

# MERLIN RANGE

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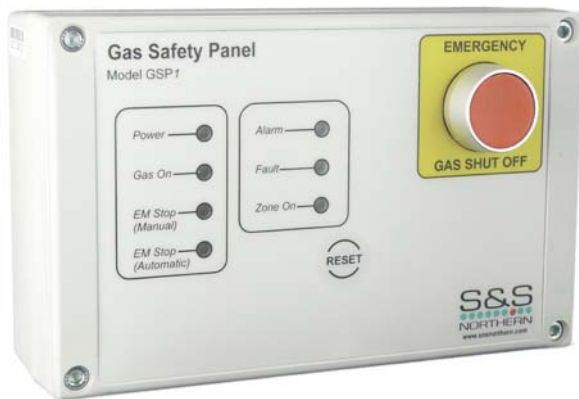
## GAS DETECTION EQUIPMENT

**GSP1 / GSP2 / GSP4**  
**CT500 / FAB1**  
**VALVES / DETECTORS**

**SNS**  
NORTHERN  
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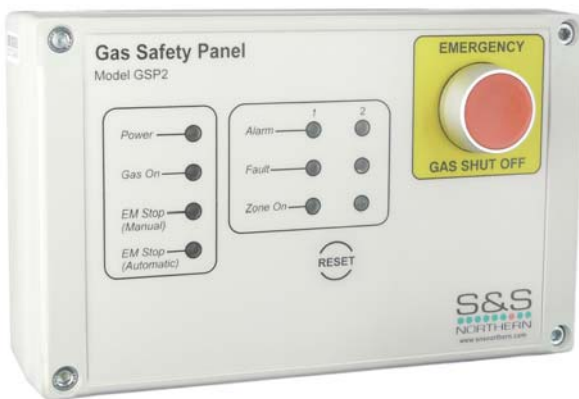
# MERLIN RANGE

## CONTENTS



### Merlin GSP1

A single zone gas detection system, the Merlin GSP1 can be configured for a high variety of remote detectors including LPG, natural gas or carbon monoxide. Simple to install the Merlin GSP1 uses four-core low voltage cable to wire in the chosen remote detectors. The remote detectors can then be combined with a number of fusible links wired through in series to create a gas and heat detection system capable for deployment in areas such as boiler houses, car parks, factories or shopping centres.



### Merlin GSP2

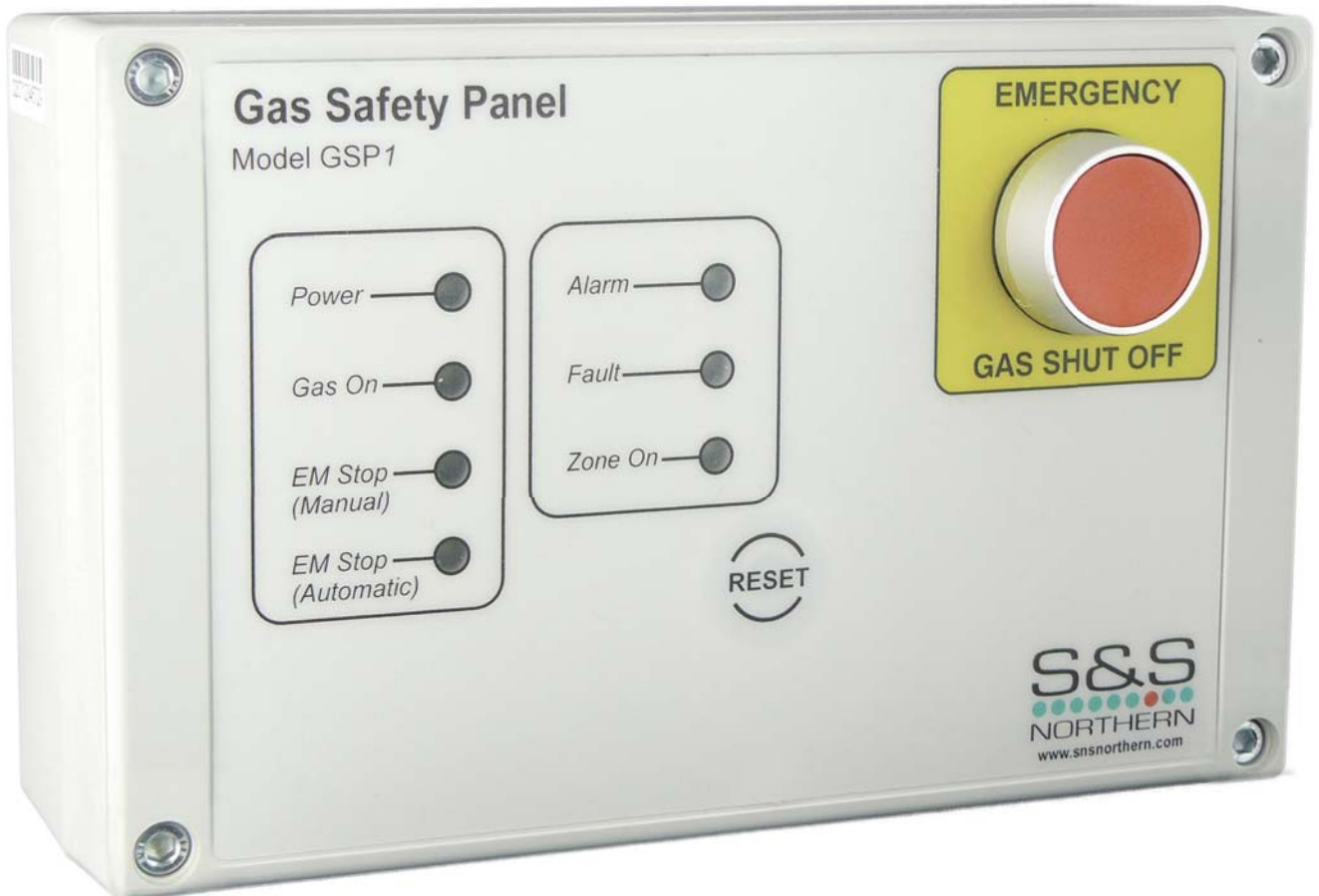
An expansion of the excellent Merlin GSP1 the GSP2 operates on the two zone gas detection having the ability to connect two remote detectors for either multi-area or multi-gas detection. The most common detectors in use are those for carbon monoxide, natural gas or LPG. In combination with this the Merlin gas detection range can incorporate any number of fusible links wired in series to the same terminal for added protection of both property and people.



