

# INSTRUCTION BOOKLET

## WARNINGS



“The text of this booklet has been drawn up by using the GUIDE TO THE DRAWING UP OF WARNINGS DESTINED TO ACCOMPANY ELECTRICAL AND NON ELECTRICAL EQUIPMENT”

**This booklet is an integral and essential part of the product and should be handed over to the user.**

Read the warnings contained in this booklet carefully as they give important indications regarding the safety of the installation, use and maintenance.

- Please preserve this booklet for any further consultation that may be necessary. Children should not be allowed in reach of the packaging elements (plastic bags, expanded polystyrene, nails, etc.) as they are potential sources of danger.

- **The installation must be carried out by qualified personnel, in accordance with current regulations, according to the maker's instructions.**

- **Before plugging in the equipment, make sure that the data on the plaque correspond to those of the electricity distribution network.**

The installation regulations can vary from country to country (\*).

**Incorrect installation can cause harm to people, animals of things, for which the maker cannot be held responsible.**

The electrical safety of this equipment is achieved only if correctly connected to an effective earthed system carried out as foreseen by the current safety regulations. It is necessary to verify this fundamental safety requirement and, in the case of doubt, ask for an accurate checking of the system by professionally-qualified personnel. The maker cannot be held responsible for eventual damage caused by not earthing the system.

Check that the electrical capacity of the system is adequate for the maximum power of the equipment indicated on the plaque.

If in doubt, please ask a professionally-qualified person.

This person should, in particular, also ascertain that the section of the system cables is suitable for the power absorbed by the equipment.

It is forbidden to use adaptors, multiple plugs and/or extension wires.

- **This equipment should be destined only to the use for which it has been expressly conceived, i.e. to detect domestic gas (natural and butane/propane). Any other use should be considered improper and therefore dangerous.**

The maker cannot be held responsible for eventual damage caused by improper, incorrect and unreasonable use.

- The use of any electrical equipment involves the observance of some fundamental rules.

In particular:

- **do not touch the equipment with damp or humid hands or feet.**

# DECLARATION OF CONFORMITY

(according to ISO/IEC Guide 22 and EN 45014)

- do not use the equipment when you have bare feet.
  - do not use extension wires in rooms used as bathrooms or showers.
  - do not pull the electricity supply wire in order to disconnect the equipment from the supply network.
  - **do not leave the equipment exposed to atmospherical agents** (rain, sun, etc.), unless expressly foreseen.
  - **do not allow the equipment to be used by small children or incapable persons.**
- Before carrying out any cleaning of maintenance operations, unplug the equipment from the electrical supply network** by turning off the system's switch.
- In the case of a breakdown and/or poor functioning of the equipment, switch it off, without making any attempt to repair it or intervene directly.**
- Apply exclusively to professionally-qualified personnel.**
- The eventual repairs to the products should only be carried out by the maker or by an authorized assistance centre, exclusively using original spare parts.
- A lack of observance of that mentioned above could compromise the safety of the equipment.**

- An omnipower switch should be provided for the installation as foreseen by current safety regulations (\*\*), with a contact opening distance of 3 mm or more.
  - In order to avoid dangerous overheating, the unwinding of the entire length of supply cable is recommended.
  - Do not block the suction or dissipation grids.
  - The user should not replace the supply cable of this equipment.
- Should the cable be damaged, turn off the equipment and, for the replacement of the cable, apply exclusively to professionally-qualified personnel.
- Should you decide not to use a piece of equipment of this kind any longer, it is advisable to render it inoperative by disconnecting the supply terminals from the electrical side, after having removed the cable from the supply network.
- We also advise you to render harmless those parts susceptible of causing a potential source of danger.
- Discharge: transformer and relays should be consigned to firms which recycle copper. All the rest should be discharged as special refuse non polluting.

(\*) In Italy follow the UNI CEI 70028

(\*\*) In Italy follow the 46/90 law

## PARTICULAR POINTS TO NOTE

- **To guarantee the efficiency of the plant and its correct functioning, it is indispensable to observe the maker's indications and to have the periodical maintenance of the plant carried out by professionally-qualified personnel.**
- **In particular, it is recommended to have the correct functioning of all the safety devices checked periodically.**
- **Learn to use the manual emergency control system according to the procedures foreseen in the instruction booklet.**

Manufacturer's Name: ALLTRONIC s.n.c.

