

## ACS1200 Fume Cupboard Control System

The ACS1200 is a microprocessor based control system specifically designed to control the functions of a typical fume cupboard. Features of the ACS1200 include:

- Remote control for services including fan, power, lighting and gas.
- Auxiliary output, for an additional service such as a spray bar or pump.
- A pre-purge service outlet delay of 60 seconds before gas and power connections become active.
- A selectable post-purge of 5 or 20 minutes.
- Monitoring of loss of airflow.
- An emergency stop switch input to shut down utilities.
- A visual and audible alarm to warn the operator if the airflow falls below the required level, if power fails or other failures in the control system.
- Battery backup to allow the system to report mains power failure.
- Multiple front panels can control a single fume cupboard.

A typical fume cupboard control system will consist of:

- An ACS1200 control module
- An ACS 1200 membrane front panel display
- An ACS1200 front panel circuit board



**Figure 1 – ACS1200 Components**

*From left to right: membrane front panel, front panel circuit board, control module*

The fume cupboard manufacturer will typically supply:

- A 12 volt power supply
- Backup 9V rechargeable battery
- A booster solenoid for controlling external devices if the current requirements exceed 5 Amps at 240 volts
- A mechanical pressure switch to sense airflow failure
- An emergency stop switch
- Cabling between the modules
- Lights, solenoids, fans, etc... as required to complete a working fume cupboard.

### **ACS1200 Control Module**

The main control module is a DIN rail mount enclosure containing the microprocessor and main control electronics.

The unit is fitted with 6 relays each able to switch 5 amps at 240 volts. Each relay contact is isolated. The relays provide the following control:

- Gas Solenoid
- Power outlet
- Auxiliary output
- Light
- Fan

Separate inputs are provided for:

- Front panel circuit board connection ( 4 wires)
- External 9V rechargeable battery
- Airflow fail sensor

An additional 2 wire terminal is provided for 12V AC or DC power.

A switch is provided to select the variable post-purge delays and also place the unit into a test mode.

All terminals are plug and socket screw terminals. The removable plugs are provided with the unit.

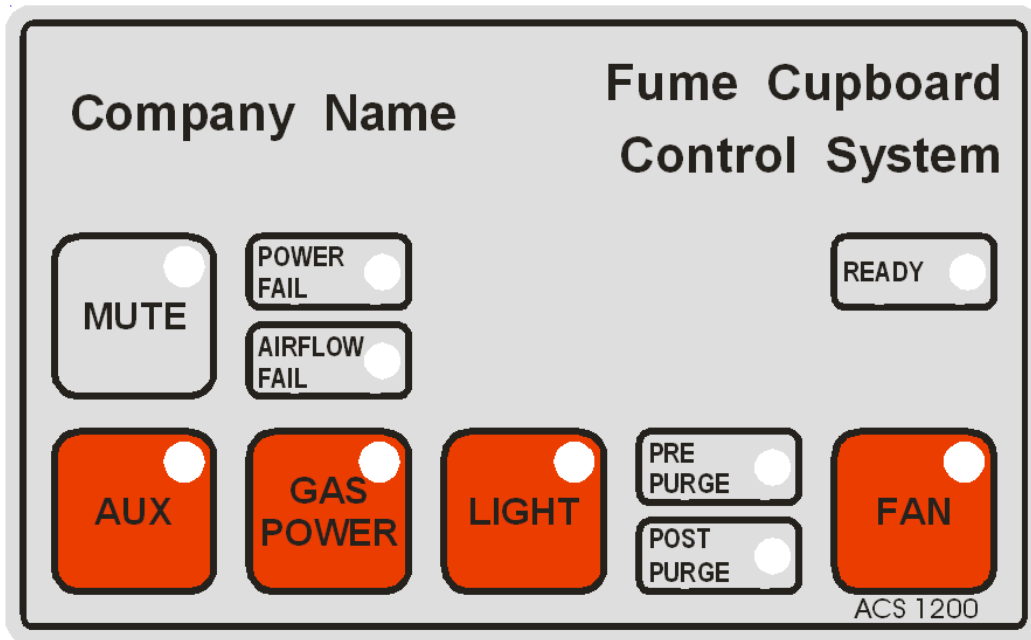
### **ACS1200 Front Panel**

The front panel is a combination membrane switch with LED indicators to show system status. The material is polyester, with a three-color silk screen graphic image.

The front panel is supplied with 3M double sided adhesive for attachment to the face of the fume cupboard.

The front panel connects to a front panel circuit board via a flexible cable.

Multiple front panels can be connected to a single control system, allowing double sided and triple sided fume cupboards to operate from a single control system.



**Figure 2 – ACS1200 Front Panel**

*Panel can be supplied with a customised company name*

#### **ACS1200 Front Panel Circuit Board**

The front panel circuit board is located inside an appropriate cavity of the fume cupboard. The circuit board houses drivers for the LED indicators, sensors for the switches, an input for the emergency stop switch, and a buzzer to provide audible and alarm feedback.

The circuit board connects to the control module via a 4 wire twisted pair cable.

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