### Merlin GSP4

The largest of the GSP range the Merlin GSP4 can be used with up to four gas detectors in a number of combinations. The result is that the Merlin GSP4 is a multi-area, multi gas detection panel that can be combined with fusible links to detect gases such as carbon monoxide, LPG or natural gas along with heat sources. This ensures that the Merlin GSP4 is a highly robust, highly capable, highly reliable gas detection panel capable for deployment in a wide variety of areas from shop floors to industrial boiler houses.

## GAS DETECTION EQUIPMENT



### Merlin GSP1

Designed primarily for use in boiler houses the Merlin GSP1 is a single zone gas detection system. The GSP1 functions through the use of attached remote sensors wired back to the panel using 4 core low voltage cabling. The use of remote sensors allows the GSP1 to be configured for detection of a wide variety of gases including Natural Gas, LPG, Carbon Monoxide or if necessary Oxygen Depletion. Additionally the GSP1 panel can also be configured to accept any number of fusible links, wired in series, to detect the presence of heat as well as that of gas.

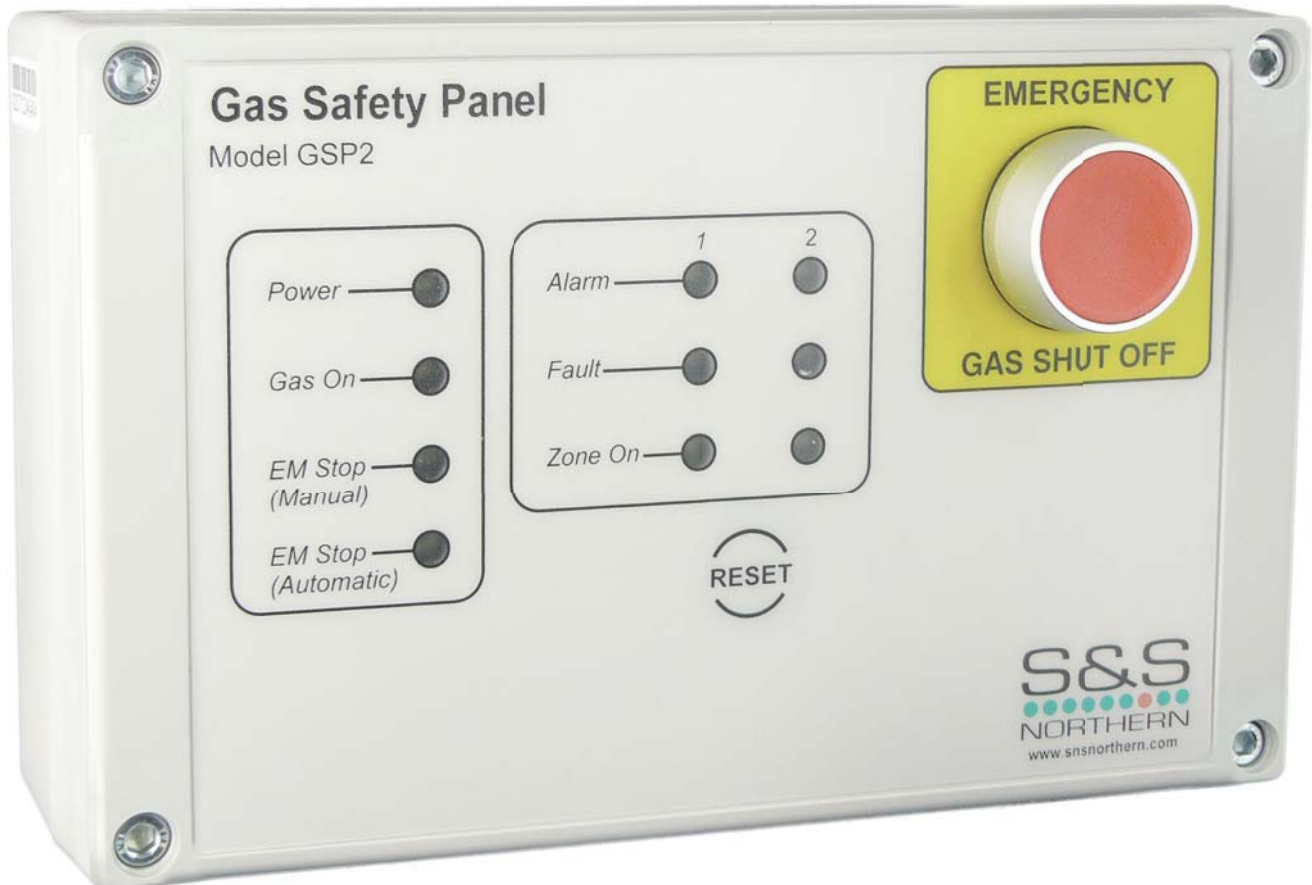
With simple LED indications and the unique UK manufactured design, the Merlin GSP1 gives a clear and concise diagnosis at the build up of a target gas and will indicate the reason for the gas isolation; either a manual emergency stop using either the panel mounted emergency stop button or any one of the remote terminals that can be wired into the system or an automatic emergency stop – triggered through the detection of heat or gas. These indicators allow for the problem to be resolved promptly or if required, for emergency action to be taken.

The primary purpose of the Merlin GSP1 is to protect both people and property. As such the GSP1 has been designed to be highly compatible with a number of other systems. A prime example of this is the functionality for the GSP1 to be connected to the Building Management System through a volt free terminal allowing a signal to be sent giving instant notification that the gas supply has been isolated. The GSP1 can also interact with the FAB1 system that allows regular fire drills and functionality tests without having to isolate the buildings gas supply.

