



GAS VENTILATION INTERLOCK & PRESSURE PROVING SYSTEMS

VENTILATION INTERLOCK KITCHEN EQUIPMENT - ENGINEERED TO DELIVER EXCEPTIONAL LEVELS OF SAFETY

THE MERLIN RANGE
DESIGNED FOR COMMERCIAL KITCHENS

AGS
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GAS VENTILATION INTERLOCK & PRESSURE PROVING SYSTEMS

American Gas Safety is becoming North America's leading designer, manufacturer, and supplier of modern gas safety products. These include gas ventilation and gas interlock systems for use in commercial kitchens. We also design and manufacture our own gas pressure proving systems and gas detection systems for boiler houses and school science laboratories.

American Gas Safety has 30 years of experience in the gas industry and has become the trusted name to provide gas safety and installation solutions to the commercial market.

Meeting Gas Safety Standards Is Our Business And Our Passion

Our fully qualified engineers and designers keep up to date with industry practices and developments, adhering to all health and safety legislation, as well as, building codes. Therefore our customers can feel assured that the solutions we are providing along with the technical backup are second to none.

American Gas Safety is a family run and operated business with excellent customer service and value for money at its core.

Advantages Of Working with American Gas Safety LLC

- Full technical support available
- Competitively priced
- Complete After Sales Care
- Full product catalogue available at www.americangassafety.com
- UL Certified Factory and Products
- Easy installation
- Express delivery available nation wide
- Modern digital design
- Full product operating and maintenance available online.



American Gas Safety - Head Office

The Merlin Range



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FIND THE PANEL YOU NEED IN AN INSTANT

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CT1500S SYSTEM

A Gas Ventilation Interlocking system is health and safety driven. Without extraction fans active, kitchen staff can breathe in the fumes from burnt gases including carbon monoxide and this has led to a surge in throat cancer cases. For this reason it was felt that gas should not be available if the exhaust fans above the kitchen hood are not operating.

The Merlin 1500S ventilation interlock system is specifically designed for use in commercial kitchens where the appliances have flame failure devices, therefore gas pressure proving is not a requirement. It acts as an interlock between the kitchen hood and the gas solenoid valve. The system can work in conjunction with both current monitors and air pressure differential switches in order to interlock with up to 4 fans.

There is also a CO₂ Mode, this allows the gas supply to continue for up to 24 hours in the event of an exhaust fan failure as long as a CO₂ Monitor is fitted & the air quality is at a safe level.



Key Features of the Merlin CT1500S System

- Allows Compliance with ICC Fuel Gas Code 505.1.1, 507.2.1.1, 904.11.2 & NFPA 96
- Clear LED display for system indications
- Interlocks with fans through Air PD switches or current monitor sensors
- Interlocks up to 4 fans
- Allows operation of the appliances for 24hrs in the event of a fan failure using the Merlin CO₂ monitor
- Easy installation, Perfect for renovation work and or new builds
- Remote EM stop buttons
- Existing fire alarm and BMS connectivity
- Optional Gas Leak sensor



KITCHEN EQUIPMENT ENGINEERED FOR SAFETY

Ventilation or Gas interlocks ensure that appliances cannot be operated without the accompanying exhaust hood system also operating at such a level that would be sufficient to expel fumes & combustion gases.

The Merlin 1500S confirms that the fans are operating before allowing gas to be supplied to the appliances and will close the gas supply solenoid if the exhaust fans fail. The fans can be interlocked via air differential switches mounted in the duct work or by means of a current monitor mounted between the panel and the fan speed control.

The benefit of the current monitor is that air differential switches may get blocked by grease or debris, or staff members may turn down the fan speed to alter environmental temperatures. The PM2 current monitor can be easily calibrated on site to meet specific site requirements.

The last thing commercial kitchens need is to be down because of faulty fan equipment. The Merlin 1500S can be coupled with an optional CO2 monitor that will allow the gas to be supplied to the appliances for 24hr even after a fan fault. The CO2 monitor will continually check the environment for harmful levels of CO2 and shut the gas solenoid valve upon detection.

