



# SG500 Sensor



- Detect either natural gas or LPG
- 4 - 20mA
- IP30 enclosure
- Nemoto catalytic sensor technology
- Low cost
- Sensor active indicator

## Application

Duomo is recognised within the gas industry for providing a comprehensive range of low cost, high reliability gas detection for many applications. We have installed and commissioned natural gas and carbon monoxide sensors in applications such as boiler rooms, kitchens, car parks, aircraft hangers, factories and shopping centres. The SG500 is the gas sensor used with the complete range of Duomo detector panels. All Duomo products are manufactured to meet relevant European Normatives and proposals for explosive and toxic gases.

## Operation

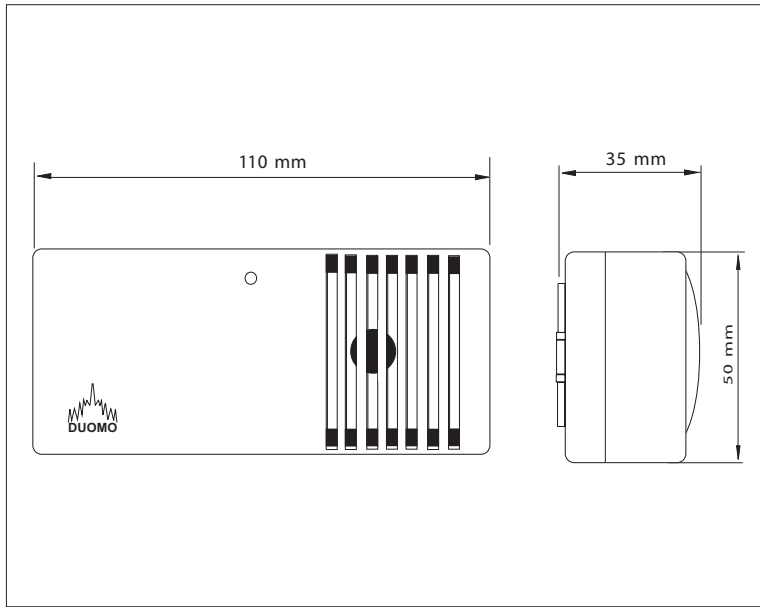
When the SG500 senses the presence of gas it sends a 4 - 20mA signal to the detector proportional to the level of gas. The detector then operates a pre-alarm relay - used for remote sirens or visual indicators. If the level of gas continues to rise then the main alarm relay is activated to break the electrical supply to a safety shut off valve and is fixed at 20% LEL.



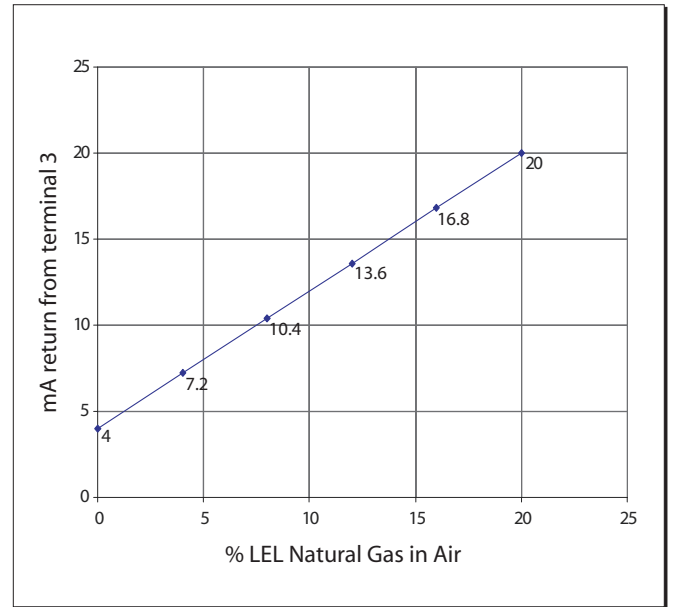
### CAUTION!

