



English

GAS DETECTOR FOR DOMESTIC INSTALLATION series GAMMA mod. 652-O/M series GAMMA mod. 652-O/G



Made in Italy

This document refers to gas detected: mod. GAMMA 652-O series marked GECA.

Item	Power supply	Detected gas
652-O/M	230Vac-50/60Hz	METHANE
652-O/G	230Vac-50/60Hz	L.P.G.

GENERAL DESCRIPTION

The detectors are gas detector of methane and LPG gas, that warns with an optical and acoustic signal, the presence of gas in the environment.

They are planned to be functioning as detected gas with relay exit.

The detectors are calibrated to detect gas up to 10% of the L.E.L. (Low Explosion Limit), this threshold can change in base of the environmental conditions but it will not gets over during the first 4 years working, the 15% LEL, after that period the instrument have to be put out of order or re-send to **manufacturer firm** for a complete substitution of the device.

With that aim, the package is provided with a printed label on which have to be indicated the maturity of correct working period (4 years from installing date); this printed label have to be compiled by who makes the installation.

LUMINOUS AND ACOUSTIC SIGNALISATIONS

The gas detector is provided, on the front panel, by three luminous signalisations:



-GREEN LED (ON): indicates that the instruments is powered



-YELLOW LED (FAULT): Indicates that the gas sensor is damaged



-RED LED (ALARM): Indicates that the gas concentration measured in the air exceeds the alarm threshold

In case of damage, the gas detector is able to signals the malfunction, illuminating in fixed way the yellow led and activating a sound alarm with two seconds' of intermittence.

In case of alarm the detector illuminating the red led and after 20 seconds the buzzer emits a sound alarm and the relay activates.

LIGHTING DELAYS

The catalytic sensor presents in the gas detector, needs to be heated for about one minute to working in a correct way and for that reason when the detector is lighted on the green led will lighten to indicated that the sensor is in the heating phase. During this time, all the detection functions will be inhibited.

INSTALLATION

Attention: the installation and the out of service of the instrument must be done by skilled personnel only.

The installation of gas and the possible stopping device must be in according to the national and in force prescriptions law.

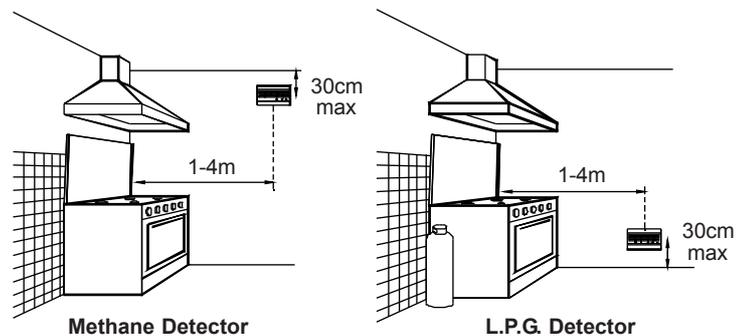
DETECTOR POSITIONING

The instrument have to be installed:

the gas detector for methane should be fixed at a maximum distance of 30 cm from the ceiling; the gas detector for LPG should be fixed at a maximum distance of 30 cm from the floor.

They should be fixed at a distance comprises from 1 meter and 4 meters by the gas device (kitchen, boiler room, etc...)

Possibly in every room in which there is a gas device and, in the residences with more that one floor, at least one for each floor.



Avoid installing:

Directly over the sink or the gas device

In little locals where can be utilised alcohol, ammonia, spray bottles of gas or other substances with flying solvents.

In low ventilated environments

Near to walls or obstacles that can stop the gas flow from the user to the detector, or near to exhausters or fans that can divert the air flow

In environment in which the temperature can arrive over 40°C or under -10°C

In environment with a lot of humidity or vapours

INSTALLATION PROCEDURES

By using a screwdriver unscrew on the right hand side the instrument and uncover it. (Fig.1)

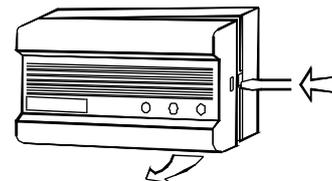


Fig.1

The box cover has to be positioned on the three form point or on the wall, by using the screws and plugs available. For installing the dowels drilling the wall with a 5mm drill.

