



SG895 Gas Sensor - Explosion Proof



- Microprocessor control
- 4 - 20 mA signal
- ATEX certified (EUM1 10 ATEX 0169)
- Catalytic sensor technology (or electrochemical for carbon monoxide)
- Detected range 0-20% LEL (0-300ppm for carbon monoxide)
- Certified Compliance to EN60079-0, EN60079-1, EN61241-0 & EN61241-1
- Auto calibration
- Specialist sensor for a variety of gases

Application

The SG895 is an ATEX certified gas sensor which is 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.

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.

Operation

When the SG895 provides a 4 - 20mA signal to the detector panel proportional to the level of target gas sensed. 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.

Features

The SG895 is controlled by a microprocessor. This conducts both self diagnostics and automatically calibrates the sensor when ambient conditions vary, thus avoiding false alarms. A hand-held datalogger can be connected to the SG895 and information about the sensor can be read and printed out i.e.:

- The serial number
- The sensor condition
- How many times the sensor has been powered up
- How many alarms have occurred
- How many days of anticipated life remain
- How many auto adjusts have been made and
- The preset calibration state

Sensors Available for various Gases

Methane, Carbon Monoxide, LPG, Chlorine, Ammonia, Hydrogen, Acetylene, Gasoline, Methanol, White Spirit, Ethanol, Acetone, Hexane, Ethyl Acetate & Toluene. Please specify target gas when placing order.

If you need assistance please call 00441905 797989.



DO NOT TEST THIS SENSOR WITH ANYTHING OTHER THAN DUOMO TEST. Concentrations above this will damage the sensor and shorten sensor life. Ensure that the gas detection system is wired correctly and is only used for the purpose for which it is intended.

Overall Dimensions

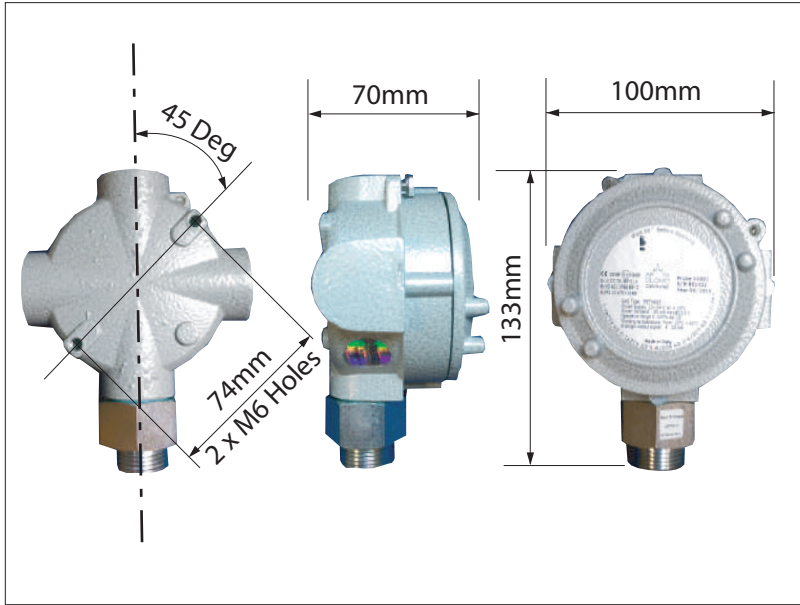
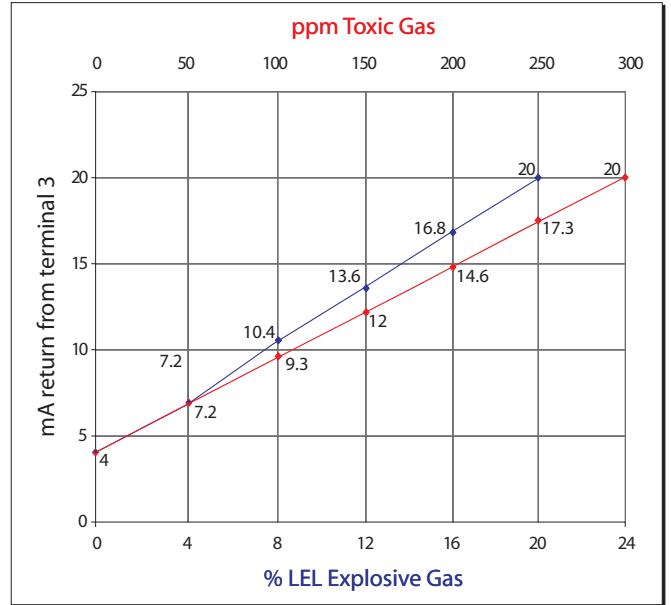


