992 Gas leak detector with optical-acoustic alarm and relay control

INSTRUCTIONS

Art.992M: Power supply 230Vac-50/60Hz. Gas detected METHANE.
Art.992G: Power supply 230Vac-50/60Hz. Gas detected LPG.

GENERAL DESCRIPTION

The 992 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 planed 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 ITAP S.p.a.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

These gas detectors are 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.

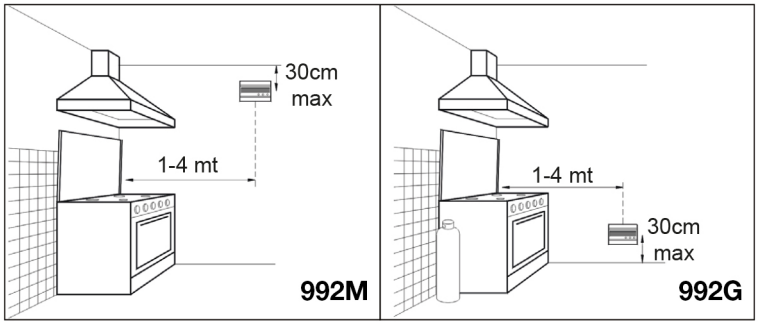
In case of damage, the gas detector is able to signals the malfunction, illuminating in fixed way the yellow led and activating a sound alarm with two seconds' of intermittence.
In case of alarm the detector illuminating the red led and after 20 seconds the buzzer emits a sound alarm and the relay activates.

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.
The instrument have to be installed:
- the 992M gas detector for methane should be fixed at a maximum distance of 30 cm from the ceiling; 992G 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 an screwdriver unscrew on the right hand side the instrument and uncover it. (Fig.1)

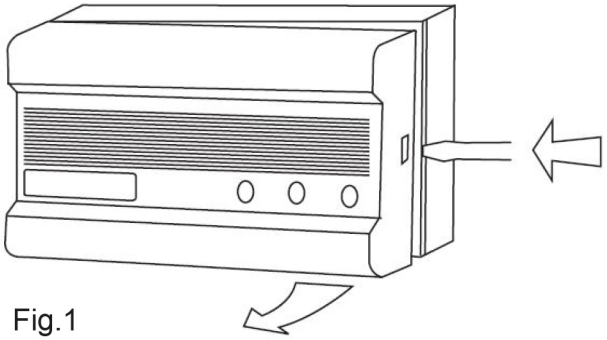
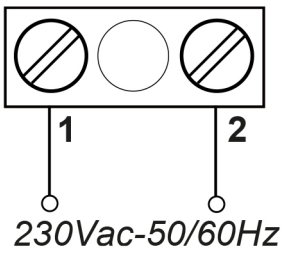


Fig.1

The box cover has to be positioned on the three form point or on the wall, by using the screws and plugs available.
For fixing the dowels, pierce the wall with a tip of 5 mm diameter.

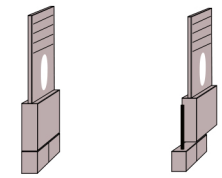
ELECTRICAL CONNECTION - POWER SUPPLY
Attention: the electrical connection has to be done with an under track cable. The gas detector have to be powered at 230Vac-50/60Hz by the terminals 1 and 2 (Fig. 2). It has to be provided with an device, to be disowned from the detector and the feeding net, with minimun 3 mm contact distance in accordance wit has written in the European Standard EN 60335-1.

Fig.2



CHARACTERISTICS OF THE EXIT-SIGNAL
The detector is provided with an external relay with free tension contacts, capacity of connection 8A 250Vac / 30Vdc.

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.



N.A. **N.C.**

Positioning N.O.: proper for normally opened valves.
Positioning N.C.: proper for normally closed valves or for the contemporaneously check of both electrovalve and an external electrical charge.

OPERATIONAL WITH NORMALLY OPENED VALVE (N.O.)

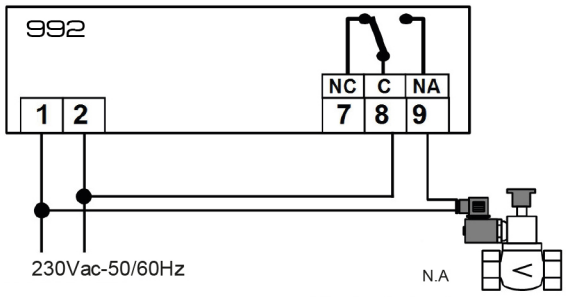


FIG. 3

OPERATIONAL WITH NORMALLY CLOSED VALVE (N.C.)

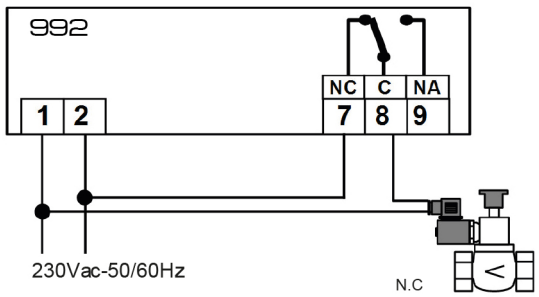


FIG. 4

PERIODICAL TESTING
We recommend to contact the installer at least once a year for a general inspection.
IMPORTANT: do not use pure gas, such as a lighter directly on the sensor since the sensor could be 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 both relays will be on for 5 second.
At this point it will be necessary to rearm the electro valve connected.

WARNINGS
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 L.P.G.) 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.

In case of alarm:
1. extinguish all naked flames.
2. turn off the gas supply at the gas emergency control and/or, with a L.P.G. 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 ventilationIf 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.