### Advantages of Merlin GSP1

- Easy to install – The use of clearly marked PCB connections, low voltage wiring and push-fit wiring connections makes the GSP1 very simple to install.
- User Friendly – Digital LED design gives clear system indication at all times
- Will work in conjunction with Building Management Systems through volt free terminals.
- Fitted with emergency stop as standard with capability to accept any number of additional remote terminals.
- Totally covered by the S & S Northern 3 year Warranty

# MERLIN RANGE



## Merlin GSP2

An expansion of the excellent Merlin GSP1 the GSP2 operates on the two zone gas detection having the ability to connect two remote detectors for either multi-area or multi-gas detection. As with the GSP1 the most common detectors in use are those for carbon monoxide, natural gas, oxygen depletion or LPG. In combination with this the Merlin gas detection range can incorporate any number of fusible links wired in series to the same terminal for added protection of both property and people.

The GSP2 operates through the use of attached remote sensors wired back to the panel using 4 core low voltage cabling. The internal push fit connections make the Merlin GSP range simple to install and maintain and the fascia mounted LED indications combined with the unique UK manufactured design gives a clear and concise diagnosis at the build up of a target gas indicating the reason for the gas isolation; either a manual emergency stop using either the panel mounted emergency stop button or any one of the remote terminals that can be wired into the system or an automatic emergency stop – triggered through the detection of heat or gas. These indicators allow for the problem to be resolved promptly or if required, for emergency action to be taken.