Diagram of Linear Detection

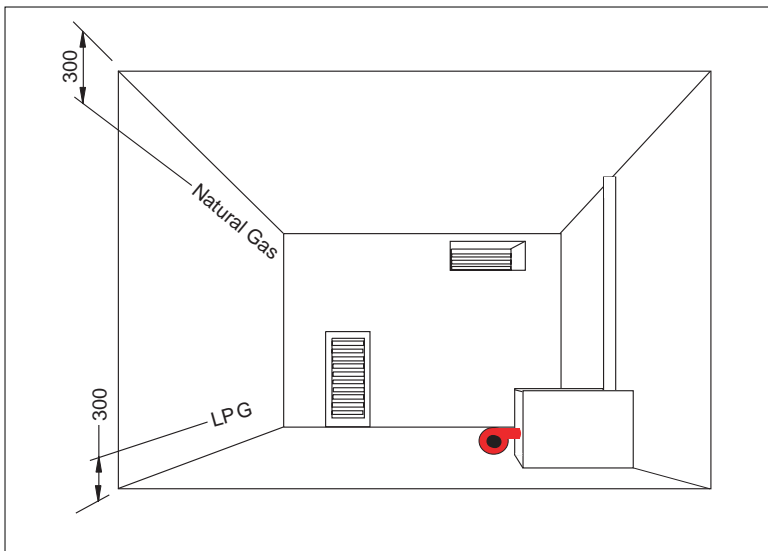


Positioning Sensors

The SG895 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.

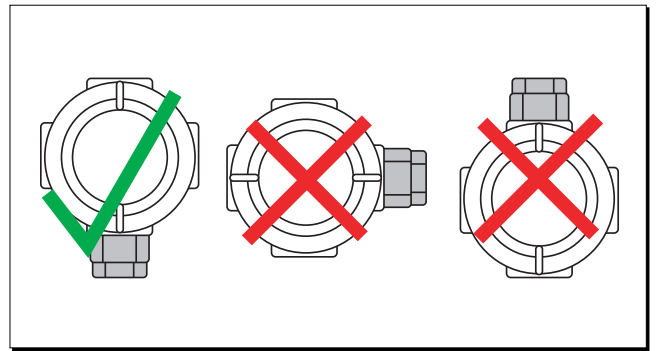
Consideration must be given to the specific gravity of the target gas. For example Natural gas is lighter than air and will therefore rise, meaning the SG895 sensor should be mounted 300mm from the ceiling of the protected area. Whereas LPG is heavier than air and will therefore drop, meaning the SG895 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.



Installing A Sensor

The sensors must be mounted as shown below with the sintered head pointing vertically down.



Important Notes

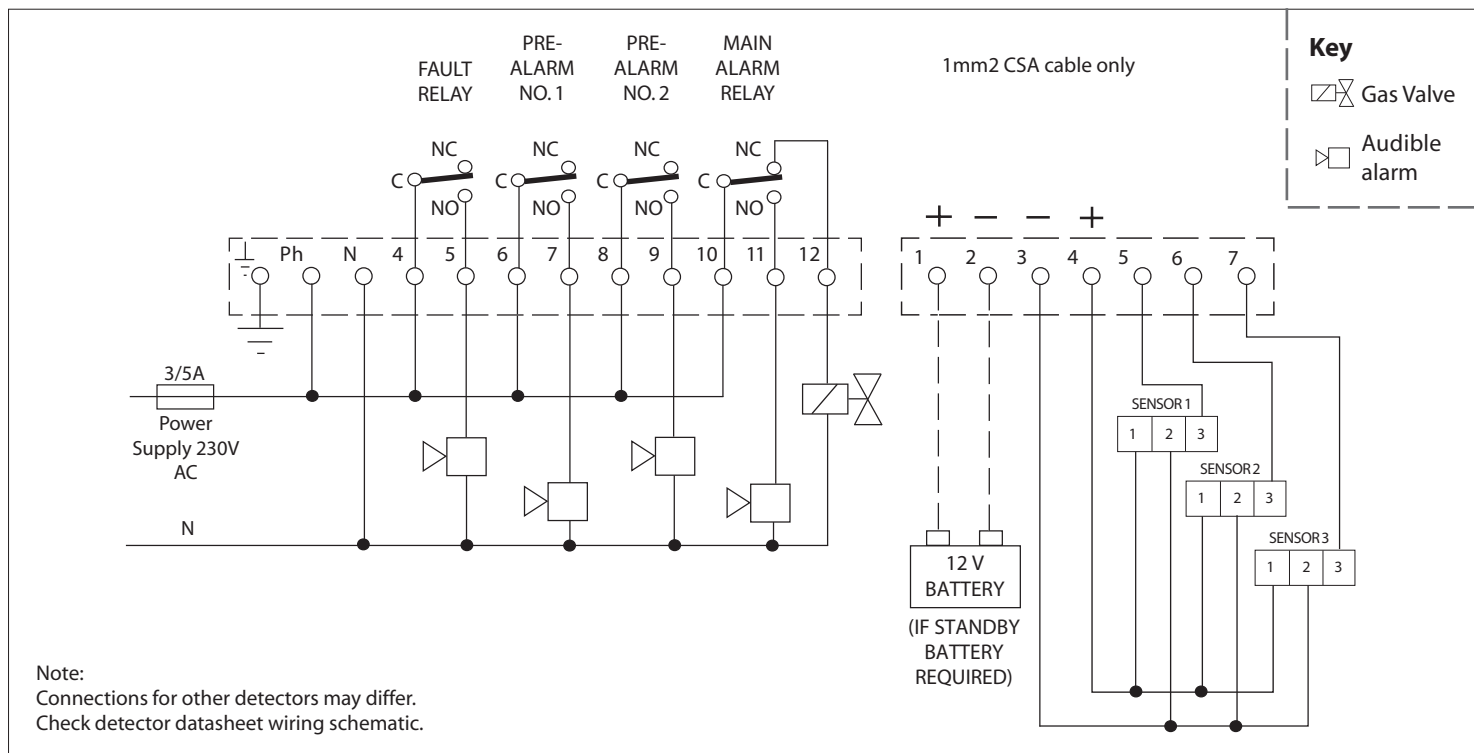
The installation of this gas detector does not release the user from observing all the regulations concerning the characteristics, installation and the use of gas appliances; the ventilation of the environment and the elimination of combustion products in accordance with local recommendations, regulations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

