

Solus GS1 Standalone Gas Detector



Solus GS1

IP64

Natural
Gas

SPECIFICATION

Propane



Power

Power Supply	230-240V DC 50/60Hz $\pm$ 10%
Power Consumption	2.5W
Relay contact	Pre Alarm: 10A 250V resistive - 5A 30VDC resistive Main Alarm: 10A 250V resistive - 5A 30VDC resistive

Technical Specification

Gas(es) Detected	L.P.G or Natural Gas
Sensor Technology	Catalytic
Dimensions	Width 135mm Height 90mm Depth 45mm
LED indicator	Green: Power ON
Mounting	Wall Mounted
Device Precision	1% FS
Pre-Alarm Threshold	13 % of L.E.L.
Main Alarm Threshold	20 % of L.E.L.
Reaction Time	<10 seconds
Warm Up Time	90 seconds
Test Button	Yes
Reset Button	Yes
Solenoid Valve Control	Class A or Class B
Positive Safety	Yes
Working Temperature	-10°C to 50°C
Functioning Humidity	0-90% non condensing
Protective Rating	IP64

FEATURES

- Standalone sensor
- Natural Gas or Propane detection sensor
- Catalytic Sensor Technology
- Automatic Calibration
- Sintered Head
- IP64 Protective Rating
- CE Certified and approved to EN50194 EN50270 EN61010-1 EN60079-29-1 EN60079-29-2
- 2 Year Guarantee - 3 Year by Registering at duomo.co.uk

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, factories and shopping centres. The Solus GS1 is a standalone gas sensor. All Duomo products are manufactured to meet relevant European Normatives and proposals for explosive and toxic gases.

OPERATION

The Solus GS1 is a standalone sensor, meaning a gas detection panel is not required for operation. The detector then operates a prealarm 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 of Natural Gas or LPG.

The Solus GS1 microprocessor conducts both self diagnostics and automatically calibrates the sensor when ambient conditions vary, thus avoiding false alarms.

Compatibility

Calibration Gas Compatibility	Duomo Target Test Gases
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Approvals, Certifications and Guarantee

Approvals	EN50194 EN50270 EN61010-1 EN60079-29-1 EN60079-29-2
Guarantee	3 Year



Precautions and Maintenance

Check the integrity of the unit after having removed it from the box.
Check that the data written on the box correspond to the type of gas used.

When doing the electrical connections, follow the drawing closely.

Any use of the detector for purposes other than the intended one is considered improper and as a result of which Duomo (UK) therefore disclaims any responsibility for possible damages caused to people, animals or objects.

Do not allow the sensor to become wet.

The product is not waterproof either when immersed in water or exposed to high levels of humidity.

Every six months must perform a function check of the sensor and connected controller. Suitable test gas must be used to avoid damaging the sensor. Disabling the sensor or the controller must be carried out by a suitably trained technician.

Every year a more accurate check must be performed by qualified personnel. Please call Duomo (UK) on 01905 797989

Important Notes



IMPORTANT: Assembly / maintenance of the appliance must be carried out by qualified personnel and in accordance with applicable laws and regulations.

The manufacturer assumes no responsibility for the use of products that have to comply with particular environmental and / or installation standards.

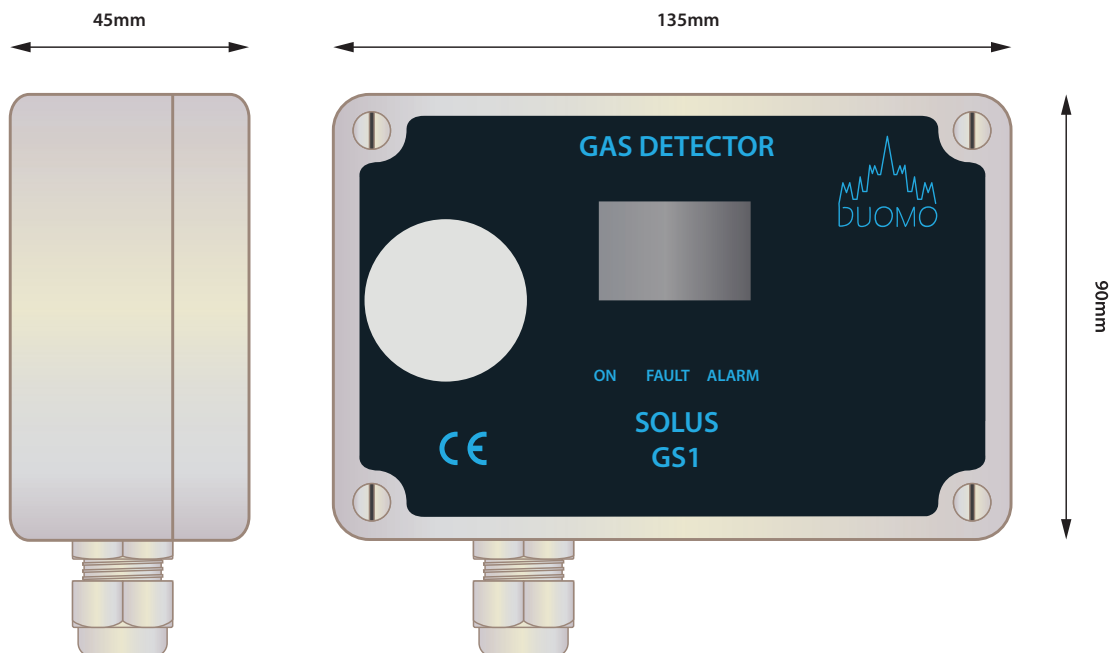
IMPORTANT: Before connecting the equipment, it is recommended that you read the instruction manual carefully and keep it for future reference.