**For natural gas applications use the SG500, for LPG applications use the SG500 LPG.** Carefully read the following instructions prior to installation of this device. Always keep this pamphlet for future reference. Ensure that the gas detection system is wired correctly and is only used for the purpose for which it is intended.

## Overall Dimensions



## Diagram of Linear Detection



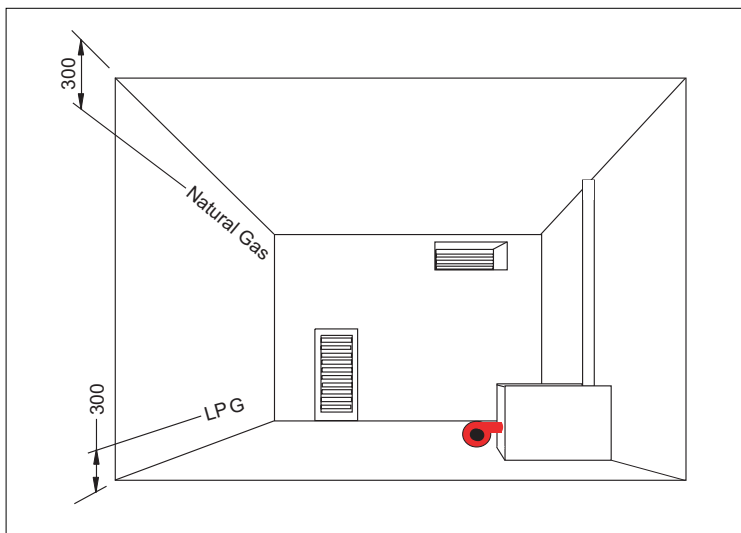
## Positioning Sensors

The SG500 natural gas sensor should be mounted in accordance with certain considerations. Do not position next to burners, heaters or ovens where temperatures above the room ambient may be experienced. It is, if possible, better to mount the sensors on the opposite wall. This is, of course, dependant on the size of the protected area.

Natural gas is lighter than air and will therefore rise, meaning the SG500 sensor should be mounted 300mm from the ceiling of the protected area.

LPG is heavier than air and will therefore drop, meaning the SG500 sensor should be mounted 300mm from the floor of the protected area.

If you require assistance regarding locating sensors please call our Droitwich factory on (01905) 797989 or fax a drawing of your application to (01905) 774296 and we will advise accordingly.