Manufacturer's Address: Via Torino, 84  
12041 Bene Vagienna (Cn)  
Italy

DECLARES THAT THE FOLLOWING PRODUCT

Product Name: Gas Central

Model: GS200/A - GSI10/A - GSI20 - GSI22/A - GSI4/8  
VU GAS METER

CONFORMS TO THE FOLLOWING SPECIFICATIONS BASED ON SAMPLE TESTING:

EN 55011	EN 61000-6-3 + A11
EN 55014-1	EN 60335-1
ENV 555014-2	EN 50194
EN 61000-3-2	EN 50270
EN 61000-3-3	UNI CEI 70028

The product has been tested in the installation typical configuration and with peripherals which conform to EMC Directive.

The described sample fulfils the above mentioned EMC requirements, on the basis of the test results and their evaluation made by our factory with the following equipments:

SCHWARZBECK MOD. FCKL 1528  
SCHWARZBECK MOD. NSLK 8126SN309  
HILO TEST MOD. EFTG 4510 (Electrical Fast Transient Generator)  
PMM 8010 Receiver S/N 0570 da 8 KHz a 30 Mhz  
PMM L3-25 (LISN) Artificial Mains Network S/N 0336 N taratura 0161  
COMPUTER OLIDATA Mod. 1451 CLR

supported by Tests of Competent Bodies: Report No. 242/95 Certified on 24/07/95 and Report No. 354/95 Certified on 11/01/96 - Body "SICURCONTROL" of Carugate (Milan), Accredited SINAL at No. 0046.

I the undersigned declare that the product herewith complies with the protection requirements of the EMC Directive 89/336/EEC, the Low Tension Directive 73/23/CEE (EN60335-1), the British Standard BS 7348 and the European Standard EN 50194.

Bene Vagienna, 10/04/2017

Allodi Francesco

*Francesco Allodi*

Owner

## In case of alarm :

- 1) Extinguish all flames.
- 2) Turn off the tap of the gas-meter or of the GPL bottle.
- 3) Do not switch on or off lights.
  - do not start equipments electrically powered.
  - do not start devices electrically powered.
- 4) Open doors and windows to air the room.

If the alarm stops you should find the cause and remove it.

If the alarm does not stop and the cause of the gas loss cannot be found or removed, leave the house or the boilerhouse plant and warn the emergency service (firemen).

### Warning

Equipment powered at 230V: only skilled people can open the container.

It is forbidden to change the sensor sensitivity adjustment: mishandlings will not be considered under guarantee.

Alltronic snc



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## Gas sensors type G90-G90/S-G91-G91/S

For the installer

Sensors - gas detectors for domestic use, sensitive to butane/propane gas in bottles, natural gas and city gas.

### Sensor characteristics :

- G90 gas sensor with positive safety (energised relay).
- G90/S sensor similar to G90 in watertight container (for dusty or steamy environments).
- G91 gas sensor with unenergised relay.
- G91/S sensor similar to G91 in watertight container (for dusty or steamy environments)

### Technical characteristics:

Gas detector powered at 230Vac.

Visualizations :

Power on = Green led  
Alarm = Red led and buzzer  
Fault = Yellow led

Relay with contacts volt free (10A at 24V) to put safety devices into effect.

Starting stabilisation (when supplying power) of 1 minute to allow sensor heating-up (FIGARO TGS 2611).

Sensor control by electronic calibration system and alarm in case of gas losses, fault or sensor removal.

The sensor in watertight container has been designed in the same way as the normal type, but it is mounted into a watertight container with outside sensor and buzzer and special protection and filters. It is particularly suitable for dusty and/or moisty environments.

