

Troubleshooting Guide

Merlin 1500S Gas Interlock System



Gas Safety Products

26/01/2016

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1 General information

The Merlin 1500S is a ventilation interlock panel.

The Merlin 1500S can receive connections from up to four external remote air pressure differential switches or current monitors, remote emergency shut-off buttons, gas detectors and a Merlin CO₂ monitor. It can also be integrated with a BMS and fire alarm.

2 Fault LED

2.1 No Power LED Illuminated

- 1 If the system is connected to the mains supply, the Power LED will illuminate. Please ensure there is in fact 230/240V going to the 'Power' terminal.
- 2 If the system is connected to the mains supply and the power LED, located at the bottom right side of the board, is not illuminated please check to see if the 3A fuse is still intact.
- 3 Please make sure the ribbon, which connects the front and back PCB's, is securely connected.
- 4 If none of the above have rectified the fault please contact S&S Northern for further assistance.

2.2 Emergency Stop Fault

- 1 If the front fascia emergency stop has been pressed, please re-press the button to release then reset the panel using the key switch.
- 2 If you have a remote emergency stop connected to the Merlin 1500S please ensure this has not been activated. If this has please reset the emergency stop then reset the 1500S with the key.
- 3 If you have multiple remote emergency stops connected to the same control panel, please ensure these have been wired in a loop series to our panel and connected to the 'EM REMOTE' terminal in the Merlin 1500S.
- 4 If you are not using an additional emergency stop, please ensure the 'EM REMOTE' terminal is linked out. Check that the link is securely connected by ensuring you have continuity.
- 5 If none of the above have rectified the fault please contact S&S Northern for further assistance.

2.3 Fan Fault

- 1 Ensure the fan(s) are operational.
- 2 If you are using an air pressure differential switch please ensure this is correctly wired using the normally open contact on the air pressure differential switch so that a closed signal is sent back to the Merlin 1500S when air flow is seen. For further information on the location and installation please contact S&S Northern for further assistance.
- 3 If you are using a PM2 current monitor, please ensure this has been calibrated as detailed in the manufacturer instructions.
- 4 If you are using a CS switch, please ensure that the red 'on' LED light is illuminated. If it is not illuminated firstly confirm that the fan is in fact on, if it is, to increase the sensitivity of the switch you may need to increase the number of loops the live wire is taken through the coil.
- 5 If none of the above have resolved the error please contact S&S Northern for further assistance.

2.4 Gas Detected

- 1 Please ensure there is not an actual gas leak.
- 2 If you have any gas detectors connected to the panel such as Natural Gas, LPG or Carbon Monoxide please ensure these are wired correctly to the 'Gas Detector' terminal.
- 3 If you are not using any gas detectors please ensure that the \perp terminal has been linked out as factory set and is securely above the metal plate.
- 4 If none of the above have resolved the error please contact S&S Northern for further assistance.

2.5 CO2 High

- 1 If the CO2 monitor is detecting levels of CO2 higher than the permitted alarm level (generally 4500ppm) for this unit, which in turn is sending a fault signal to isolate the gas supply. To prevent this please try increasing the ventilation or contact S&S for any further back up.
- 2 If you are not using a CO2 monitor please ensure the 'CO2 Monitor' terminal has been linked out and is securely above the metal plate.
- 3 Please make sure the wiring is correct between the Merlin 1500S and the CO2 monitor, this will be wired normally closed & common into the alarm or pre-alarm terminals.
- 4 If none of the above have resolved the error please contact S&S Northern for further assistance.

