VENTGUARD PLUS
INTEGRAL FAN CURRENT MONITOR

| OVERVIEW |

The VentGuard Plus is a cost effective BS6173 and IGEM/UP/19 compliant ventilation interlock, with built in fan current monitors for the intake and extract fans however can still be used with Air DP Switches.

The push button setup for the Fan Current Monitor configuration makes commissioning simple. Just set your fan to the Min/Max speeds, press the button to set, then select your tolerance.

With dedicated interfaces and LEDs for the intake and extract fans, the VentGuard will provide an indication of any ventilation issues however will not shut down the gas supply until the ventilation has not been operating for a full 30 seconds to avoid any nuisance tripping.

| KEY FEATURES |

- Clear LED indication
- Push Button Fan Current Monitor configuration
- Selectable alarm tolerance
- Wide current range
- Integral 2 Channel Fan Current Monitor
- Interfaces for:
  - Intake Fan DP
  - Extract Fan DP
  - CO2 Sensors
  - Remote Emergency Stop Buttons
- Mains rated status relay for external monitoring
- Built in time delays to avoid nuisance tripping
- **5 Year Warranty**
- **UK MANUFACTURED**

DIMENSIONS

Height	180mm
Width	130mm
Depth	65mm / 70mm including Stop & Key Switch

TECHNICAL SPECIFICATION

Power Supply	90 ~ 300VAC 50/60Hz	
Power Consumption	3W Max (Panel Only)	
Fan Current Rating	0.2 ~ 20A @ 230V	
Outputs	Gas Solenoid	Switched Mains (5A Fused)
	Valve Status	SPDT - 5A @ 250V Max
IP Rating	IP65	
Housing Material	PC/ABS	
Colour	Pure White (RAL 9010)	
Approval	CE, UKCA	

EXTERNAL DEVICE INTERFACES

CO2 Monitor	LV Signal to monitor external VFC
Intake Fan	LV Signal to monitor external VFC
Extract Fan	LV Signal to monitor external VFC
Remote Stop	LV Signal to monitor external VFC

PART NUMBERS & COMMON ACCESSORIES

PART NO	DESCRIPTION
VGP-PO	VentGuard Plus Panel
CO2M	CO2, Temp & RH Monitor (230V)
ADPS	Air Differential Pressure Switch (20-300Pa) c/w Duct Kit
RSTOP-C	Remote Emergency Stop - Call Point
SVxx	XXmm Gas Solenoid Valve (230V) - Specify Size

FLAMEFAST CONTROLS

T: 01925 281 249
W: www.flamefastcontrols.co.uk
E: sales@flamefastcontrols.co.uk

INSTALLATION & OPERATION
VENTGUARD+

TECHNICAL SPECIFICATION

Power Supply	100 – 240V AC 50/60Hz
Power Consumption	3W Max (excluding Valve)
Fan Current Rating	0.1 – 20.0A @ 230V AC
Power Output	Gas Solenoid – Switched Mains
VFC Output	SPST – 5A @ 230V Max
Operating Conditions	Temp 0 - 50°C
	Humidity 0 - 95% (NC)
Material	PC
Colour	Grey (RAL7035)
IP Rating	IP65
Approval	CE, UKCA

DIMENSION

Height - 180mm **Width** - 130mm **Depth** – 60mm / 65mm inc. Key & Stop

IMPORTANT – Please read carefully:

1. This product must be installed by a competent/qualified person in accordance with all relevant regulations and legislations.
2. This product must be mounted flush to the wall (or similar) using secure fixings to prevent access to the rear.
3. Be sure to isolate the mains supply before removing the unit fascia.
4. If there is any question over the application, please contact to discuss.
5. This product must be connected to an accessible 5A fused spur.
6. If this equipment is used in a manner not specified by the manufacturer, protection provided may be impaired.
7. This product is designed for indoor use with standard atmospheric conditions.
8. To comply with the relevant legislation, commercial kitchen interlock must be fitted with a CO2 Monitor

The information contained within this guide is to cover typical installations, however allowances must be made for the site-specific requirements. If in doubt always contact Flamefast for further guidance.

PANEL MOUNTING

The control panel should be mounted at a readily accessible height (typically 1.2 – 1.6m from the finished floor level) ensuring that the panel mounted Emergency Stop Button is easily accessible. The panel should ideally be located next to the exit with any additional exits covered by remote stop buttons.

For securing the panel to the wall there are four mounting holes, one in each corner; these should be used to ensure that the IP rating of the unit is not compromised.