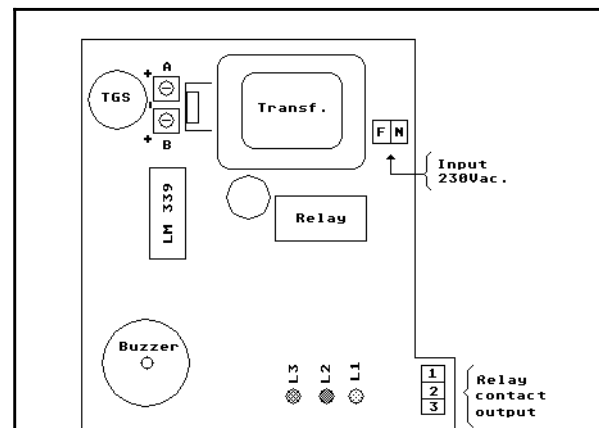


Fig. 1 - Upper view of the sensor type G90 - G91. For connections and adjustments see wiring diagrams in the following pages (Tab. 1 - 4).

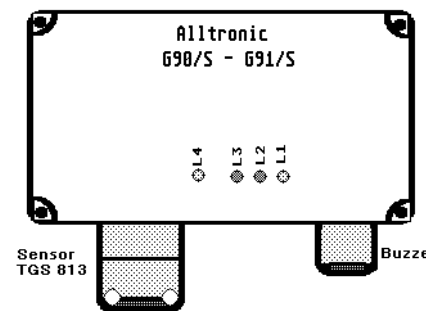


Fig. 2 - Upper view of the sensor type G90/S - G91/S. The electronic card is similar to that of the G90 - G91 types mounted into a watertight container (IP54).

## Connection diagrams of each sensor

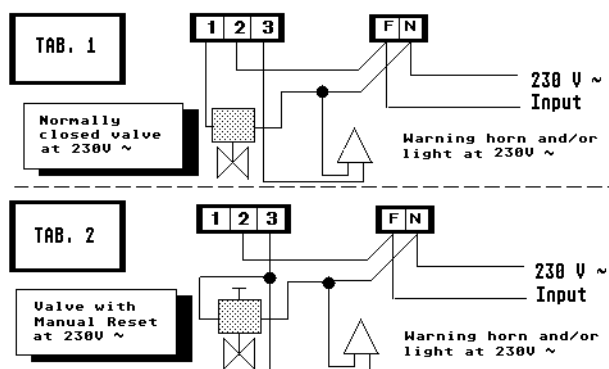


Fig. 3 - G90 -

Example of the sensor type **G90** and **G90/S** controlling normally closed valve (Table 1) or valve with manual reset (Table 2).

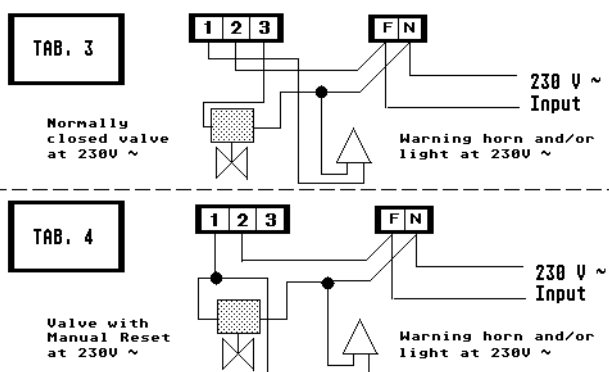


Fig. 4 - G91 -

Example of the sensor type **G91** and **G91/S** controlling normally closed valve (Table 3) or valve with manual reset (Table 4).

### SENSOR SENSITIVITY ADJUSTMENT

Action on trimmer "A" to adjust the sensor sensitivity (Fig. 1): turn it clockwise to increase sensitivity and vice versa. Over a certain limit the red warning led will come on (safe self-control of setting and detecting head).

The range of sensitivity adjustment is from a minimum of 30% to a maximum of 0.05% of the Lower Limit of Explosion L.L.E. (Reference to natural and propane gas).

**NOTE:** the sensor is delivered with a trimmer adjusted and blocked to intervene at the 20% of the Lower Limit of Explosion. Mishandlings of the sensor sensitivity trimmer will not be considered under guarantee.