ELECTRICAL CONNECTION

POWER SUPPLY

Attention: the electrical connection has to be done with an under track cable.

The gas detector have to be powered at 230Vac-50/60Hz by the terminals 1 and 2 (Fig. 2)

It has to be provided with an device, to be disowned from the detector and the feeding net with minimum 3mm contact distance in accordance with as written in the European Standard EN 60335-1.

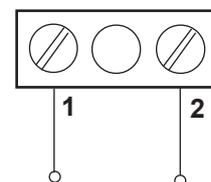


Fig.2

230Vac - 50/60Hz

CHARACTERISTICS OF THE EXIT-SIGNAL

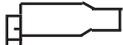
The detector is provided with an external relay with free tension contacts, capacity of connection 8A 250Vac / 30Vcc.

ELECTRO-VALVES CONNECTION

The gas detector has inside a jumper that permits to select the type of electro-valve to connect that can be Normally Opened type (Fig. 3) or Normally Closed type (Fig. 4)

We remind that the valve should be installed on the gas pipes outside the room under control, since protection is useless if a gas leak occurs at the beginning of the gas pipe.

 **Positioning N.O.:** proper for normally opened valves

 **Positioning N.C.:** proper for normally closed valves or for the contemporaneously check of both electro-valve and an external electrical charge.

OPERATIONAL WITH NORMALLY OPENED VALVE (N.O.)

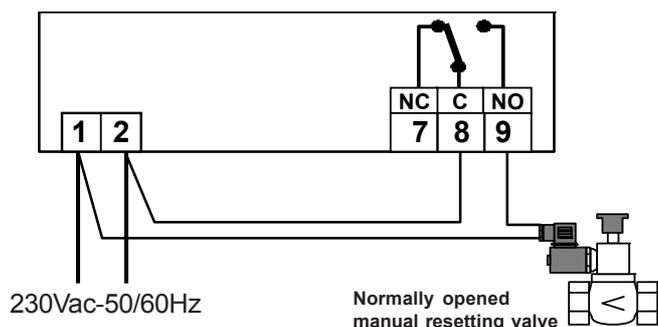


Fig.3

OPERATIONAL WITH NORMALLY CLOSED VALVE (N.C.)

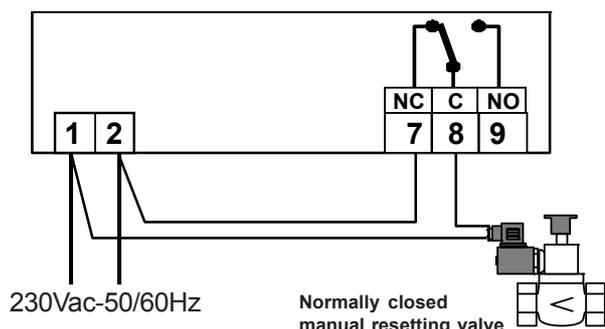


Fig.4

LOWER EXPLOSIVE LIMIT (L.E.L.)

The use of different systems from the calibration gas sample cylinder, makes it impossible to verify the proper functioning of the sensor.

Even when you want to recreate the actual conditions of danger for which protection the gas sensor is installed, this is inapplicable.

As an example, the supply of gas from the normal home kitchen equipment.

Our detectors are calibrated at 10% LEL (Lower Explosive Limit).

The explanation is simple: lets suppose to have a kitchen measuring 3 meters. wide by 4 meters in length, and with height of 3 meters.

- The volume of the kitchen is equivalent to $4 \times 3 \times 3$ that is 36 m^3 , equal to 36,000 Lt.

When 4,4% of the volume of the kitchen, is filled of natural gas, in the room a dangerous mixture is created.

- This 4,4% is called L.E.L (Lower Explosive Limit)

- In our case a 4,4% of 36.000Lt correspond to 1584Lt. (L.E.L.)

- Our detectors, according to the IMQ approvals operate at 10% of the LEL, then 10% of the value of 1584Lt, that in this case is 158,4LT, THEREFORE ONE TENTH OF THE LOWER EXPLOSIVE LIMIT (L.E.L.)