Electrical Connections



IMPORTANT: Before connecting to the mains power, ensure the voltage is correct. Carefully follow the instructions and the connections according to Regulations in force, keeping in mind that the signal cables should be laid separate from the power cables.

Overall Dimensions (mm)



Connections and LED indicator

Important Notes

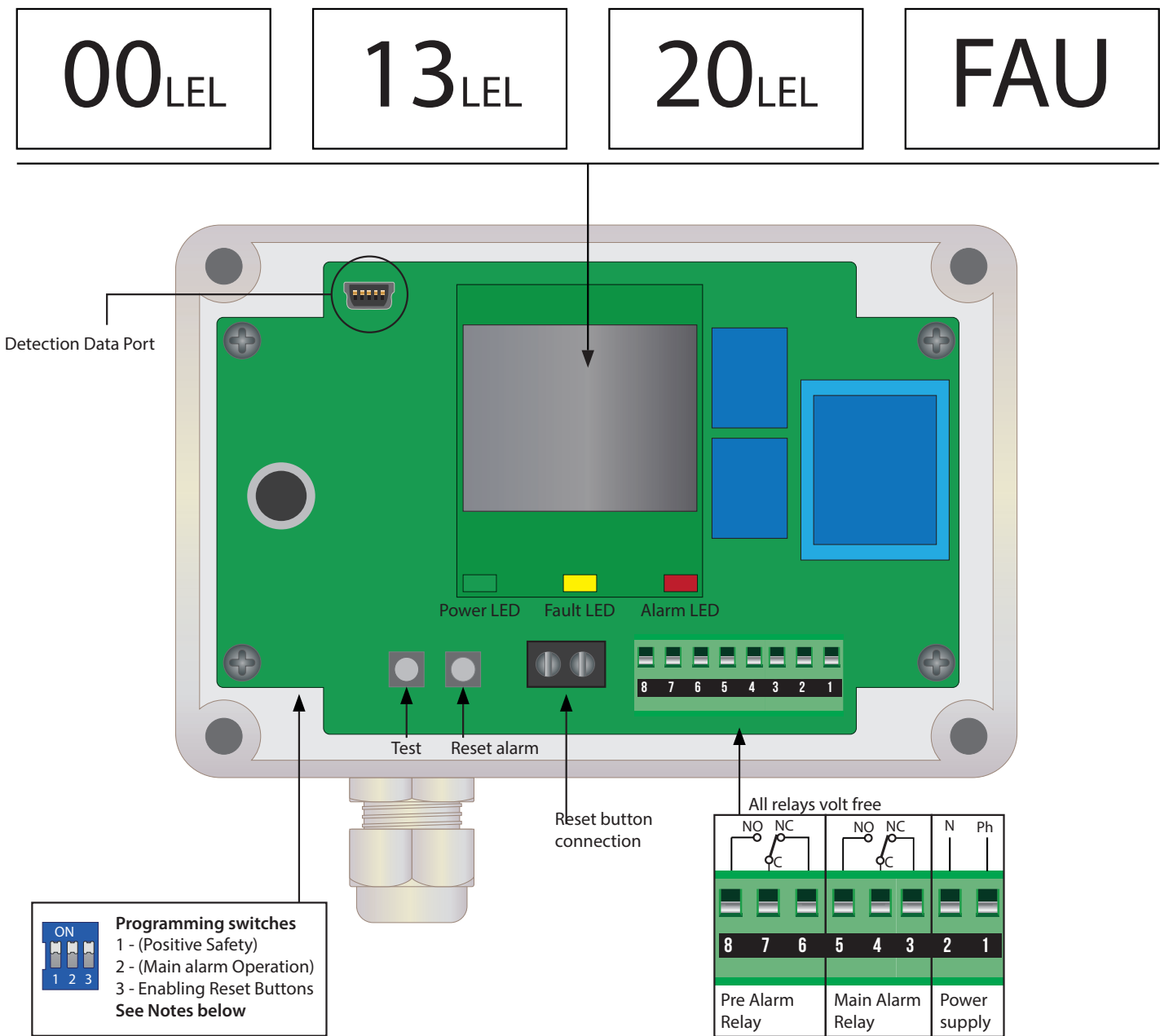
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Switch 1 - Selection Of the Positive Safety

In position **ON**, enables the function of the positive Safety. The relay changes state of working mode after performing the waiting phase and switches when the detector enters into the state of main alarm.

In position **OFF**, disables the function of the Positive Safety. The relay changes state of working mode only when the detector enters into the state of main alarm.

