



# Gas Safety Products

## Merlin Gas Detector



## User Guide



Please read this guide carefully and retain for future use.

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## 1 General Information

S&S Northern supply a full range of remote gas detectors that are compatible with our range of Merlin panels.

These consist of carbon monoxide (CO), natural gas (NG), liquid petroleum gas (LPG) and hydrogen (H) detectors.

The information contained within this guide should be referenced for typical installation and operation only. For site specific requirements that may deviate from the information in this guide – contact your supplier.



### Important Warning Statements

It is recommended that this unit be commissioned upon installation and serviced annually.

The expected life time of the detector/sensor element is:  
Liquid Petroleum Gas, Methane and Hydrogen = 10 years.  
Carbon Monoxide = 5 years.

Do not apply lighter gas or other aerosols to the detector – this will cause extreme damage.

High concentrations of alcohol / ethanol found in many products may damage, deteriorate or affect the gas sensing elements – Avoid exposure near your device.

Never ignore your device when in alarm.

This device requires a continual supply of electrical power – it will not work without power.

The unit should be stored in cool, dry conditions.

Avoid Installation near any ventilation openings, i.e. vents, chimneys, windows etc.

Avoid installation near ceiling fans, windows or areas exposed to direct weather.

This unit may not fully safeguard individuals with specific medical conditions.  
If in doubt, consult a doctor/physician.

Your product should reach you in perfect condition, if you suspect it is damaged, contact your supplier immediately.



#### Information on waste disposal for consumers of electrical & electronic equipment.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used.

Please contact your supplier or local authority for details of recycling schemes in your area.

## 2 Installation & Operation

### 2.1 Mounting

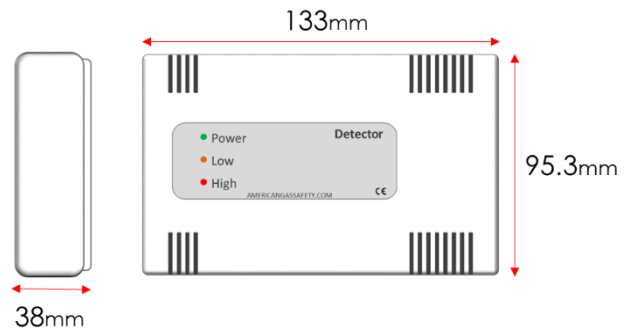
The detector is designed to be wall mounted. Removing the back plate gives access to the circuit board.



Do not attempt to remove the Circuit Board!  
This will void any warranty.



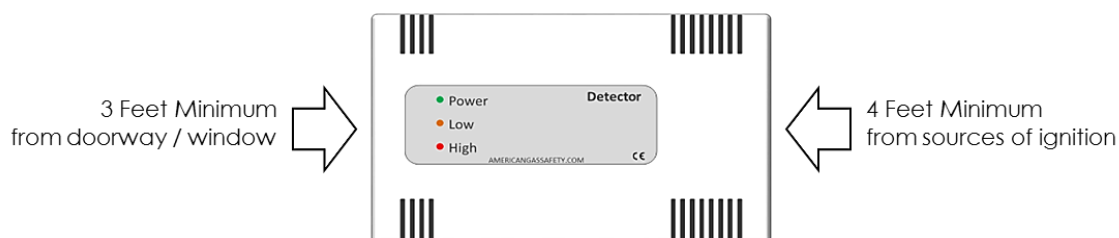
Do not obstruct the vents located on the detector.



### 2.2 Positioning

- Natural Gas – Typically 300mm from the ceiling.
- Hydrogen Gas – Typically 300mm from the ceiling.
- LPG – Low level – Typically 300mm from ground level.
- Carbon Monoxide: 1700mm from ground level.

### 2.3 Fixed Unit Location Recommendation



Take in to account the design of the air flow within the space. Positioning CO detectors near draft will greatly diminish their reliability.

Multiple detectors may be required to adequately protect the space.

### 2.4 Installation

- Power 12v max – Signal Dry Contact
- Coverage – 10m<sup>2</sup> (110ft<sup>2</sup>)
- Avoid drafts – Avoid high temperatures
- Wire multiple Detectors as per manufacturer's wiring instructions.
- Max # of detectors per zone is 3 (GDP2 2 Zones, GDP4 4 Zones, 1000 range 1 Zone)

### 2.5 Audible Alarm Switch

There is a switch on the circuit board (unmarked) that can silence the alarm when switched to OFF. The default setting for the audible alarm is: ON. We recommend an audible alarm for optimum protection.

## 2.6 Power Supply

A 12 – 24VDC electrical supply should be supplied to the panel and should be connected to the terminals marked [POWER + -].

## 2.7 Alarm Relay

Our range of Merlin Gas Detectors can work with various Merlin systems.

If you are using our GDP range you will need to use the [C/L] terminal as an alarm relay whereas on most other systems gas detectors should be wired to the gas detector terminal on the Merlin panel using the [N/C] & [COM].

See wiring example at the end of this document.