Taking into consideration the fact that the house cooker has a gas nozzle of a few tenths of a millimetre and that the gas pressure is of a few millibars, the gas flow would allow the delivery of 158,4 litres of gas (sufficient to make the sensor react) only after hours.

Even with broader gas supply sources, the peculiar and strong smell of natural gas, makes impossible the human presence and it make evident the serious danger situation even when the natural gas saturation is still too little to allow the explosion.

PERIODICAL TESTING

We recommend to contact the installer at least once a year for a general verification

IMPORTANT: Do not use pure gas, such as a lighter, directly on the sensor since the sensor could be irretrievably damaged.

OPERATIONAL CHECK

After the installation it is possible to check the correct operational of the instrument by pushing for at least 2 seconds the TEST button on the board, in this way all the leds will be alight, the acoustic alarm and the relay will be on for 5 second. At this point it will be necessary to rearm the electro valve connected.

WARNING

For the cleaning, use an cloth on the top. Not be opened, it could cause damage.

Note that the sensor employed has a good resistance towards products such as sprays, detergents, alcohol, glues and paints. However, these products could contain substances which, if in great quantity, could interfere with the sensor and cause false alarms. We recommend to ventilate the room should products like these be used.

Note that the detector is not able to detect gas leaks occurring outside the room where it is installed, neither inside walls nor under the floor. To make gas (methane and LPG) nose identifiable, gas is added with a particularly disturbing smelling substance.

Small gas quantities coming out from left open cookers for some minutes do not cause the gas detector alarm signalling even if it is clearly nose perceptible; in fact the quantity of gas presents in the environment can be under the alarm threshold.

Please remember that the gas detector cannot work without power supply.

WARNING!! In case of alarm:

- 1) Extinguish all naked flames
 - 2) Turn off the gas supply at the gas emergency control and/or, with a LPG supply, the storage tank
 - 3) Do not switch on or off any electrical lights. Do not activate any electrically powered devices
 - 4) Open both doors and windows to increase room ventilation
- If the alarm stops, it is necessary to identify the alarm reason and act accordingly
- If the alarm condition continues and the cause of the leak is not apparent and/or cannot be corrected, vacate the premises and immediately notify the gas emergency service.

GENERAL TERMS OF THE GUARANTEE

THIS CERTIFICATE IS THE ONLY DOCUMENT THAT ENTITLES YOU TO REPAIR OF THE PRODUCT UNDER THE TERMS OF THE GUARANTEE.

- The product is GUARANTEED for a period of 24 months from the date of purchase.
 - The GUARANTEE does not cover damage caused by tampering, incorrect or improper use and installation.
 - The GUARANTEE is valid only if it is duly compiled.
 - In the event of defects covered by the GUARANTEE, the manufacturer will repair or substitute the product free of charge.
- SERVICING AFTER THE GUARANTEE PERIOD:**
Any repairs after the period of the GUARANTEE will be charged on the basis of the parts substituted and the cost of labour.

GUARANTEE CERTIFICATE TO COMPILE AND SEND IN CASE OF DAMAGE

DEVICE: **GAMMA 652-O/M** **GAMMA 652-O/G**

Serial number

(s.n.) _____

DEALER

Stamp: _____ Date of purchase: _____/_____/_____

USER

Surname and name _____

Address _____ n° _____

Postcode _____ Town/city _____

Telephone _____

TECHNICAL CHARACTERISTICS

- Power supply 230Vac-50/60Hz
- Power dissipation 20mA max
- Operation temperature -10°C.... +40°C
- Humidity 30%.... 90%
- Duration of the sensor: 4 years
- Alarm intervention calibrated to detect gas up to 10% of the L.E.L.(Low Explosion Limit).
- Time delay at switching on about 1 minute
- Alarm and relay time delay about 20 seconds
- Acoustic signalisation 85 dB (A) in 1 meter
- Electrical self-diagnosis signal for eventual abnormalities
- Rated to IP42
- According to Standard CEI UNI EN50194-1:2009



TO BE COMPILED BY THE INSTALLER:

Date of installation _____

Date of replacement _____

Site of installation _____

Serial number (s.n.) _____

(Written on the inside of the plastic container).

Stamp

Signed _____



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