

**GAS CENTRAL UNIT FOR DOMESTIC INSTALLATION
GAMMA / GAMMA SERIES**

654-O/M 654-O/G

**REMOTE GAS LEAK DETECTOR
GAMMA / GAMMA SERIES
656C/M 656C/G**



<i>/ Model</i>	<i>/ Power supply</i>	<i>/ Gas detected</i>
654-O/M	~230 / =12	/ Methane
654-O/G	~230 / =12	* /LPG
656C/M	~230 / =12	/ Methane
656C/G	~230 / =12	* /LPG

* - (LPG)

GAMMA 654-O/M, GAMMA 654-O/G, GAMMA 656C/M, GAMMA 656C/G, 654-O/M, GAMMA 654-O/G,

GAMMA 656C/M, GAMMA 656C/G, GAMMA 654-O/M, GAMMA 654-O/G.

GAMMA 10 % (4); 15% (GECA S.r.l.) (4)

GENERAL DESCRIPTION

The gas detector system is compound of GAMMA 654-O/M or GAMMA 654-O/G central unit and GAMMA 656C/M or GAMMA 656C/G remote gas leak.

The detectors GAMMA 654-O/M and GAMMA 654-O/G are central units 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 central unit and as remote unit. GAMMA 656C/M and GAMMA 656C/G are the remotes gas leak detector to be connected to central unit GAMMA 654-O/M or GAMMA 654-O/G. The detectors series GAMMA 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 Geca S.r.l. for a complete substitution of the device. With that aim, for this purpose on the cover you will find a label on which have to be indicated the maturity of correct working period (4 years from installing date); this 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, gas detectors are 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 from the central unit or from an remote sensor illuminating the red led and after 20 seconds the buzzer emits a sound alarm and the relay activates.

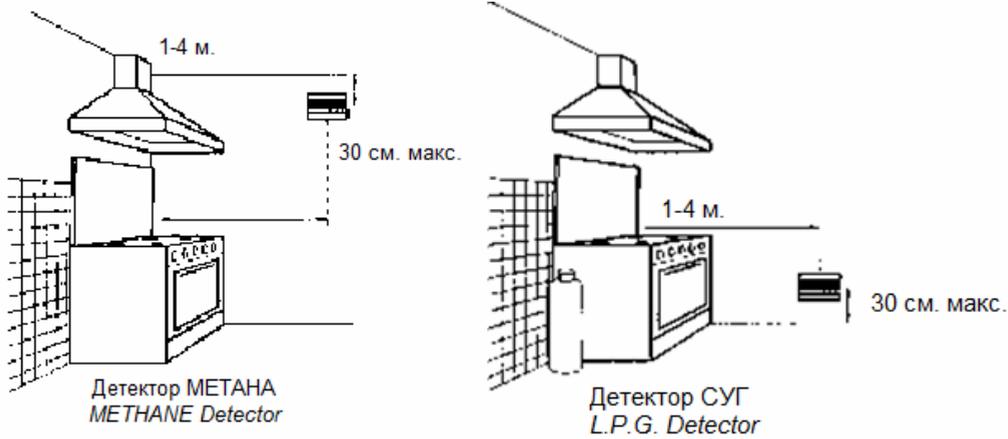
LIGHTING DELAYS

The catalytic sensor in the GAMMA series need to be heated for about one minute of working in a correct way and for that reason, when the detector is lighted on the green led it will lighten to indicate 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.

GAMMA 654-O/M	GAMMA 656C/M	30
GAMMA654-O/G	GAMMA 656C/G	30
1 ... 4	(...)	



DETECTOR POSITIONING

The instrument has to be installed:

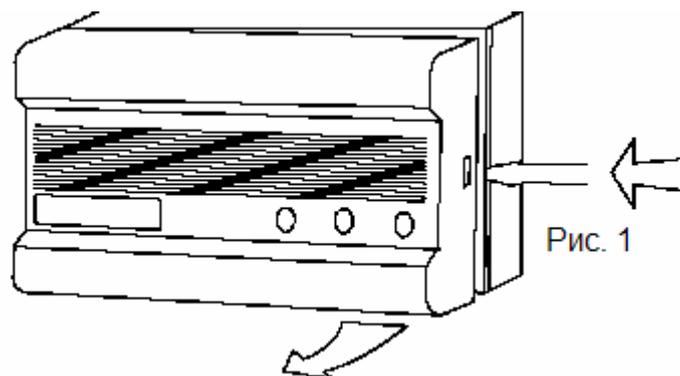
- The unit GAMMA 654-O/M and GAMMA 656C/M for methane at a maximum distance of 30 cm from the ceiling; the detectors GAMMA 654-O/G and GAMMA 656C/G for LPG at a maximum distance of 30 cm from the floor;
- they should be fixed at a distance comprises from 1 meter and 4 meters by the gas device (kitchen, boiler room, etc.);
- possible in every room in which there is a gas device and in residences with more than one floor, at least one detector for each floor.

40°C

-10°C;

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 the environment with a lot of humidity or vapours.



(. 1).

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INSTALLATION PROCEDURES

By using a screwdriver unscrew on the right hand side the instrument and uncover it. (Fig.1). Positioning in the correct way the base, on the board mounting 3 modules boxes directly in the wall by using screws that are provided in the box.

ELECTRICAL CONNECTION: POWER SUPPLY

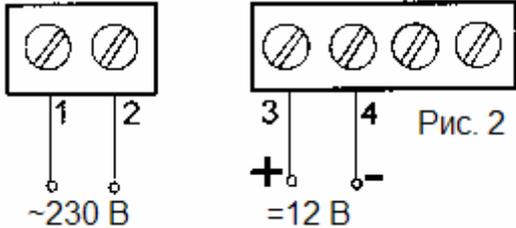


Рис. 2

Attention: the electrical connection has to be done with an under track cable. The gas detector have to be powered at 230Vac by the terminals 1 and 2 or with 12Vdc across the clamp 3(+) and 4(-) (Fig.2).