Gas leak and CO detectors are also available as optional extras adding an extra level of safety for the staff and patrons. Clear LED indicators clearly communicate the condition of the panel at all times and a lockable key switch ensures only authorized staff can operate the kitchen.

Modern digital components, the clearly labelled PCB and intuitive design with no on site calibration or lengthy set up required make the Merlin 1500S easy to install.



**American Gas Safety has a full technical team available to help:
Call us: +1 (727) 608 4375 or email: info@americangassafety.com**

Merlin CT1500S System Wiring Diagram

1. 110v AC Supply
2. 110v AC output to valve
3. Input - close when fan on
(for use with PD switches or current monitor)
4. Terminal for BMS connections
5. Disabled
6. Remote EM stop and fire alarm connection
7. Gas detector input & Permanent 12v DC output
8. CO2 Monitor output
9. Permanent 12v DC output
(normally used to power PM2 current monitor)

Merlin CT1500S Box Dimensions

Height	7 inches
Length	10 inches
Depth	2.5 inches

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GAS FOR

SUPPLIERS OF
SAFETY TO:



A TASTE OF PORTUGAL



INTERLOCK EQUIPMENT THE CATERING INDUSTRY



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CT2000S SYSTEM

The Merlin 2000S ventilation interlock system is designed to provide an interlock between the gas equipment and ventilation systems in commercial kitchens. This panel is designed for use when the kitchen appliances do not have a flame failure device fitted, therefore gas proving is recommended

The Merlin 2000S System acts as an interlock between the exhaust fans and the gas solenoid valve. The system is compatible with both current monitors and air pressure differential switches in order to interlock with up to 4 fans. The Merlin 2000S is fitted with CO₂ Mode which allows the kitchen to have access to their gas supply for up to 24 hours in the event of an exhaust fan fault as long as they have a CO₂ Monitor fitted and the air quality is at a safe level. The system can also work in conjunction with natural gas, carbon monoxide and LPG sensors.



Key Features of the Merlin CT2000S System

- Allows Compliance with ICC Fuel Gas Code 505.1.1, 507.2.1.1, 904.11.2 & NFPA 96
- Clear LED display for system indications
- Interlocks with fans through Air PD switches or current monitor sensors
- Gas proving for appliances without flame failure devices.
- Allows operation of the appliances for 24hrs in the event of a fan failure using the Merlin CO₂ monitor
- Continuous low pressure monitoring of gas supply.
- Easy installation, Perfect for renovation work and or new builds
- Existing fire alarm and BMS connectivity
- Optional Gas Leak sensor
- AGS 3yr Warranty



KITCHEN EQUIPMENT ENGINEERED FOR SAFETY

Ventilation or Gas interlocks ensure that appliances cannot be operated without the accompanying exhaust hood system also operating, and operating at such a level that would be sufficient to expel fumes and combustion gases.

The Merlin 2000S confirms that the fans are operating before allowing gas to be supplied to the appliances and will close the gas supply solenoid if the exhaust fans fail. The fans can be interlocked via air differential switches mounted in the duct work or by means of a current monitor mounted between the panel and the fan speed control.

The Merlin 2000S also comes with the added benefit of gas pressure proving. Using our unique pressure transducer fitted to the downstream port of a gas solenoid valve the Merlin 2000S will check for open gas taps and damaged pipes before allowing gas to be supplied to the appliances.

The panel will also continuously check the pressure of the gas supply to protect the appliances from low gas supply pressure which could lead to burners being extinguished by draft and allowing gas in to the kitchen environment.

The Merlin 2000S has the CO2 mode to allow a gas supply to appliances for 24hr in the event of a fan failure to allow time for faulty fan equipment to be repaired or replaced. The additional CO2 monitor continuously checks for high levels of CO2 and shuts down the gas supply solenoid upon detection.

Coupled with all the benefits of the 1500S the Merlin 2000S delivers an industry leading level of safety for the staff, patrons and the buildings as well.



