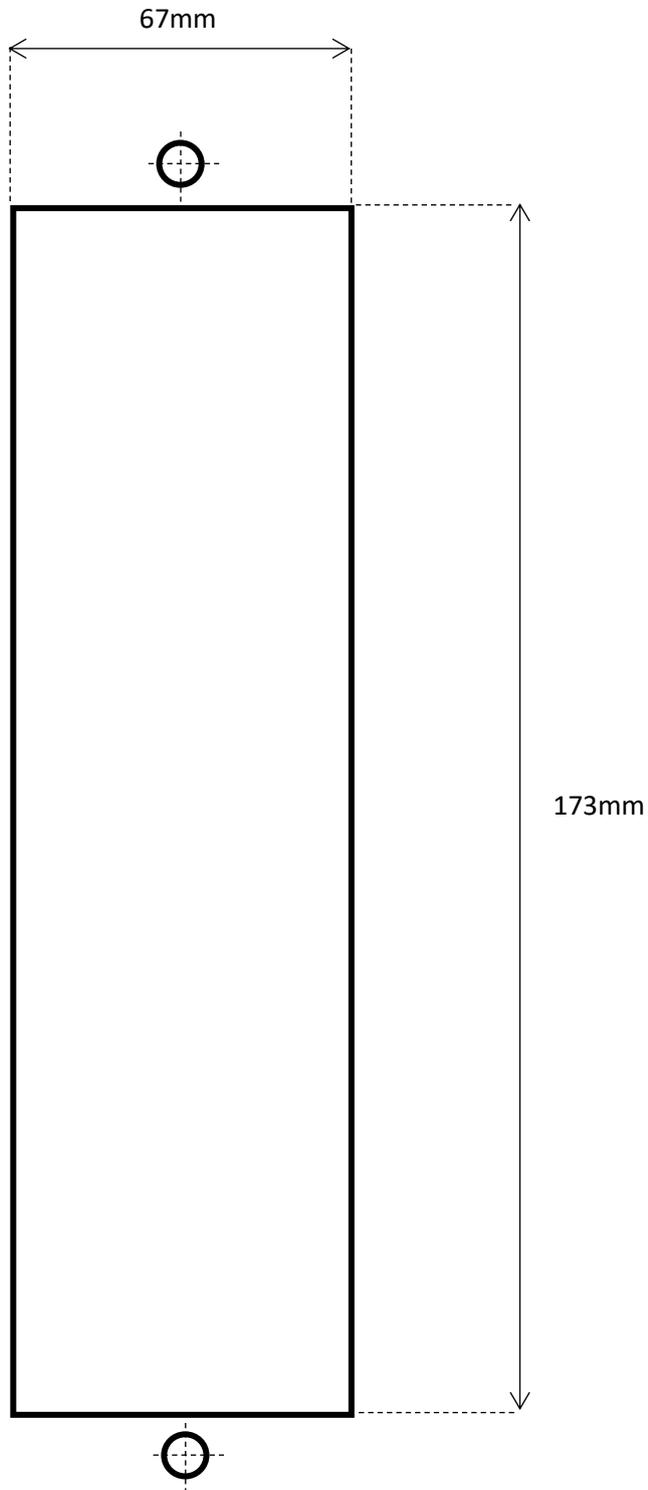
Drill a 22mm diameter hole and put the speed sensor in it.

An adhesive is provided on the sensor to fix it correctly to the fume hood and prevent leaks.