2.6 Additional common faults

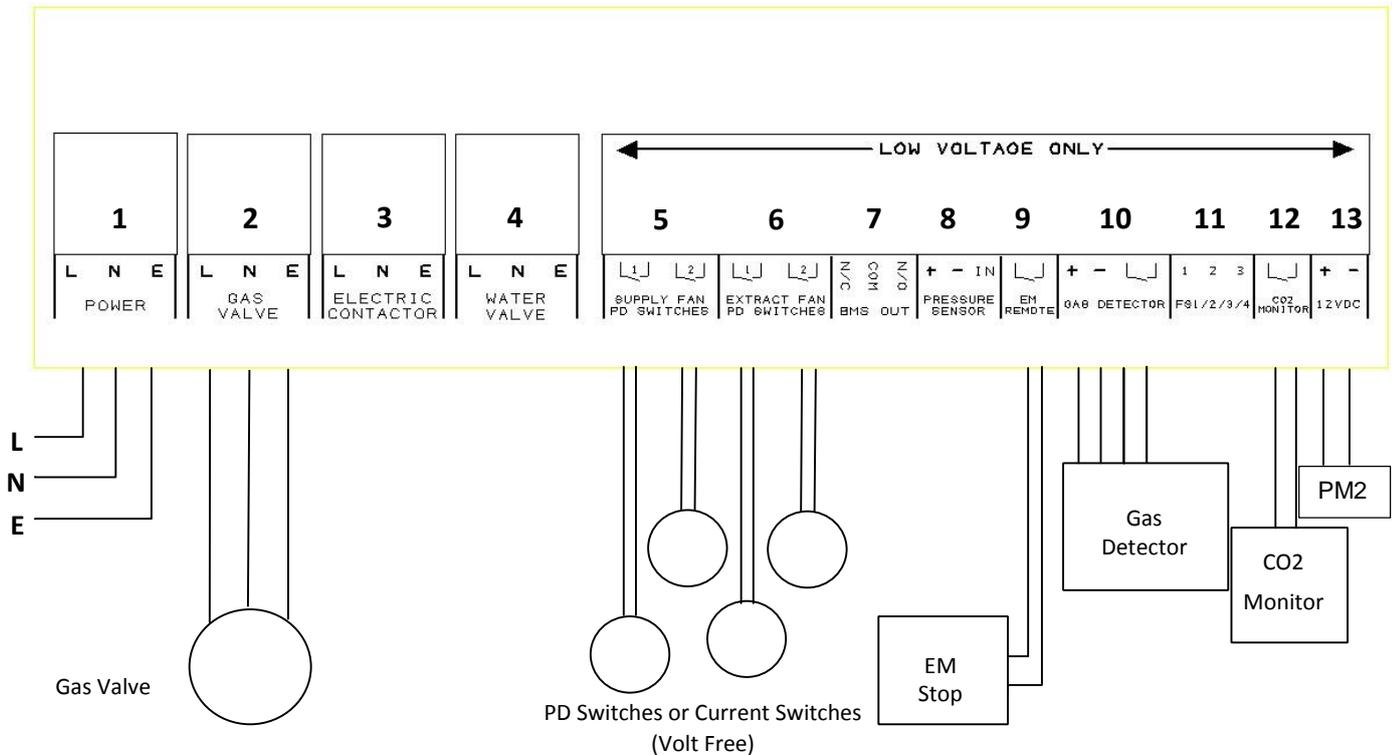
- 1 Gas is on without the fans running - The fan PD terminal links have been left in? The links should be removed for the fans we are monitoring. By having the link still in the panel will never detect a fan fault regardless of it being calibrated or not.

3 Operation Instructions

3.1 How to turn the system on and off

1. Turn the Fans On.
2. Turn the key switch to on position.
3. To turn the system off, turn the key switch to off position.

1500S Wiring Diagram



1. Mains Input 230VAC.
2. Gas Solenoid Valve Power Output, 230VAC.
3. This terminal is disabled on this system.
4. This terminal is disabled on this system.
5. Supply Fan 1 external pressure differential switch or current switch. **VOLT FREE INPUT**
6. Supply Fan 2 external pressure differential switch or current switch. **VOLT FREE INPUT**
7. Extract Fan 1 external pressure differential switch or current switch. **VOLT FREE INPUT**
8. Extract Fan 2 external pressure differential switch or current switch. **VOLT FREE INPUT**
9. BMS output contacts. Normally Closed, Common and Normally Open.
10. This terminal is disabled on this system.
11. Remote EM Stop buttons and Fire Alarm input wired in series (purchased separately). **VOLT FREE INPUT**
12. Methane, CO or LPG Detector, power supply and **VOLT FREE INPUT** (purchased separately).
13. Fan Switch output (purchased separately). For wiring instruction see Fan Switch user manual.
12. CO2 Monitor (purchased separately). **VOLT FREE INPUT**
13. Permanent 12VDC output (Normally used to power a PM2 Current Monitor).

Please note, Mains wires and low voltage wires should not be run in the same conduit as per the **LOW VOLTAGE DIRECTIVE**

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