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Merlin CT2000S System Wiring Diagram

1. 110v AC Supply
2. 110v AC output to valve
3. Input - close when fan on
(for use with PD switches or current monitor)
4. Terminal for BMS connections
5. Pressure sensor input
(wire to pressure transducer using 3 core wire)
6. Remote EM stop and fire alarm connection
7. Gas detector input & Permanent 12v DC output
8. CO2 Monitor output
9. Permanent 12v DC output
(normally used to power PM2 current monitor)

Merlin CT2000S Box Dimensions

Height	7 inches
Length	10 inches
Depth	2.5 inches



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CO2 MONITOR & PM2

The Merlin CO2 Monitor is designed specifically for use with the Merlin range of safety panels. The Merlin CO2 monitor has a LED display showing the user a clear and precise reading of the CO2 levels in a kitchen. A traffic light color code system shows the user, at a quick glance, that the air quality in the room is at a safe, adequate, or dangerous level.

The Merlin CO2 Monitor is a hard wire, 120V powered unit and can be used independently or in conjunction with one of the Merlin gas safety systems. In the event of high CO2 levels the Merlin CO2 Monitor would sound an audible alarm to alert the immediate vicinity, and send a signal to the gas safety panel (if fitted) which in turn will close the gas supply solenoid valve. The Merlin CO2 Monitor does not require on site or on-going calibration.



The Merlin Power Monitor (PM2)

The Merlin power monitor is a method used for interlocking a kitchen's gas supply with the ventilation system. As an alternative to pressure differential switches the PM2 is designed to monitor the current going to a ventilation fan. When the fan is turned on the PM2 monitors the electrical current going to the fan motor, when there is sufficient current going to the fan motor the PM2 sends a signal back to the Merlin system indicating the fan is running. Gas can now be introduced into the kitchen.

Advantages of the PM2 are:

- Can be used when pressure differential switches cannot be used e.g. wall-mounted fans.
- Reliable method of interlock, with no moving parts there's little to go wrong.
- Straightforward to install and calibrate.
- The PM2 can be easily adjusted to the user's requirements.



ANCILLARY PRODUCTS FROM AMERICAN GAS SAFETY

Gas Solenoid Valve

We only supply the best quality Gas Solenoid Valves which are design for safety and the control of various gases, including Natural gas, Propane and LPG. They are safety shut off valves – Normally closed, so when power is supplied to the gas solenoid valve it will automatically open and as soon as that power is taken away the gas solenoid valve will close.

The valves supplied are all covered by the American Gas Safety 3 year warranty and are tested and certified to UL standards. The valves are also rated to IP65.



Merlin Gas Detector Range

American Gas Safety supplies a full range of remote gas detectors for detecting CO, CO2, natural gas and LPG to compliment the Merlin range of panels. The detectors are designed using modern European digital components. If the relative gas is detected on the sensor head this will trigger the isolation of the power supply to the solenoid and isolate the gas supply.

This can then be rectified by resolving the leak, allowing the sensor head to clear and resetting the attached Merlin panel. There is no need for on-site calibration or re-calibration saving time and money.



Emergency Knock-Off Button

We only supply the highest quality emergency knock-off buttons for increased longevity and reliability. The Emergency Knock-off button's can either be twist release type, twist key release type or use a resettable Perspex screen, whichever the governing code stipulates. Once the EM stop button has been depressed the Merlin panel will not function until the system has been reset both at the button and on the unit.

There is no limit to the number of additional EM stops that can be fitted per Merlin panel and they are connected with low voltage cabling.



Air Pressure Differential Switch

We only supply the highest quality air pressure differential switches for increased longevity and reliability, they measure between 20-200Pa. Electrical connections are made by use of two-core cable.

Incorporated in each Merlin Gas Interlock system is a 10 seconds Airflow dropout delay. In the event of interruptions to airflow for less than 10 seconds the delay will allow the gas solenoid valve to remain open, preventing nuisance tripping. Should the airflow be interrupted for 10 seconds or more the fan fault LED will illuminate and the gas solenoid valve will close.





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