Replacing Sensors

When replacing sensors **NEVER** separate a sensing head from the PCB. The sensor has been calibrated using only that particular board and therefore will not function correctly with any other.

Typical Wiring Schematic for GS300M & SG895



Electrical Installation

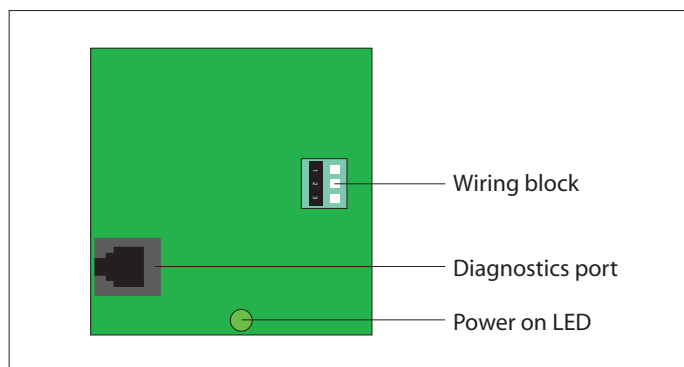
This sensor is designed to be connected directly to Duomo gas detector controls (BX150, GS100M, GS300M and BX444M). These are safety devices and are designed to give audible alarms and automatically provide latched electrical isolation of associated gas safety shut off valves. The sensor can be located up to 100m from the gas detector. Cable size should be 1mm² 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.

In Case Of Alarm

- Extinguish any naked flames.
- Do not switch lights or electrical devices on or off.
- Open all windows and doors to increase ventilation.
- If the audible alarm changes from continuous to intermittent the levels of gas have dropped. A responsible, qualified person is now safe to find the cause of the alarm.
- If the alarm sound remains constant, and the cause is not evident or possible to eliminate turn off the emergency isolation valves to the area and contact your gas provider emergency line. They will advise accordingly.

SG895 PCB Layout



Technical Specifications

Power supply: 12-24V DC +/- 10% from detector
 Electrical input: 100mA @ 13.8V
 Measurement range: 0 - 100% of LEL or diff. in ppm
 3/4 NPT, tapered for the cable entry gland
 External protection rating: EUM1 10 ATEX 0169
 Working temperature: -10°C to 70°C
 Response time: < 2 secs.
 Sensor type: Catalytic or Electrochemical (CO only)
 Maximum distance from sensor to detector: 150m CE
 certification: EN50014, EN50018 & EN50270
 Detection: 4 to 20mA
 Calibrated using: Duomo test gases Interconnecting
 cable size: 1mm csa
 Dimensions: 100mm
 Gases sensed: Methane, Carbon Monoxide, LPG,
 Ammonia, Hydrogen, Acetylene, Gasoline,
 Methanol, White Spirit, Ethanol, Acetone, Hexane,
 Ethyl Acetate & Toluene.

