

# THE MERLIN RANGE

## MERLIN CT1750 SYSTEM

*The Merlin CT1750 System is an air quality control system.*

*This panel acts an interlock between the ventilation and the gas solenoid valve and also controls the fan speed via 0-10v DC output.*

*The 1750 also monitors carbon dioxide and carbon monoxide levels in the kitchen.*

The system is compatible with both current monitors and air pressure differential switches and can interlock with up to 2 fans.

The 1750 can also incorporate gas proving for when the gas appliances do not have flame failure devices.



### Key Features of the Merlin CT1750 System

- Complies with BS6173
- Carbon monoxide and Dioxide monitoring
- Allows manual fan speed control (via 0-10v dc output)
- Clear LED display for system indications
- ideal safety backup for solid fuel appliances
- Interlocking with fans using either Air PD Switches or Fan Current Sensors.
- Automatically increases the speed of the fans if used with CO2 and CO detectors, if detectors go into alarm , even if the panel is switched to the "off" position.
- Optional gas proving facility
- Easy Installation
- Will accept remote emergency knock-off buttons
- Can link to fire alarm or BMS systems
- Covered by S&S Northern Ltd 3 year warranty.



# KITCHEN EQUIPMENT ENGINEERED TO MEET BS6173

The Merlin CT1750 System has two built in 0-10V dc outputs, this is designed to control fan controllers which will in turn increase the speed of a fans should any Carbon Dioxide or Carbon Monoxide detector that is connected to the panel goes into an alarm condition. The fans can also be controlled manually from the panel using the up & down buttons located on the panel fascia.

The Merlin 1750 has the facility for connection of a Merlin Carbon Dioxide detector. Should the CO2 detector go into an alarm condition a signal will be sent to the 1750 panel, the CO2 LED on the panel will light and the gas solenoid valve will close. The 1750 will automatically increase the fans to reduce the CO2 levels. The gas supply can not be reinstated until the CO2 has reduced to an acceptable level.

If a gas solenoid valve is closed in a commercial kitchen that is fitted with standard gas ovens and grills the gas appliances will no longer give off dangerous gases such as Carbon Monoxide. However where solid fuel appliances such as charcoal ovens and grilles are installed there is a possibility that the coals will continue to smoulder and therefore produce harmful Carbon Monoxide even when the appliance is no longer being used.

If the detectors alarm due to higher than normal levels of gases being present in the kitchen, the fans will be instantly boosted to full speed, even if the Merlin CT1750 System is turned in the "off" position. Once the gases have been cleared, the fans will be shut down, ensuring the kitchen doesn't incur any unnecessary running costs.

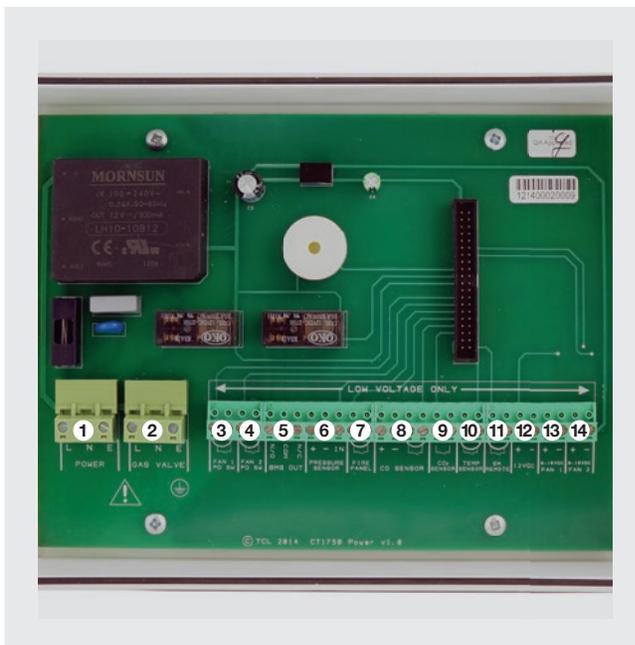
If the detectors go into an alarm condition during normal working conditions the fans will be boosted to maximum speed, the relevant "gas sensor" LED on the panel fascia will illuminate and the gas solenoid valve will automatically close. The gas valve cannot be reinstated until the gas has cleared.

Ventilation/gas Interlock ensures the gas solenoid valve cannot be opened until any fans connected to the panel are operating. If at any time the fan fails a signal will be sent to close any gas solenoid valve that is connected to the panel, the "fan fault" LED relating to the fan that has failed will flash and the gas solenoid valve will close.

The gas pressure proving can be used using our gas pressure transducer fixed into the downstream port of the gas solenoid valve. If the Merlin CT1750 is fitted with a gas pressure transducer and detects there is a drop in gas pressure , or a gas leak, within the 30 second start-up period, the gas solenoid valve will not be allowed to open and the panel will show "test fail". If the gas line is found to be sound during the 30 second test period the panel will go to "Gas on" and the gas solenoid valve will open. If the incoming gas pressure drops below 12mb, for more than 10 seconds, the gas valve will shut and the "pressure low" LED will illuminate.

#### Merlin CT1750 Box Dimensions

Height	178mm
Length	254mm
Depth	62mm



**S&S Northern has a full technical team available on 01257 470 983 or if you are based in the South East please call 01702 291 725**

#### Merlin CT1750 System Wiring Diagram

1. 230V AC power supply
2. 230V AC output to gas valve (3A)
3. Fan 1 interlocking input – N/C when fan on, open when fan off (volt free)
4. Fan 2 interlocking input – As above
5. Terminal for BMS connections
6. Pressure transducer wired to terminal – (if pressure proving is req.)
7. Fire alarm connection – N/C, open in alarm condition (volt free)
8. CO (Carbon monoxide) terminal (+ & - is a 24VDC supply to power the sensor / N/C switch, open in alarm condition – Volt free)
9. CO2 (Carbon Dioxide) terminal - N/C switch, open in alarm condition (volt free)
10. For connecting a temperature duct sensor - N/C - open in alarm condition (volt free)
11. For connecting a remote knock off button - N/C switch, open in alarm condition (volt free)
12. 12VDC permanent output
13. Fan 1, 0-10V output (This voltage will be increased and decreased via the up/down switches located on the panel fascia. This enables us to regulate the fan speeds via an external speed controller which can accept this control signal)
14. Fan 2, 0-10V output (As above)