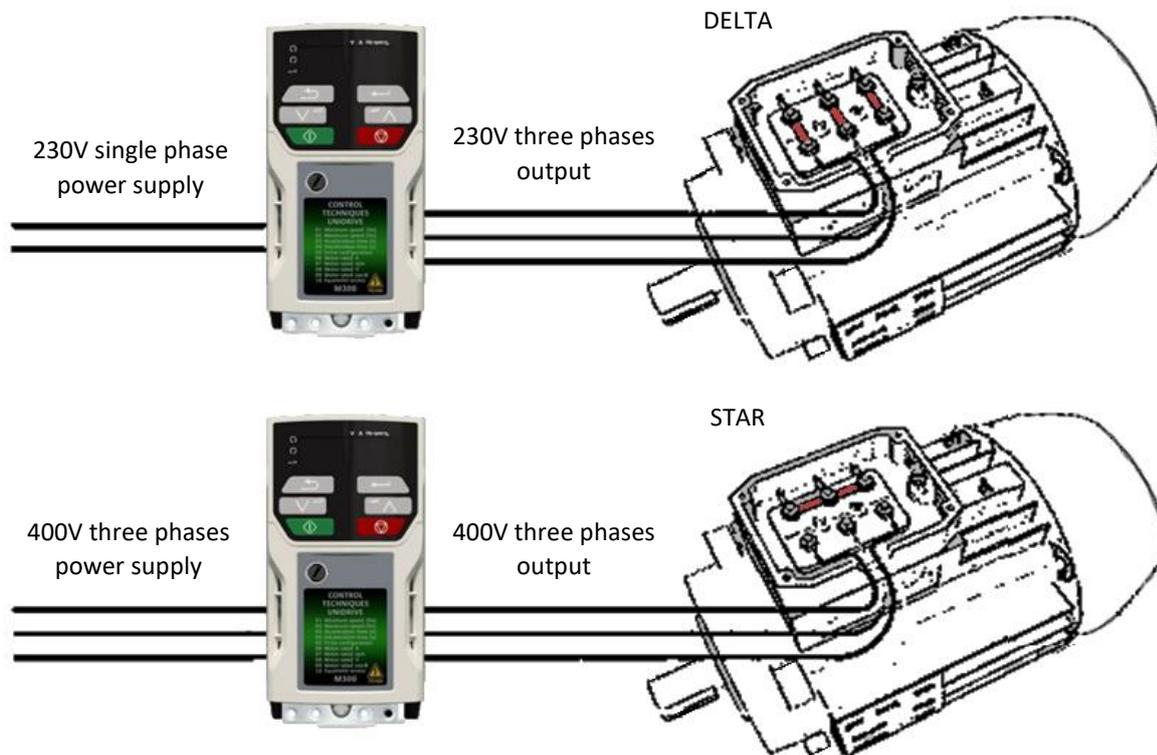
2.3. Cutting template

If you want to install your fume hood controller without the surface box mounting, you will need to make the following cuts:



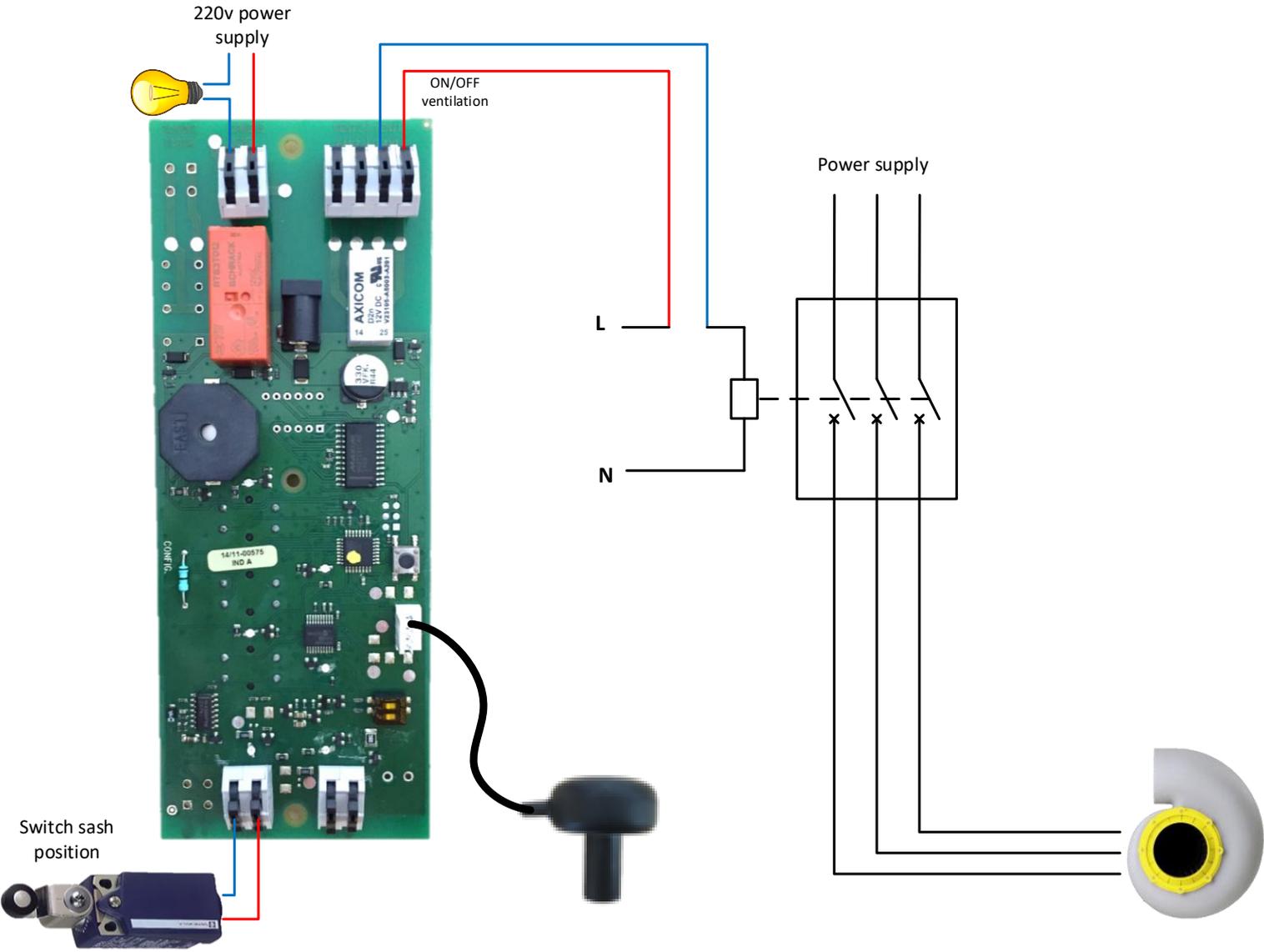
2.4. Installation tips

- Do not install the sensor on the extraction tube above the fume hood
- Avoid installing the sensor in a dead zone of the fume cupboard
- The probe must pass entirely through the fume cupboard ceiling. Otherwise, you must use a 25mm PVC tube to extend the outlet.
- A speed of 0.2 m/s minimum must be measured through the sensor to ensure proper operation.
- When adjusting the controllers, it is necessary that:
 - The fans are running
 - The laboratory is completely closed (doors, windows, etc.)
 - Have an anemometer
- Pay attention to motor connections (star or delta)



Note: For type A controller, no driver is necessary.

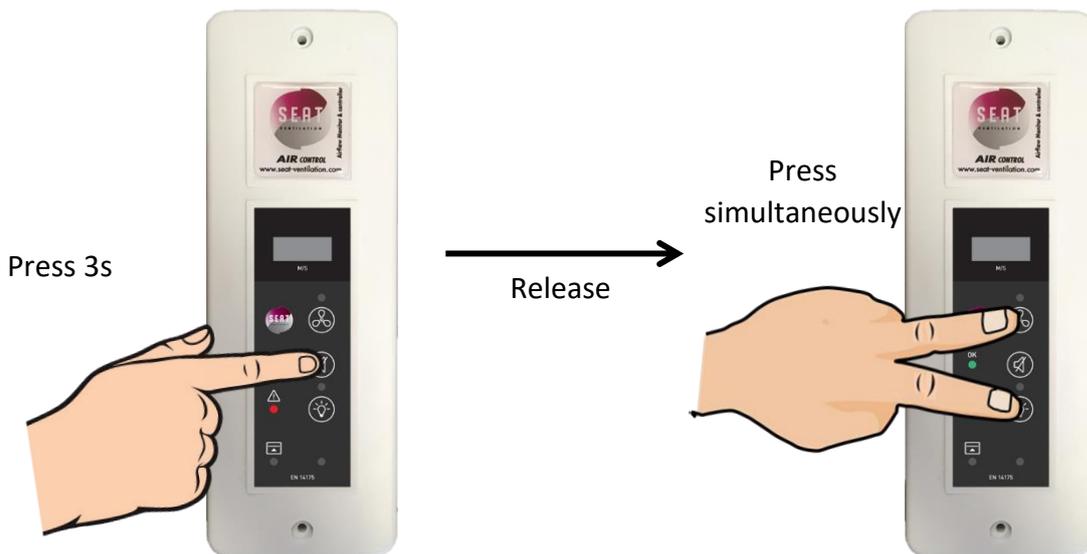
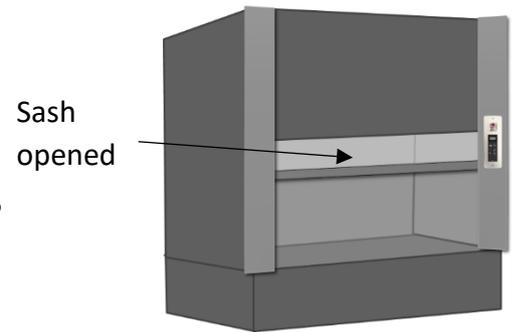
3. Wiring diagram



4. Adjustment procedure

Alarm threshold setting

- 1 Switch on ventilation with
- 2 Lift up the sash in high position (400 or 500 mm). Wait 15 seconds for the air speed to stabilize.
- 3 Enter the setting mode: Press for at least 3 seconds on release and then press simultaneously on and shortly. The beep then rings twice and the red LED flashes. You are in the setting mode.