ELECTRICAL CONNECTIONS

All electrical connections are to be made as indicated on the wiring diagram (overleaf) and the maximum cable size should not be exceeded.

Any alarm (volt free) inputs must be wired using a dedicated volt free contact and where more than one device is used these MUST be wired in SERIES.

VOLT FREE INPUTS

There are dedicated inputs for:

- Remote Emergency Stop buttons (Flamefast **RSTOP-C**)
- CO2 Monitors (Flamefast **CO2M**)
- Intake Fan Air Differential Pressure Switch (Flamefast **AIRDPS**)
- Extract Fan Air Differential Pressure Switch (Flamefast **AIRDPS**)

When not use, these should be linked out, otherwise the panel will raise an alarm.

FAN CURRENT MONITORING

There are two integral current monitors to provide a BS 6173 and IGEM/UP/19 compliant ventilation interlock. These work by monitoring the fan power absorption, and assuming that the current consumption is proportionate to the fan/air speed, alarm thresholds can be set to isolate the gas supply if the fan current is deemed outside of the acceptable range.

QUICK SETUP GUIDE

The below guide provides details on how to setup the current monitoring.

Prior to power-up of the panel:

1. Use the configuration jumpers to select which functions are to be used by moving the jumper between **ON** and **OFF**:
   a. **EXTRACT** – to enable/disable the Extract fan current monitoring interface
   b. **INTAKE** – to enable/disable the Intake fan current monitoring interface.
   NOTE: If the current monitoring is not being used, move the Intake and Extract jumpers to the OFF position.
   c. **OVERCURRENT** – to enable/disable the Overcurrent function (isolates the gas supply if a high current threshold is detected – such as from a motor failure).
2. Move the **SENSITIVITY** jumper to the desired percentage. This will select the acceptable tolerance before an alarm condition. As an example, if the Undercurrent is set to 4A, the Overcurrent set to 10A, and the sensitivity set to 10%, the VentGuard will alarm at 3.6A (10% below 4A) for Undercurrent, and 11A (10% above 10A) for the Overcurrent. This allows for fluctuations in current draw and some tolerance for other affecting factors such as filter deterioration.
3. To allow the over and undercurrent to then be set, move the **SETUP** jumper to the **ON** position to enable the commissioning buttons.

You are now in position to power up the system. Then once powered:

1. Set the fans running to what is deemed the minimum acceptable running speed, and leave for at least 1 minute to allow the fans to stabilise.
2. Once settled, Press the **UNDERCURRENT** button, at which point the LEDs on the PCB will flash Green ten times.
3. Then set the fans running to what is deemed the maximum acceptable running speed, and leave running for at least 1 minute to allow the fans to stabilise.
4. Once settled, press the **OVERCURRENT** button, at which point the LEDs on the PCB will flash Green ten times.

Once complete, move the **SETUP** jumper back to the **OFF** position. Whilst the setup jumper is in the on position the unit will not enter normal operating mode.

CURRENT MONITOR INDICATION

The PCB mounted LEDs will provide an indication of the current state:

Green	Current between setpoints
Amber	Undercurrent Alarm
Red	Overcurrent Alarm
Flashing Amber	Undercurrent not set
Flashing Red	Overcurrent not set
Off	Channel disabled

TROUBLESHOOTING

The LEDs on the front of the panel provide details of any alarm conditions:

LED	BEHAVIOUR	AUDIBLE	DESCRIPTION
Power	Flashing Slowly		Previous Power Loss
Power	Flashing Quickly		SETUP Jumper fitted
Extract Fan Fail	Solid Red	Constant	Extract DP Fault or Undercurrent
Extract Fan Fail	Flashing Red	Beep	Overcurrent
Intake Fan Fail	Solid Red	Constant	Intake DP Fault or Undercurrent
Intake Fan Fail	Flashing Red	Beep	Overcurrent
Emergency Stop	Solid Red	Constant	Remote Stop Button Pressed
Emergency Stop	Flashing Red	Beep	Panel Stop Button Pressed
CO2 Monitor	Solid Red	Constant	High CO2 Levels

If you are not getting Power out to the Gas Solenoid, but the Gas ON light is Green, please check the PCB mounted fuse for continuity.

If any of the inputs are showing alarm, link them out to prove the functionality of the panel. If the panel then shows at healthy, investigate the item connected.
DO NOT LEAVE LINKED OUT.

CONNECTION & CONFIG
VENTGUARD+