

Troubleshooting Guide

Merlin 1000BH Gas Proving/Gas Detection System



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1 General information

The Merlin 1000BH is a gas pressure proving & gas detection panel for use in various applications.

The system comprises a control panel and a gas pressure sensor. The Merlin 1000BH can receive connections from remote emergency shut-off buttons, up to two external gas detectors, fire alarm panels and heat detectors. It also can be integrated with a BMS.

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 1000BH please ensure this has not been activated.
- 3 If you have multiple remote emergency stops, please ensure they are correctly wired in a loop series to our panel and connected to the 'EM REMOTE' terminal in the Merlin 1000BH. If incorrectly wired in a parallel circuit the stop buttons will not activate.
- 4 If you are not using an additional emergency stop, please ensure the 'EM REMOTE' terminal is linked out.
- 5 If none of the above have rectified the fault please contact S&S Northern for further assistance.

2.3 Test Fail

- 1 Please ensure all gas appliances from the downstream of the gas solenoid valve are isolated then reset the system by turning the key off and back on.
- 2 If there are no open appliances a gas engineer should investigate if there is a gas leak on the pipework.
- 3 Please check that the gas has not been isolated before the gas solenoid valve.
- 4 Please ensure the downstream gas line pressure of the gas solenoid valve is above 12mbar, if it isn't this will have to be increased as the Merlin 1000BH has a minimum working pressure of 12mbar.
- 5 Please check the wiring:
+ = RED
- = Black
IN = Yellow or Blue
- 6 Using the resistor supplied in the box please link between the '+' & 'IN' on the pressure sensor terminal. If the panel completes the 30 second testing period and illuminates 'GAS ON', this shows the panel is working and the issue is transducer or gas related. (Re-check point 1,2 and 3)
- 7 With the resistor in, please ensure this is securely connected, if this or any of the above points raised does not result in the panel going to 'Gas On' please contact S&S

Northern
for further assistance.

2.4 Pressure Low

- 1 Please check the gas line pressure, this fault generally means the pressure being detected is below 12mbar which is below the minimum gas working pressure of the Merlin 1000BH.
- 2 Ensure there is gas reaching the gas valve and no upstream quarter turn valves are closed during the panels working condition. Also, you may need to check to see if the gas solenoid valve is lifting.
- 3 If none of the above have resolved the error please contact S&S Northern for further assistance.

2.5 Gas Detected Zones 1 or 2

- 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 back correctly to the gas detector Terminals inside the Merlin 1000BH.
- 3 If you are not using any gas detectors please ensure that the $\bar{\text{L}} \bar{\text{J}}$ terminals have 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.

2.6 Heat Detector

- 1 Inspect any heat detector/ fusible links wired back to the Merlin 1000BH to see if they have gone into alarm. If they are, this is generally caused by temperatures of 72OC & above being detected.
- 2 If you have any heat detectors/ fusible links connected to the panel please ensure these are wired correctly to the 'Heat Detector' terminal.
- 3 If you are not using any heat detectors fusible links please ensure that the 'Heat Detector' terminal has been linked out 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.

2.7 Fire Panel

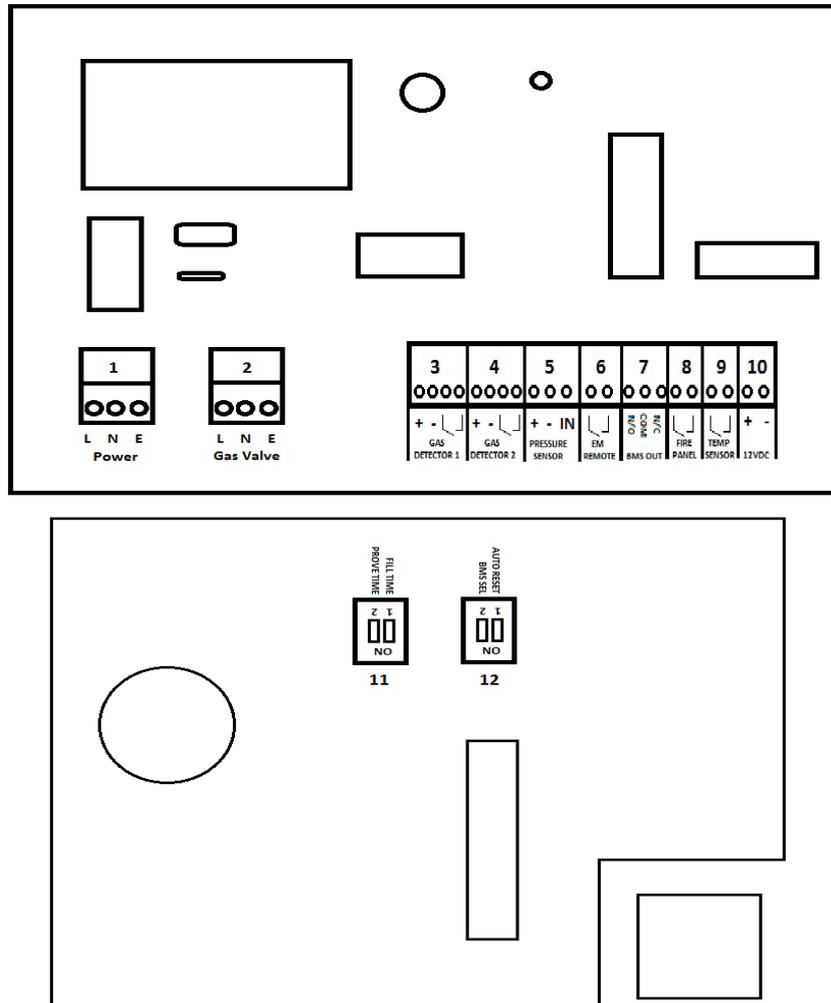
- 1 If you have a fire alarm connected to the Merlin 1000BH please ensure this has not been activated.
- 2 If you are not linking the fire alarm to this system, please ensure the 'FIRE PANEL' terminal is linked out and the link is securely connected above the metal plate.
- 3 Please note, this should be volt free, normally closed (open in alarm) and wired to the Merlin 1000BH using two core cable.
- 4 If none of the above have rectified the fault please contact S&S Northern for further assistance.

3 Operation Instructions

3.1 How to turn the system on and off

1. Turn off all open gas appliances.
2. Turn the key switch to on position.
3. To turn the system off, turn the key switch to off position.

1000BH Wiring Diagram



1. Mains Input 230VAC.
2. Gas Solenoid Valve Power Output, 230VAC, Max 3A.
3. Methane, CO or LPG Detector, 12V power supply and **volt free input** (purchased separately).
4. Methane, CO or LPG Detector, 12V power supply and **volt free input** (purchased separately).
5. Gas pressure transducer, Red + positive, Black – negative and Yellow or Blue IN.
6. Remote EM Stop buttons and Fire Alarm input wired in series (purchased separately). **VOLT FREE INPUT**
7. BMS output contacts. Normally Closed, Common and Normally Open. Max.1A @ 230VAC.
8. Fire panel (Supplied by others). **VOLT FREE INPUT**
9. Fusible Links (purchased separately). **VOLT FREE INPUT**
10. Permanent 12VDC output when there is power at the panel.
11. Gas prove & fill time.
12. BMS Selection & Auto Reset.

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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