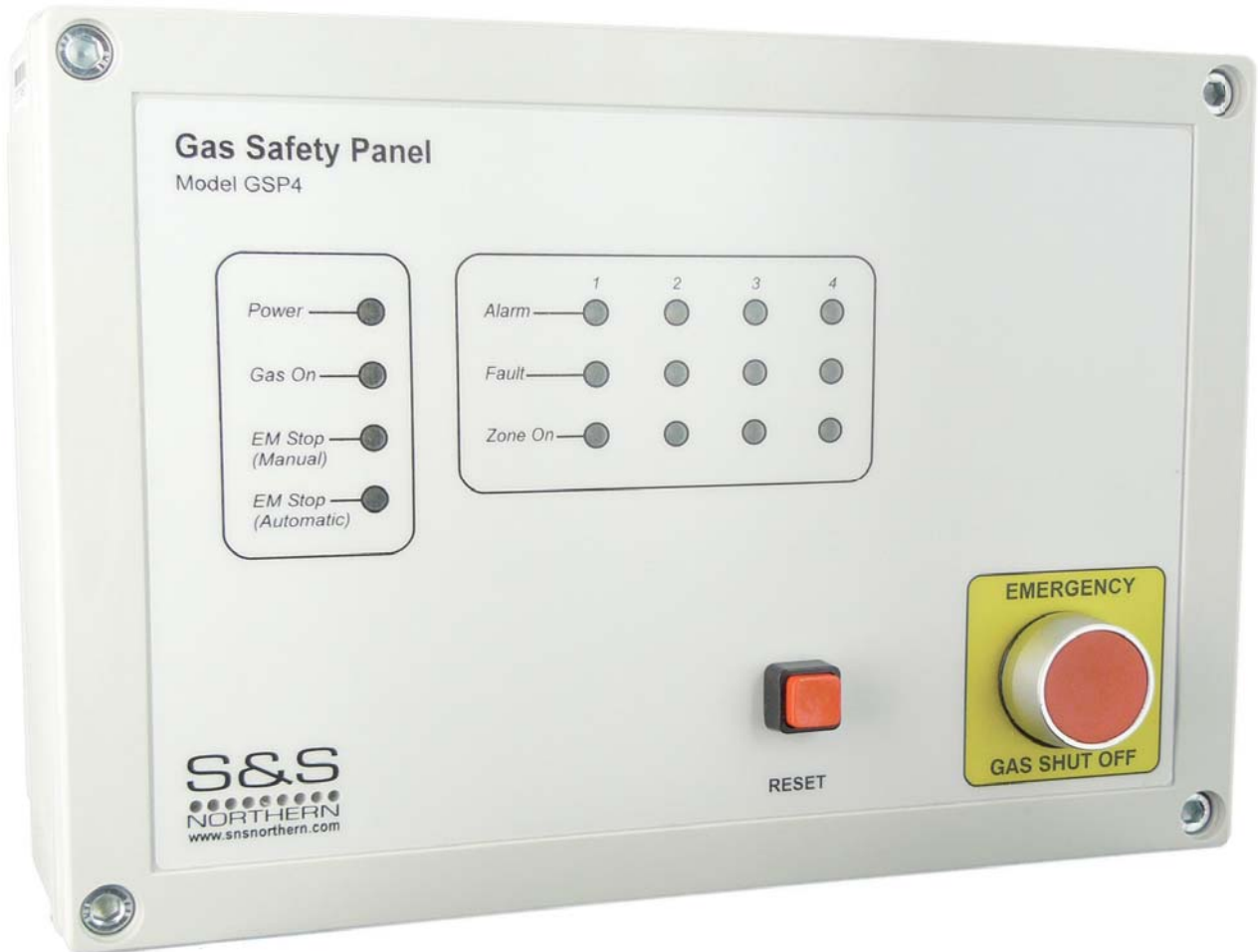
The Merlin GSP2 can be deployed for in a number of locations such as industrial boiler houses, shopping centres or any enclosed area where the detections of gas is a high priority. The GSP2 has been therefore designed to be a highly robust and highly capable system able to function in numerous environments whilst remaining highly compatible with a number of other systems such as the building management system or the S & S Northern FAB1 Panel.

## Advantages of Merlin GSP2

- Operates over 2 zones allowing multi-gas or multi-area detection.
- Easy to install – The use of clearly marked PCB connections, low voltage wiring and push-fit wiring connections makes the GSP2 very simple to install.
- User Friendly – Digital LED design gives clear system indication at all times
- Will work in conjunction with BMS and FAB 1
- Fitted with emergency stop as standard with capability to accept any number of additional remote terminals.
- Totally covered by the S & S Northern 3 year Warranty.

# GSP2/GSP4

## GAS DETECTION EQUIPMENT



### Merlin GSP4

The largest of the GSP range the Merlin GSP4 can be used with up to four gas detectors in a number of combinations. The result is that the Merlin GSP4 is a multi-area, multi gas detection panel that can be combined with fusible links to detect gases such as carbon monoxide, LPG or natural gas along with heat sources.

The GSP4 operates through the use of attached remote sensors wired back to the panel using 4 core low voltage cabling. The Merlin GSP4 can take up to 4 remote detectors giving a wide variety of options for deployment of the system allowing for multiple gases such as Natural Gas, LPG, Oxygen Depletion or Carbon Dioxide with detectors placed at various levels of a single enclosure alternatively the Merlin GSP4 could function by “sniffing” for a single gas, LPG for example, in four different enclosures.