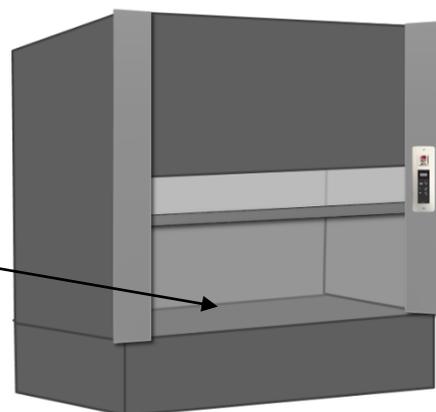


Speed display setting (IF DIGITAL DISPLAY MODEL)

If you don't have the digital display option, go straight to stage **6**

- 4 Measure the front air speed of the fume hood with an anemometer. Wait 15 seconds for the air speed to stabilize before measuring.

Make this measurement with the sash at working height.





- 5 Press the push-button on the electronic board to synchronize the speed reading on the anemometer and the speed displayed on the controller. One push increase by 0.1 m/s over a range of 0.3 to 0.7 m/s.

- 6 After adjustment, a long press on  allows to validate the alarm threshold 0.1 m/s below the speed measured by the controller and to exit the setting mode.

The controller is now ready to use.

5. Factory reset

Press the push button on the electronic board for 15 seconds (the buzzer then rings 5 times to indicate that the procedure is working properly).

This procedure resets the factory settings: Setpoint and display to 0.5m/s, 7V analogue output and all relays and LEDs to off.



6. Test mode

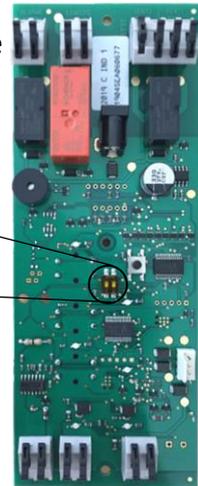
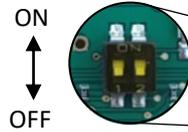
“Test” mode confirms that all device functions are operational. To access the “Test” mode follow the procedure:

- 1 Press the 3 buttons simultaneously   
The buzzer then sounds 2 times.
- 2 Press the 3 buttons one after the other to check their correct operation:
 - The buzzer sounds 3 times to indicate normal operation.
 - The buzzer sounds 10 times if the function is faulty.

7. Change the audible alarm delay

It is possible on the rear face to change the buzzer's activation time with the two switches.

- 1 = ON: Alarm still active
- 1 = OFF: Alarm disabled if ventilation is off
- 2 = ON: delay set at 30s
- 2 = OFF: delay set at 15s



8. Error messages (digital display option)

- The controller displays « **HI** » for a frontal speed greater than 0.8 m/s.
- The controller displays « **LO** » for a frontal speed lower than 0.2 m/s.
- The controller displays « **PB** » in case of speed sensor problem.



9. FAQ

Questions	Solutions
No indicator	Check that the power supply is correctly connected.
The fan does not start	Check that the controllers ON button is fully engaged and that the yellow light above is on. Check wiring.
The display shows "PB"	Check that the speed sensor is correctly connected to the controller. Turn off and then restore power to the controller.
The light does not illuminate	The controller does not provide power, it provides a normally open contact. The light must be connected in the same way as if it were controlled by a switch.
The frontal speed is insufficient	Check the direction of rotation of the motor. Check that the system of installation is correct.
Front speed is too high	Check that the sizing of the installation is correct.
The display shows "8.8.8"	You are in Test mode: see the settings on page 12 to exit this mode.
Green LED is on and red LED is flashing	You are in setting mode: see pages 11-12 to exit this mode.
The alarm often sounds after a short time	Change the alarm delay with the CPU switches: see at the top of this page.



10. Maintenance

- Do not use abrasive materials.
- Avoid splashing liquid on the plastic box.
- Do not install the sensor on the extraction tube above the fume hood.
- Do not install the sensor in a dead zone of the fume hood.
- The sensor must not be subjected to air flow disturbances.
- The sensor must lead to the laboratory pressure.
- When setting up the controller, it is necessary that:
 - The fan is running
 - The lab must be completely closed (doors, windows, etc.)
 - Have an anemometer

11. Warranty

SEAT Ventilation guarantees that its equipment, products and parts are free from manufacturing defects under normal conditions of use for a period of two years after delivery to the first user. If a factory return is required during the two years period from the date of purchase, contact your distributor. Products must be returned to the point of purchase with a dated invoice.



SEAT VENTILATION SAS
PARC TECHNOLOGIQUE DELTA SUD
09340 VERNIOLLE
France
E-mail: info@seat-ventilation.com
Site Web: www.seat-ventilation.com