## Important Notes

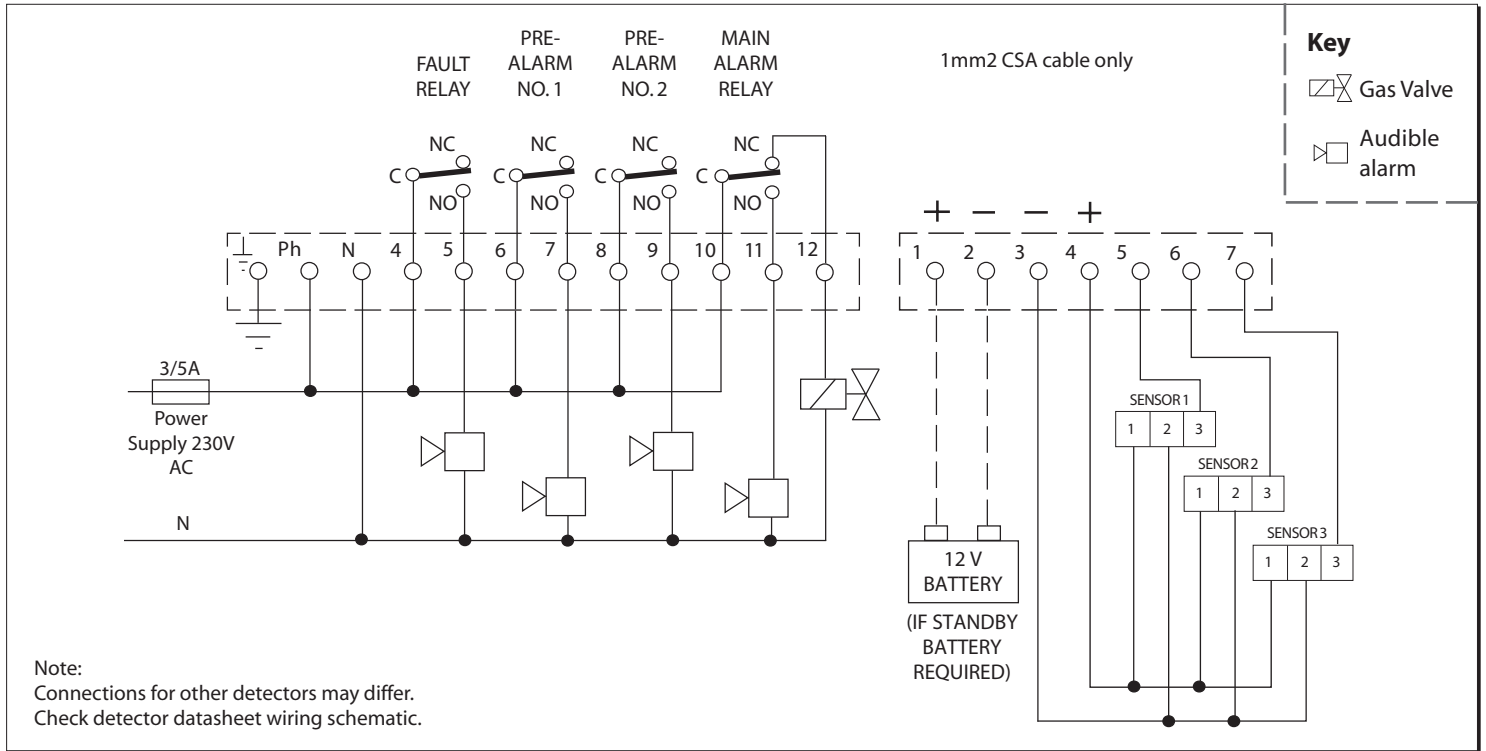
The installation of this gas detector does not release the user from observing all the regulations concerning the characteristics, installation and the use of gas appliances; the ventilation of the environment and the elimination of combustion products in accordance with local recommendations, regulations and byelaws.

For any damage caused to people, property or animals resulting from incorrect connection, installation or application of this gas detector Duomo will not be held responsible or liable.

## Technical Specifications

Power supply: 12V DC from detector  
Electrical input: 1.5W  
External protection rating: IP30  
Working temperature: 0 - 40°C  
Sensor type: Nemoto catalytic  
Maximum distance from sensor to detector: 100m  
CE Certification: No. 96125  
Detection: 4 - 20mA (+/- 5% of detected level)  
Approval homologation: No. 0033GS97  
Calibrated using: SIAD test gases  
Interconnecting cable size: 1mm csa  
Dimensions: 110 x 50 x 35mm  
Guarantee: 3 years

# Typical Wiring Schematic for GS300M & SG500



## Electrical Installation

This sensor is designed to be connected directly to Duomo gas detector controls (BX150, GS100M, GS300M and BX444M). These are safety devices and are designed to give audible alarms and automatically provide latched electrical isolation of associated gas safety shut off valves. The sensor can be located up to 100m from the gas detector. Cable size should be 1mm<sup>2</sup> csa. If the sensor cables are run separately in specific conduit it is not essential to use screened cable but if the cables are routed through conduit or trunking containing other wiring the use of screened cable is advisable. The wiring should be performed by a qualified person in accordance with current regulations. The plug in terminal rail makes installation easy and quick.

**Check wiring before powering up the system.**

## Troubleshooting

If you are getting a voltage below 0.8V between terminals 2 and 3, it is possible that the sensor needs to be re-trimmed to compensate for natural drift. To do this, follow this procedure;

With a piece of electrically conductive wire:

1. Touch and hold the wire to the right side of JP1.
2. Touch and hold the wire to the left side of JP1.