## AUTOMATIC EQUIPMENT FOR CONTROL AND GAS DETECTION TYPE G90 - G90/S - G91 - G91/S.

### Maintenance

For users

The gas detectors type G90 and G91 have a working period guaranteed for 6 years (the guarantee of the unit covers the faults for 1 year) and are self-controlled: in case of fault of the detecting head or changing of the adjustment, the alarm will come on.

In any case the sensor should be tested at least every 3 months (with cigarette-lighter gas), checking the valve closing.

### Operation

The equipment controls contingent gas losses and, if they exceed the 20% of the Lower Limit of Explosion, it reacts by closing the valve, and the red warning led (Alarm) and the buzzer will come on. **In this case you should follow the instructions on page 8.**

The alarm by means of a buzzer and the yellow and red warning leds indicates the sensor fault; in this case you should ask the manufacturer advice in order to restore the operation of the unit.

**The user should be present during the final test made by the installer, in order to learn about the operation of the gas detector and to make sure that the following data are filled in:**

Date of installation :

Expiry of guaranteed working period :

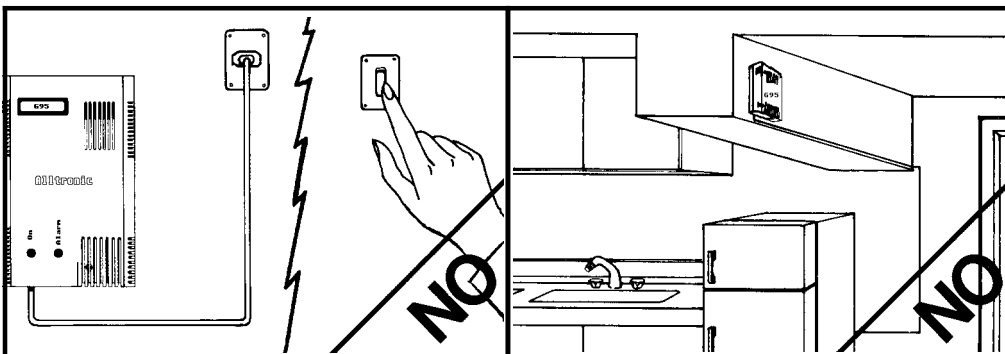
Installation room :

Serial number (on the bottom of the sensor) :

The installer : (stamp and signature)

Address :

**DETECTABLE GAS : NATURAL GAS - L.P.G.** (cross out that not detected)



Install the sensor taking care not to inadvertently disconnect it with switches.

Place it avoiding any impediment between the sensor and the kitchen.

### Directions for use:

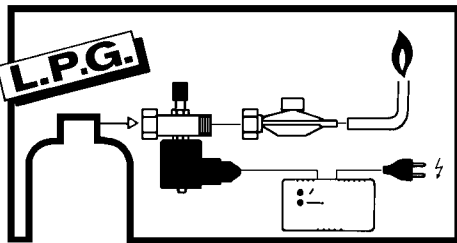


Diagram of the connection of the G90-G91 and the valve with manual reset for bottle.

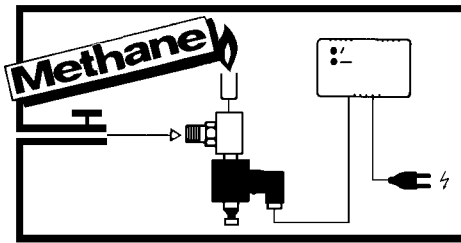
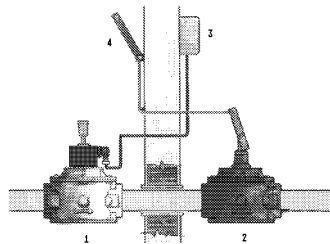


Diagram of the connection of the G90-91 and the valve with manual reset for natural gas.

Example of installation :

- 1 = Safety valve for gas type EVRM
- 2 = Jerking intercepting valve
- 3 = Gas detector, safety thermostat, safety pressure gauge...
- 4 = Outside lever for remote control of the jerking valve

**Warning:** the valve should be installed on the gas adduction pipe, after the meter, out of the environment to be protected, safe from dust and inclement weather.