The GSP4, like the other panels in the GSP range is simple to install using push fit electrical terminals, clear LED indications for fault finding and gas supply and integration with BMS systems or

the Merlin FAB1. The fascia mounted emergency stop can be combined with remote emergency terminals to fully cover emergency procedures and as such fulfil all required guidelines and legislations. The panel is UK manufactured with a UK based technical support team that offer the impeccable service that S & S Northern prides itself on.

### Advantages of Merlin GSP4

- Operates over 4 zones allowing multi-gas or multi-area detection.
- Easy to install – The use of clearly marked PCB connections, low voltage wiring and push-fit wiring connections makes the GSP2 very simple to install.
- User Friendly – Digital LED design gives clear system indication at all times
- Will work in conjunction with BMS and FAB 1
- Fitted with emergency stop as standard with capability to accept any number of additional remote terminals.
- Totally covered by the S & S Northern 3 year Warranty



# MERLIN RANGE

## Merlin CT500

The Merlin panel is designed to provide a simple and effective means of isolating a gas, electricity, oil or water by means of a key switch on the panel, or in the event of an emergency, by operation of the emergency shut off button.

The key operated CT500 is UK manufactured and like all S & S Northern products carries a 3 Year warranty and is fully supported by our technical team. The CT500 has a fascia mounted emergency shut off button fitted as standard and the fascia mounted LEDs give simple and concise information to the operator. The panel is fully compatible with S & S Northern remote emergency stop terminals allowing a large number of emergency terminals to be connected in series and wired back to the panel. The CT500 is an excellent isolation panel. Simple to fit with little maintenance required and is covered by the full support that comes with the entire range of Merlin products.



## Merlin FAB1

Standing for Fire Alarm Bypass the Merlin FAB1 can be integrated with any of the Merlin suite of products to give the operator the opportunity to temporarily bypass the gas isolation system.

With prior notice to a fire alarm test, the operator can turn the spring loaded key to the on position giving an un-interrupted gas supply for between 10 and 45 minutes. During this time the system controlling the gas will ignore shut-off signals from the buildings fire alarm system and allow factors such as heating systems to remain operational. The bypass time can be adjusted using the blue switches inside the panel. During the bypass time gas can still be shut off, pressing the emergency gas shut off button will close the gas solenoid valve.



# CT500/FAB 1/MISC

## GAS DETECTION EQUIPMENT



### Solenoid Valves

S & S Northern provide a comprehensive package supplying not only the gas detection equipment and interlock panels but also the remote emergency terminals and a range of solenoid valves for water, oil and gas.

The most common product supplied is a solenoid valve for isolation of the gas supply. We supply a large number of valves for use in any area where a gas supply is in place this includes schools, kitchen, plant rooms and even some domestic sites.

The valves supplied are all covered by the S & S Northern 3 year warranty and are tested and certified to European Standard EN161 as Class "A". The valves are also rated to IP65 thus allowing them to be deployed in wet or dirty environments.

### Gas Detectors

S & S Northern supply a full range of remote gas detectors and thermal links to compliment the Merlin range of panels.

The Natural gas detectors should be located approximately 30cm from the ceiling and at detection will go into alarm at 10% of the low explosion level. This will trigger isolation of the power supply to the solenoid and as such isolation of the gas supply. This can then be rectified by resolving the leak, allowing the sensor head to clear and resetting the attached Merlin panel.

The Carbon Monoxide Detector is normally situated approximately 1 meter from ground level as Carbon Monoxide is a denser gas. When the sensor head detects carbon monoxide at a level exceeding 50ppm for over 4 minutes the attached system will trigger into the alarm state. This is resettable by rectifying any gas leak, allowing the sensor head to clear and restarting the Merlin panel.

LPG detectors are fitted at approximately 50cm from ground height in order to detect any LPG build up. The detector should be installed at low level as LPG build up occurs from the ground upwards due to the dense nature of the gas. At 10% of the low explosion level the detector will trigger the attached Merlin system causing an alarm state and instant isolation of the gas valve. This can only be reset by finding the source of the build up, allowing the sensor head to clear, and resetting the attached Merlin panel.

