Gas Safety Products
Merlin Gas Detectors

S&S NORTHERN

Installation, operating and maintenance
24/08/2016

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1   General information

S&S Northern supply a full range of remote gas detectors to compliment the Merlin range of panels. These consist of carbon monoxide, natural gas, lpg and oxygen detectors.

Our range of gas detectors are designed to work with a Merlin control panel.

It is recommended that the user reads this guide before using the system. Please do NOT attempt to operate the unit until the contents of this document have been read and are thoroughly understood.

2   Installation

2.1   **Mounting the Merlin gas detector.** The control panel is designed for surface mounting using 2 mounting screws. Removing the back plate gives access to the circuit board. Do not attempt to remove the PCB. For the positioning of specific gas detectors please see below.

Natural Gas Sensor - 30CM from the ceiling.
Carbon Monoxide Sensor – 1 meter from ground level.
LPG Sensor – 30CM from the ground level.
Oxygen Sensor – 1.5 meter from ground level.

2.2   **Power Supply.** A 12vdc - 24vdc electrical supply should be supplied to the panel and should be connected to the terminals marked "+ -".

2.3   **Alarm Relay.** The Merlin range of gas detectors can work with various systems. If you are using the GDP range you will need to use the "C/L" terminal as an alarm relay whereas on most systems gas detectors should be wired to the gas detector terminal on the Merlin panel using the "N/C" & "COM".

Note: all low voltage connections should be made using a screened cable to avoid electrical interference.

3   Operation Instructions

3.1   How to turn the system on and off

1. To turn on any Merlin gas detector you need to supply power to the detector
2. To turn off any Merlin gas detector you need to remove power to the detector

3.2   Explanation of LED status

3.2.1   Power LED

When the system is connected to the power supply, the Green Power LED will illuminate. When no power is present, this LED will not light up.
GREEN = OK
OFF = No power to the gas detector or the fuse may not be intact.

3.2.2   Low LED

When the gas detector has reached the low level alarm state this will illuminate Amber. Please see Heading 4 on page 4 for further information.
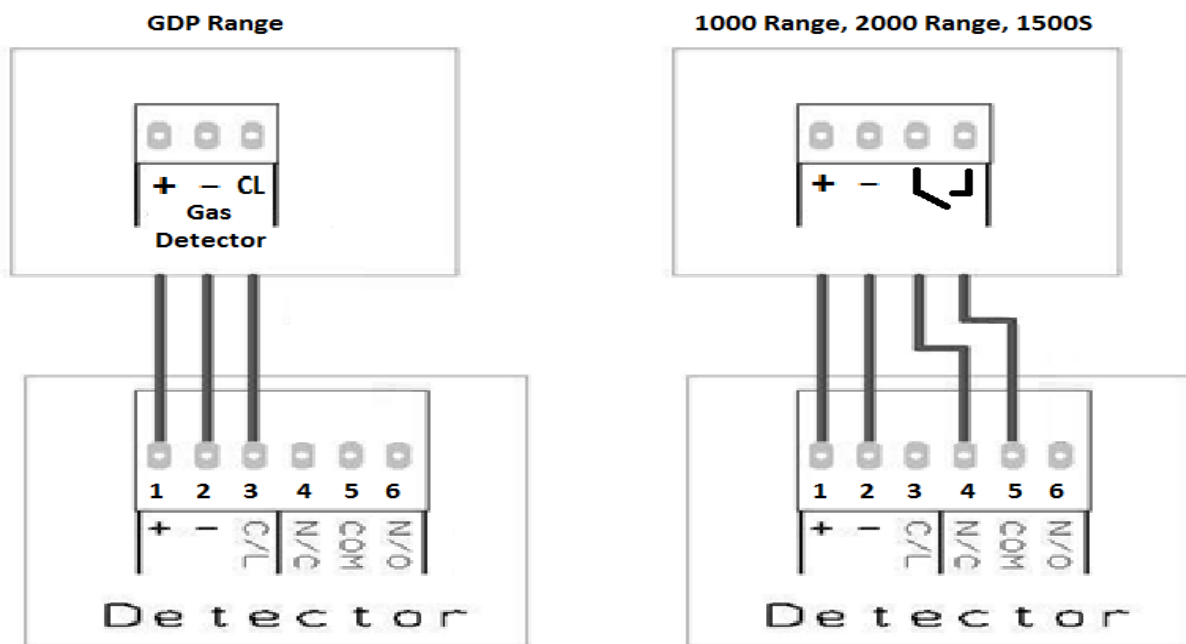
3.2.3   High LED

When the gas detector has reached the High level alarm state this will illuminate red. Please see below for further information.

4   Technical Specification

Power supply	7-30VDC, 80mA max
Gas Sensor	Semiconductor type sensor
Typical measuring range	300-10000 ppm Methane
	300-10000 ppm LPG
	10-10000 ppm CO
Warm up time for each turning-on	1 minute
Low level alarm (pre-alarm)	Methane 8%LEL by volume
	LPG 0.16% by volume
	Carbon monoxide 30ppm
High level alarm	Methane 10%LEL by volume
	LPG 0.2% by volume
	Carbon monoxide 30 ppm for 2 hours 50 ppm for 1 hour 100 ppm for 10 minutes 300 ppm for 1 minute
Volt free relay output	240VAC 500mA, 30VDC 2A switching current (resistive load)
Net weight/Dimensions	180g/135mm(W)x95mm(H)x38mm(D)
Installation standard	Wall mountable
	CE
Standard Approval	Complies with EN50194 and EN50291

Wiring Diagram

1. Power supply, positive connection from Merlin panel.
2. Power supply, negative connection from Merlin panel.
3. Alarm relay, alarm signal to GDP panel.
4. Alarm relay, volt free connection. Normally closed.
5. Alarm relay, volt free connection. Common.
6. Alarm relay, volt free connection. Normally open.

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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Rev	Date	Author	Description
04	24/08/2016	S&S Northern BT	Merlin Gas Detectors Product Data Sheet – Fourth issue