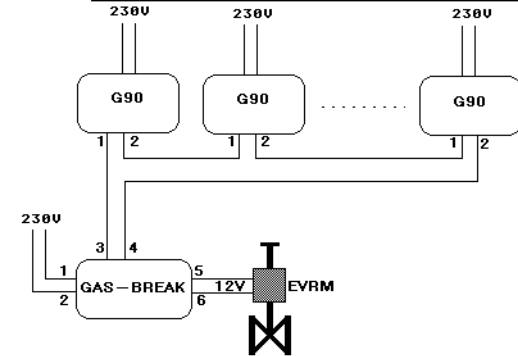
Once the valve is released, it should be reset acting on the special knob (after having removed the cause of the alarm and aired the room).

## Connection diagrams of more sensors

Connection diagram of 2 or more G90 to control only one valve with manual reset at 12V.

Fig. 5

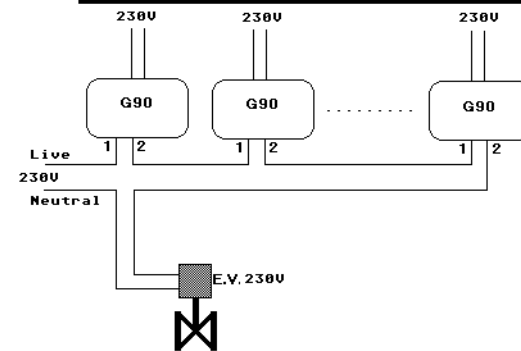
Example of more sensors type G90 or G90/S controlling Valve with Manual Reset at 12Vdc. (EVRM - 12V)



Connection diagram of 2 or more G90 to control only one normally closed valve at 230V.

Fig. 6

Example of more sensors type G90 or G90/S controlling Normally Closed Valve at 230Vac. (EV. - 230V)



### PREALARM TIME ADJUSTMENT

Action on trimmer "B" (Fig. 1) to adjust the prealarm time, that is the time from the gas detection and the reaction of the safety device connected to it: turn it clockwise to decrease the prealarm time and vice versa. The delay can be set from a minimum of 2 to a maximum of 40 seconds and it is shown by means of the lighting of a red led (presence of gas) and a buzzer with the activation of the relay.

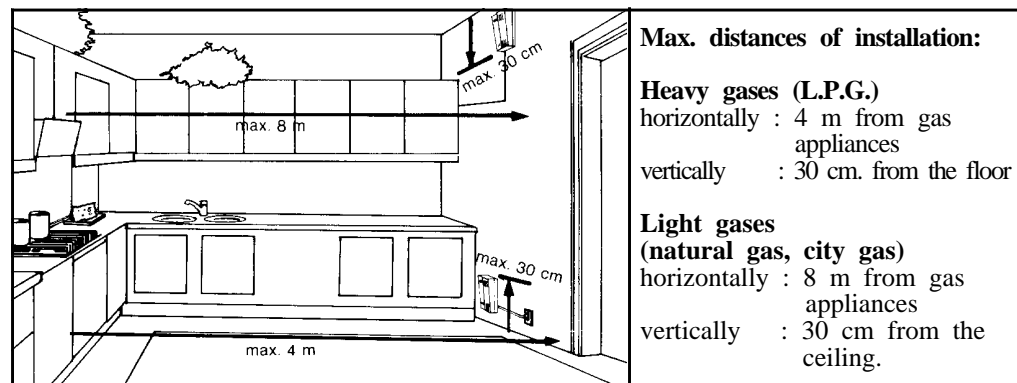
**NOTE:** The sensor is delivered with a delay time adjusted at about 10 seconds. The sensor reset is automatic: the alarm condition will stop as soon as the cause is removed (remember to air the room in case of intervention in order to let the detector to reset itself!).