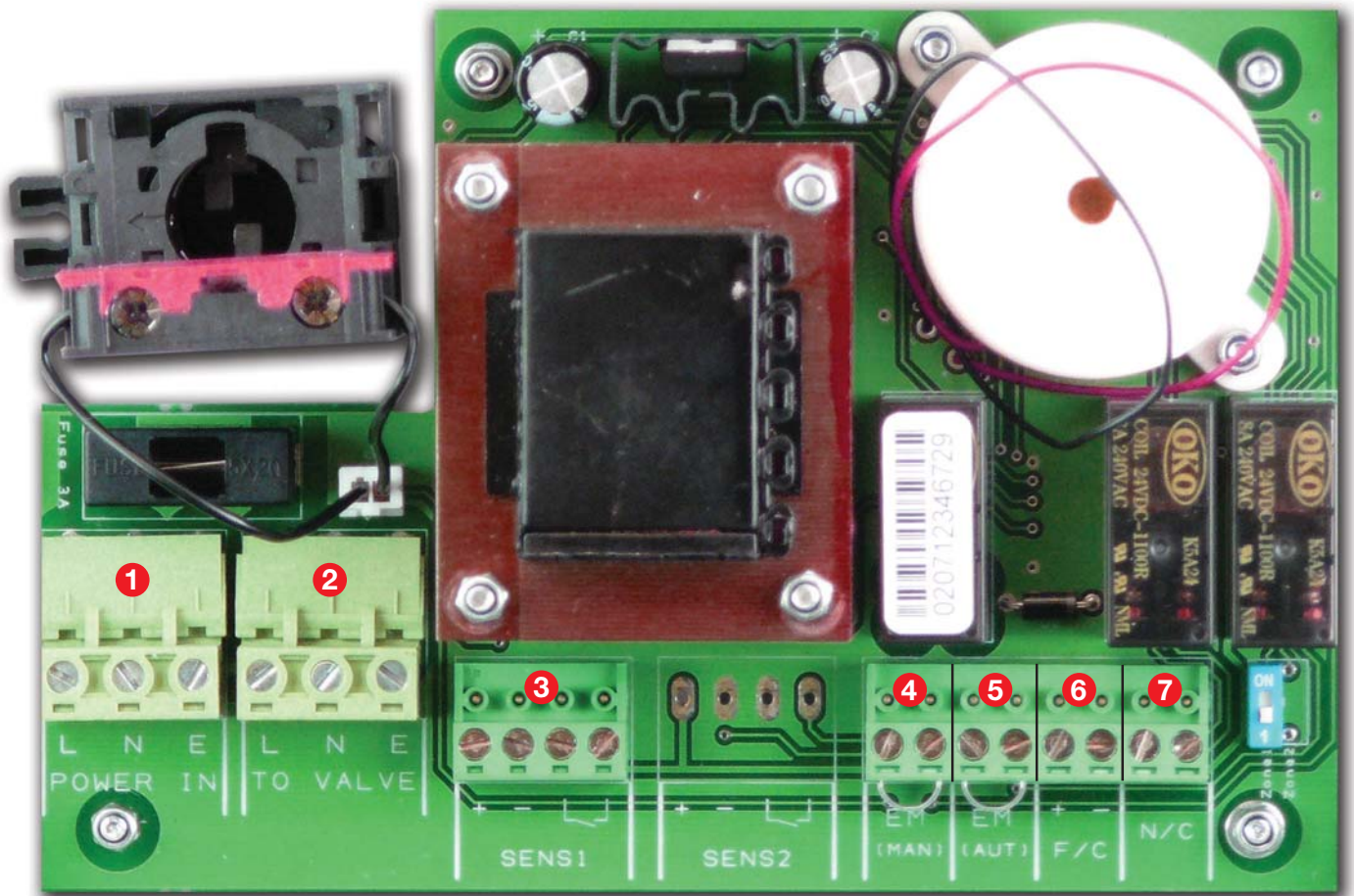
### Oxygen Depletion

Oxygen depletion detectors are used to protect personnel against nitrogen build up. Oxygen should read 21% in normal atmospheres, a drop below 18% will cause the attached Merlin panel to enter the alarm state.

For heat detection the Merlin range accepts input from Fusible Links. Each panel will accept a number of links, wired in circuit. Each Fusible link should be positioned over the boiler or chosen hazard and will trigger the alarm state for the chosen panel at detection of a temperature of 72 degrees centigrade.



# MERLIN RANGE



## Merlin GSP1 Wiring Diagram

- 1 230v AC Supply
- 2 230v AC output to valve
- 3 Terminal for detector - (use 4 core wire)
- 4 Remote Emergency Stop input
- 5 Input for Thermal Links (normally closed)
- 6 24v output when in alarm for emergency beacon
- 7 Normally closed contact (open in alarm for BMS)