Switch 2) Operating mode of the main alarm relay.

From the micro Switching 2, two Operating modes of the main alarm relay can be selected.

In position **ON** (continuous) the relay is closed until the gas is no longer detected, if is selected the switch 3 or until you press the **RESET** button.

In position **OFF** (impulse) the relay is closed for 20 seconds after that it disenergises.

Switch 3 - Enabling Reset Buttons (Maintenance of the memory of alarm).

In position **ON**, Its enables the reset buttons (alarm memorisation) In case of alarm, the relay remains closed until is pressed one of the reset buttons.

In position **OFF**, the device don't enable the reset buttons.

Sensor Orientation

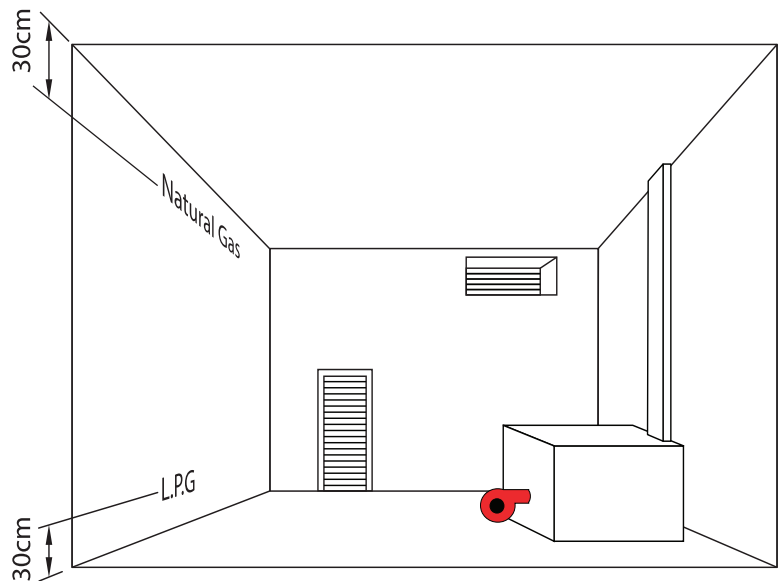
The sensors must be mounted as shown below with the sintered head pointing vertically down.

Sensor Positioning

The Solus GS1 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.

LPG is heavier than air, therefore the Solus GS1 sensor should be mounted 30cm from the lowest point on floor of the protected area. Natural Gas is lighter than air and the Solus GS1 should be mounted 30cm from the highest point from ceiling of the protected area.

If you require assistance regarding locating sensors please call our Droitwich factory on (01905) 797989 or email us: sales@duomo.co.uk



Turning on

Always check the wiring before powering up the system:

- 1) Connect by the external switch that must be provides of the fuses of protection.
- 2) The COUNT DOWN will appear on the display for about 100 seconds (warm up) then the the device is ready to detect. If there is no presence of gas in the environment the display indicates " 0 " The percentage of gas displayed in LEL
- 3) Pressing the TEST button to simulate the presence of gas, the detector performs the following operations:

The numbers on the display representing the percentage of the LEL increase:

On reaching the 13% you hear switching the relay pre-alarm

On reaching 20% turns on the red LED alarm and switching the relay

a) No maintenance memory - When the concentration of gas ceases, the led and the sound of the buzzer will end and connected devices will be deactivated.

b) Maintenance of memory - When the concentration of gas ceases, the CXM200/Q maintains the alarm indefinitely. To restore the memory, press the RESET button.

* To complete the general test, emit gas from a pre-calibrated aerosol within 20% of LEL. Performing a test using a common cigarette lighter you could damage the sensor. This test should be carried out at least once a year.

Important Notes

Always check the wiring before powering up the system.

When replacing sensors never separate a sensing head from its PCB. The sensor will have been calibrated using this particular board and therefore will not function correctly with any other.

Do not test this sensor with anything other than Duomo test gas. Concentrations above this will damage the sensor and shorten sensor life.

The installation of this gas sensor does not release the user from observing all the regulations concerning the characteristics of the installation and use of gas appliance, the ventilation of the protected environment and the removal of the products of combustion. Duomo (UK) will not be held responsible or liable for any damage caused to people, property or animals resulting from incorrect connection, installation or application of this gas sensor.

To ensure correct function after installation Duomo provide a commissioning service using calibrated test gases. For this service call +44 1905 797989.

In case of alarm

Extinguish any naked flames.
Do not switch lights or electrical devices on or off.
Open all windows and door to increase ventilation.

- If the ALARM LED is off 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 not possible to eliminate turn off the emergency isolation valves to the area and contact your gas provider emergency line. They will advise accordingly.

Troubleshooting

The Problem	The Solution
The sensor does not power up	Check that the 12/24 VDC power is present, and that positive and negative polarity has not been inverted.
This is a working document and will be updated as new troubleshooting and FAQs become apparent. If your issue is not listed here please call Duomo (UK) on 01905 797989 and inform us so we can list your issue and associated solution here.	

Still experiencing difficulties?

If you have made the checks above and are still experiencing difficulties then please call **Duomo (UK) Ltd** on **+441905 797989** for technical assistance.



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