Hydrocarbons and their by-products	Formula	Explosion Limit in the air (vol.%)	Density (air=1)
Natural gas	CH <sub>4</sub>	5.0 ~ 15.0	0.6
Ethane	C <sub>2</sub> H <sub>6</sub>	3.0 ~ 12.4	1.0
Propane	C <sub>3</sub> H <sub>8</sub>	2.1 ~ 9.5	1.6
Butane	C <sub>4</sub> H <sub>10</sub>	1.8 ~ 8.4	2.0
Pentane	C <sub>5</sub> H <sub>12</sub>	1.4 ~ 7.8	2.5
Hexane	C <sub>6</sub> H <sub>14</sub>	1.2 ~ 7.4	3.0
Petrol		1.3 ~ 7.6	3 ~ 4
Kerosene		0.6 ~ 6.0	4.5
Naphtha		0.9 ~ 6.0	3.8
Acetylene	C <sub>2</sub> H <sub>2</sub>	2.5 ~ 81.0	0.9
<b>Inorganic gases</b>			
Ammonia	NH <sub>3</sub>	16.0 ~ 25.0	0.6
Carbon monoxide	CO	12.5 ~ 74.0	1.0

### Installation of gas detectors

The sensor should be installed in the area to be inspected according with law requirement and the following instructions:

- To detect light gases (natural gas): place it near the ceiling (10 - 30 cm).
- To detect heavy gases (LPG): place it near the floor (10 - 30 cm).
- Do not place it up more than 4 meters far from kitchen stoves if it is fixed on the floor (LPG) neither more than 8 meters if it is fixed on the ceiling (natural gas).
- Never place it less than 40 cm from the ceiling or more than 40 cm from the floor.
- Never place it directly upon kitchen stoves.
- Never place it near fans, suction fans or refrigeration systems.
- Never place it near areas where there is much steam.
- Never place it in areas where there is splashing water.
- Install it in places safe from possible damage.
- Place it avoiding any impediment between the sensor and the kitchen.
- Place it so as to permit easy handling and maintenance of the unit.
- Remember that the sensor can be affected by composed gas (alcohol, deodorizers, products for kitchen cleaning, insecticides).
- Install the sensor taking care not to inadvertently disconnect it from other switches.
- Remember to periodically test its performances spraying some light gas (e.g. cigarette-lighter gas) on the sensor.



Max. distances of installation:

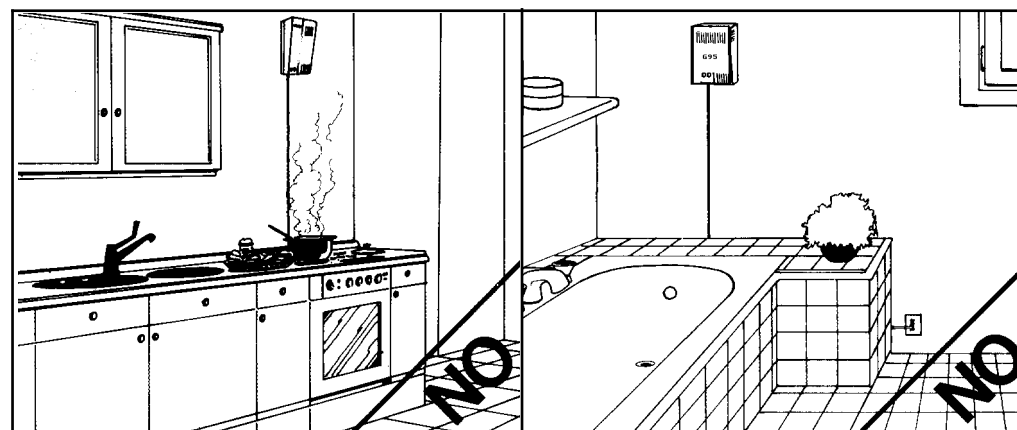
**Heavy gases (L.P.G.)**  
 horizontally : 4 m from gas appliances  
 vertically : 30 cm. from the floor

**Light gases (natural gas, city gas)**  
 horizontally : 8 m from gas appliances  
 vertically : 30 cm from the ceiling.

**Do not place the sensor :**

Upon kitchen stoves.

Near areas where there is much steam.



In areas where there is splashing water.

Near fans and/or suction fans which modify the quantity of gas in the air.