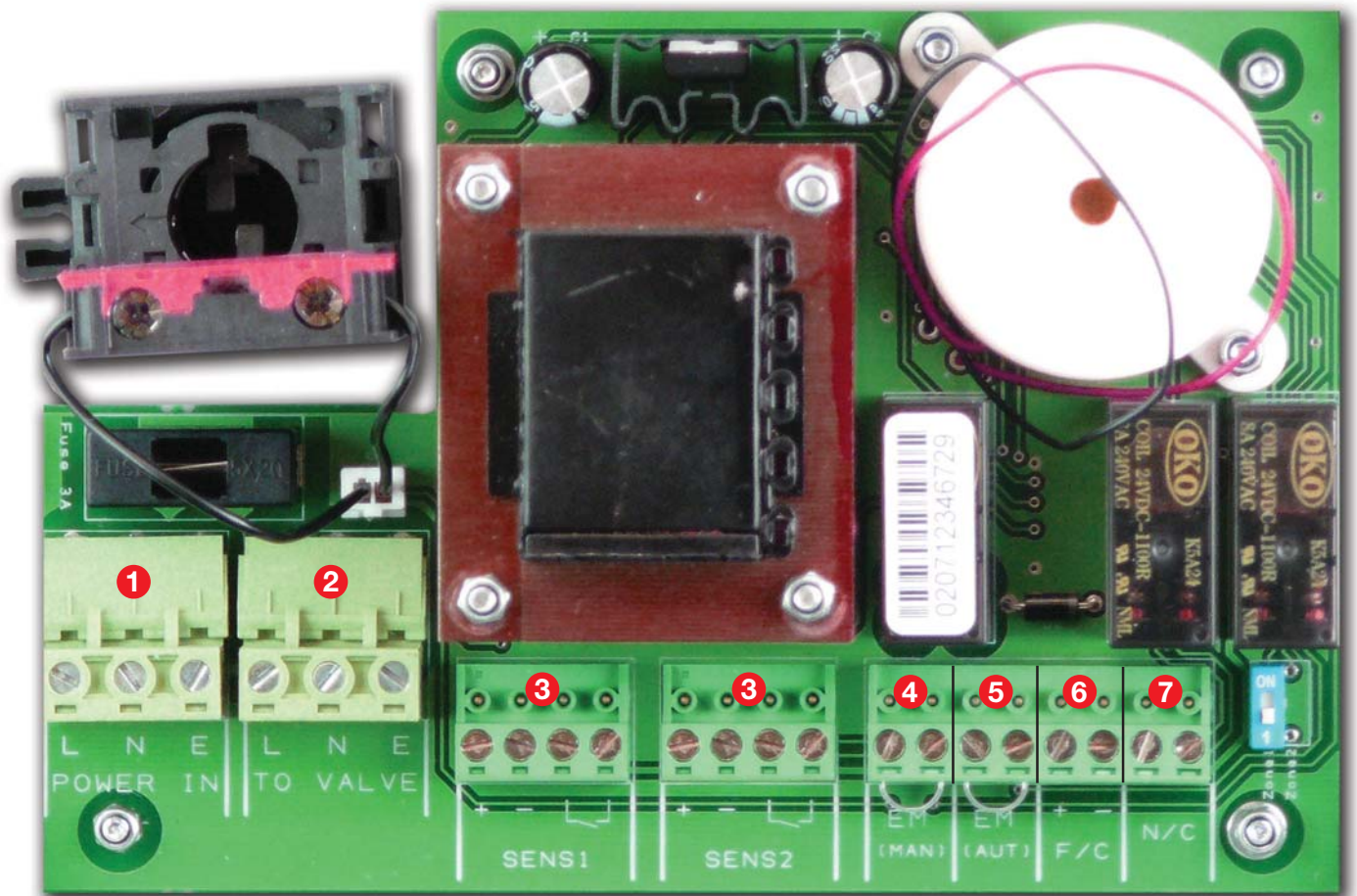
## Merlin GSP1 Dimensions

- Height** 140 mm  
**Length** 190 mm  
**Depth** 62 mm



# WIRING DIAGRAMS

## GAS DETECTION EQUIPMENT



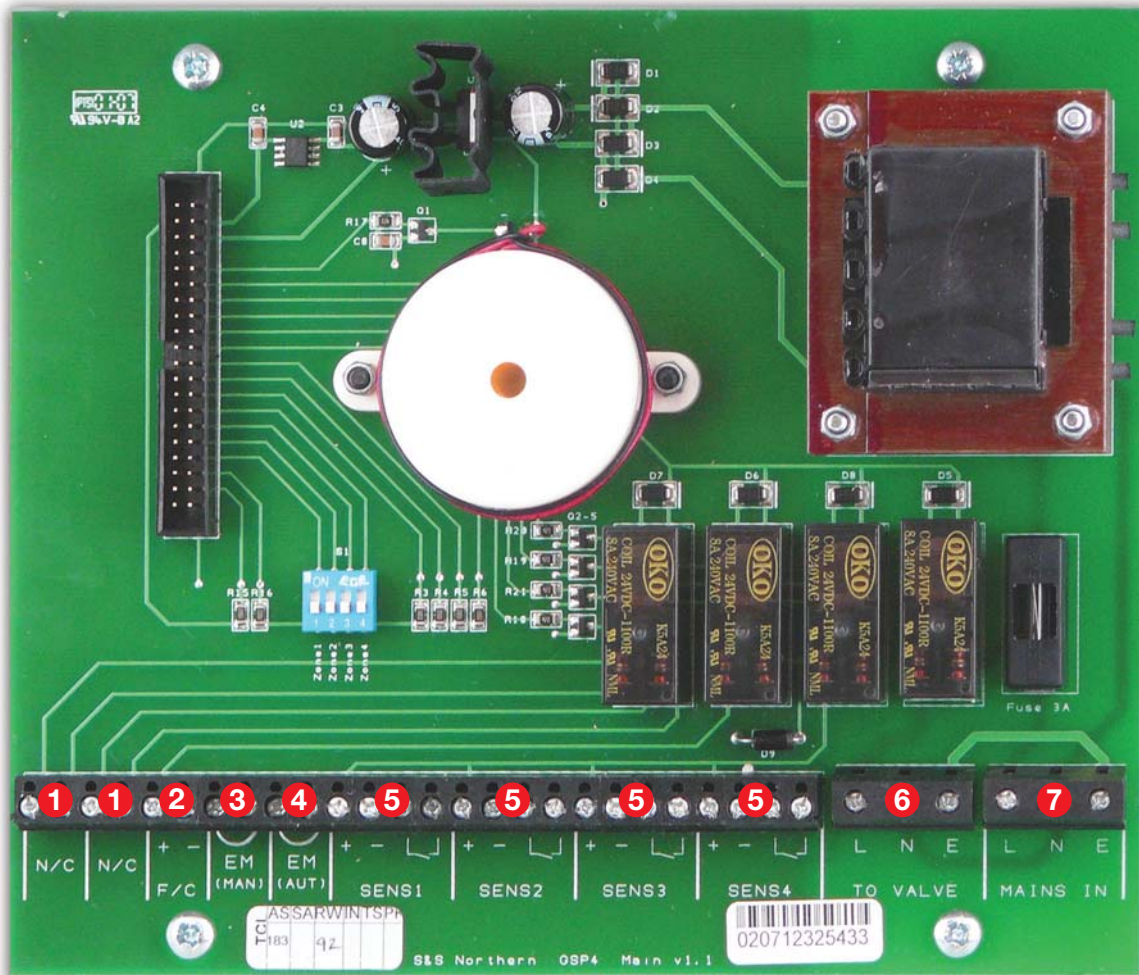
### Merlin GSP2 Wiring Diagram

- 1 230v AC Supply
- 2 230v AC output to valve
- 3 Terminals for detector - (use 4 core wire)
- 4 Remote Emergency Stop input
- 5 Input for Thermal Links (normally closed)
- 6 24v output when in alarm for emergency beacon
- 7 Normally closed contact (open in alarm for BMS)

### Merlin GSP2 Dimensions

- Height** 140 mm  
**Length** 190 mm  
**Depth** 62 mm

# MERLIN RANGE



## Merlin GSP4 Wiring Diagram

- 1 Volt free normally closed contact opens in alarm
- 2 24v output when in alarm for emergency beacon
- 3 Remote Emergency Stop Input
- 4 Input for Thermal Links (normally closed)
- 5 Terminals for detectors - (use 4 core wire)
- 6 230v AC output to valve
- 7 230v AC Supply

## Merlin GSP4 Dimensions

- Height** 180 mm
- Length** 255 mm
- Depth** 64 mm



# WIRING DIAGRAMS

## GAS DETECTION EQUIPMENT



### Other Safety & Services in our range

The gas detection equipment is only a small part of the Merlin range. Here at S&S Northern we pride ourselves on not only first rate customer service but in developing a wide range of market beating products.

The Merlin range also covers all aspects of commercial catering with an array of products available to cover the BS6173 standard for gas safety. Our kitchen models such as the best selling CT1250 are sweeping the market with systems in place to protect the health of kitchen staff all over the country, including the House of Lords and Hells Kitchen.

We also manufacture and supply a full range of gas pressure proving systems for use in laboratory type applications. The Merlin 1000GD carries out a gas pressure test at start-up ensuring there are no gas leaks or appliances open. The Merlin 1000GDplus not only controls the gas but also the bench electrics. Finally the Merlin 1000GDWplus controls the gas, bench electrics and water solenoid valves. Details on all these products can be supplied on request.

We value every customer we have here at S&S Northern and as such are dedicated to ensuring that you are satisfied with our products. As such we are constantly developing and testing new products and when combined with our 3 year warranty and in-house UK based technical team we do all we can to show you why S&S Northern are specialist in gas safety and detection.

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