# 3 LED Status

- **Power** (Green)  
*Detector is monitoring gas levels.*
  - **Low** (Orange)  
*When the detector has reached a low level alarm – the LED will illuminate.*
  - **High** (Red)  
*When a high concentration of gas is detected, the alarm will sound and LED will illuminate.*
- 
- **High Flashing & Alarm** 'beep'.  
*There is a fault – contact your supplier.*

For low and high alarm levels – see section 4: Detector Specification

## 4 Detector Specification

Power supply	7-30VDC, 80mA max
Gas Sensor	<b>Methane/LPG/Hydrogen</b> - Semiconductor Type <b>Carbon Monoxide</b> – Electro-Chemical Type
Typical Measuring Range	<b>Methane</b> 300-10000 ppm
	<b>LPG</b> 300-10000 ppm
	<b>Carbon Monoxide</b> 10-10000 ppm
	<b>Hydrogen</b> 100-10000 ppm
Power Up - Warm Up Time	1 minute
Low Level Alarm (pre-alarm)	<b>Methane</b> 8% Lower Explosive Limit (LEL)
	<b>LPG</b> 0.16% BV (by volume of air)
	<b>Carbon Monoxide</b> 30ppm
	<b>Hydrogen</b> 8% Lower Explosive Limit (LEL)
High level alarm	<b>Methane</b> 10% Lower Explosive Limit (LEL)
	<b>LPG</b> 0.2% BV (by volume of air)
	<b>Hydrogen</b> 10% Lower Explosive Limit (LEL)
	<b>Carbon Monoxide</b> <ul style="list-style-type: none"> <li>➤ 30 ppm for 2 hours</li> <li>➤ 50 ppm for 1 hour</li> <li>➤ 100 ppm for 10 minutes</li> <li>➤ 300 ppm for 1 minute</li> </ul>
Volt Free Relay Output	240VAC 500mA, 30VDC 2A switching current (resistive load)
Net weight Dimensions	180g (W)x133mm (H)x95.3mm (D)x38mm
Installation standard	See Section 2

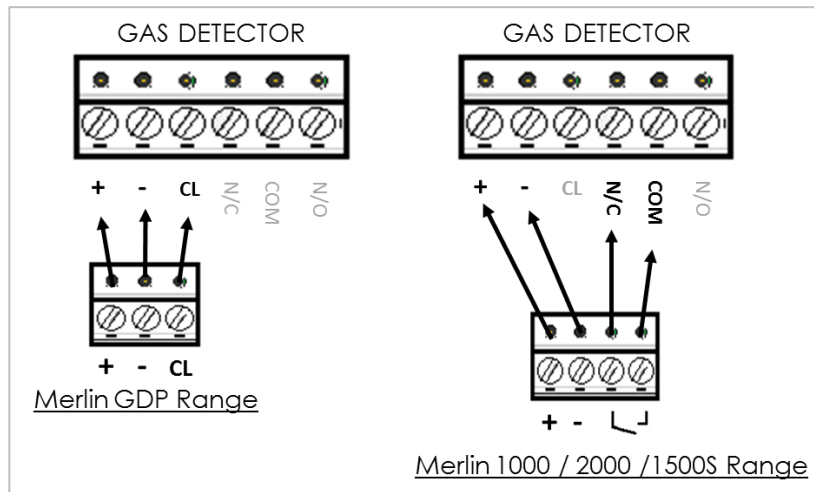
## 5 Maintenance

To keep your device in good working order, you must follow these steps:

- ✓ DO carefully remove any accumulated dust from the outer enclosure once a month.
- ✗ NEVER use detergents or solvents to clean your device – this may permanently or temporarily damage the gas sensing elements.
- ✗ NEVER spray air fresheners, hair spray, paint or other aerosols near the device.
- ✗ NEVER paint the device. Paint will seal vents and interfere with the device.

## 6 Wiring

Wiring example to compatible merlin panels



- **[+ -]** POWER SUPPLY, Positive & Negative connection from Merlin panel.
- **[CL]** ALARM RELAY, Alarm signal to GDP panel.
- **[N/C]** Normally Closed.
- **[COM]** Alarm relay, Common.
- **[N/O]** Alarm relay, Normally Open.

For more information, contact your supplier.

## 7 Manufacturer's Warranty

### 3 Year Limited Warranty

**Warranty coverage:** The manufacturer warrants to the original consumer purchaser, that this product will be free of defects in material and workmanship for a period of three (3) years from date of purchase. The manufacturer's liability hereunder is limited to replacement of the product with repaired product at the discretion of the manufacture. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material or workmanship. This warranty extends to the original consumer purchaser of the product only.

**Warranty disclaimers:** Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and intended operational purpose, are limited in duration to the above warranty period. In no event shall the manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion. This warranty does not affect your statutory rights.

**Warranty Performance:** During the above warranty period, your product will be replaced with a comparable product if the defective product is returned together with proof of purchase date. The replacement product will be in warranty for the remainder of the original warranty period or for six months – whichever is the greatest.

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