It has to be provided with an device, to be disowned from the detector and the feeding net, as written in the European standard EN 60335-1.

GAMMA 654-O/M GAMMA 654-O/G

3 A (1), ~250 / 2 , =24 .

CHARACTERISTICS OF THE EXIT SIGNAL

The central unit it's provided with an relay in exit with free contacts without tension, contact range 3(1)A 250Vac /2A 24Vdc.

GAMMA 656C/M GAMMA 652C/G, (5-6), GAMMA 652-O/M GAMMA 652-O/G (. 3).

5 6

REMOTE CONNECTION

The central unit has two clamps (5-6), active in closeness, to be connected with an remote sensor GAMMA 656C/M or with GAMMA 656C/G or with the detector GAMMA 652-O/M or GAMMA 652-O/G (Fig.3). If the connecting terminals (5-6) are not used, they have to be left disconnected.

GAMMA 654-O/M GAMMA 654-O/G (, . 4).

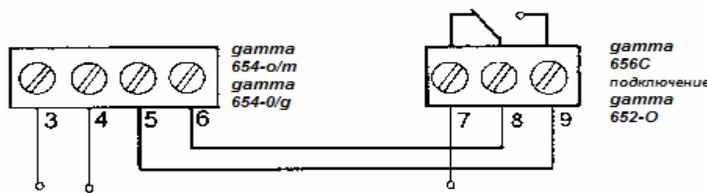


Рис. 3

ELECTRO-VALVES CONNECTION

The central units GAMMA 654-O/M and GAMMA 654-O/G have inside a jumper that permits to select the type of electro-valve to connect that can be Normally Opened type (Fig. 4) or Normally Closed type (Fig. 5). 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.A.: proper for normally opened valves

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OPERATIONAL WITH NORMALLY OPENED VALVE

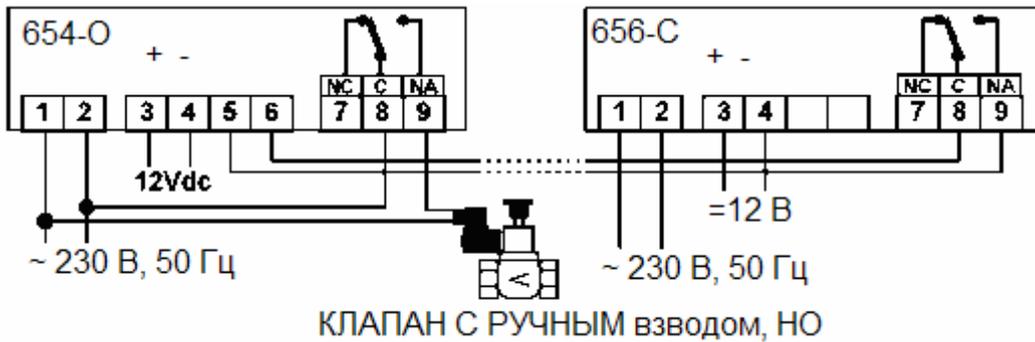


ELECTRICAL CONNECTION WITH MORE THEN ONE CENTRAL UNITS

The following plans mentioned, shows the connection in between two central units with an single electro valve. It's also possible to connect more than two central units, following this plan.

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OPERATIONAL WITH NORMALLY OPEN VALVE



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.

2 TEST () TEST () TEST ()

GAMMA 654-O/M GAMMA 654-O/G, 30 TEST () TEST () GAMMA 656C/M GAMMA 656C/G;

OPERATING CONTROLS

After the installation it is possible to check the correct use of the instrument by pushing for at least 2 seconds the TEST button on the GAMMA 654-O/M or GAMMA 654-O/G board or for at least 30 seconds the "TEST" button on the GAMMA 656C/M or GAMMA 656C/G board. Using this method all the leds will be lighted, also the acoustic alarm will be active, and the exit relay for a period of five seconds. The E.V. if connected, has to be manual rearmend.

WARNING

For the cleaning of the instrument utilize a cloth to take away the dust from the covering. Don't try to open or disassemble the detector, it could cause an electric shock and damage the product.

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 where products like these can be used. Note that the detector is not able to detect gas leaking outside the room where it is installed, neither inside walls or 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!!
1. 2. 3. 4.	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.
TECHNICAL CHARACTERISTICS	
~ 230 V, 50 Hz / =12 V, 2,5	Power supply: 230Vac, 50Hz/12Vdc 2,5 W
20	Power dissipation 20mA max
-10°C ... +40°C	Operation temperature -10°C ... +40°C
30% ... 90%	Humidity 30% ... 90%
10 %	Alarm intervention calibrated to detect gas up to 10% of the L.E.L.(Low Explosion Limit).
1	Time delay at switching on about 1 minute
85 (A)	Acoustic signalisation 85 dB (A) in 1 meter
	Electrical self-diagnosis signal for eventual abnormalities
IP42	Rated: to IP42
(GAMMA 654-O)	Input remote unit (GAMMA 654-O)

: _____ : _____ : _____ _____ ()	TO COMPILE BY THE INSTALLER Installation date _____ Substitution date _____ Installation local _____ Instruments' serial number _____ (to read on the internal part of the plastic involucres) Stamp _____ Sign _____
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24	SALES CONDITION TO COMPILE AND SEND IN CASE OF DAMAGE. THE PRESENT CERTIFICATE IS THE ONLY DOCUMENT TO HAVE THE RIGHT OF REPARATION OF DEVICE IN WARRANTY
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