

GAS LEAK DETECTOR WITH INTERNAL SENSOR AND RELAY OUTPUT

RFG 749

- Power supply 220/240 Volts ac
- Internal sensor with alarm level set at 0.3% of gas in air
- Voltage-free SPDT output relay
- Suitable for control of valves N.O. or N.C. or of aeration fans

APPLICATION

RFG 749 gas leak detector is designed to ensure the safe use in domestic and other non-industrial premises of domestic appliances running on gas, such as: cookers, boilers and calorifiers. It is able to monitor the concentration in the air of the usual types of combustible gases such as: town gas, natural gas, LPG and propane. The output relay can control a safety shut-off valve, an aeration fan or a remote alarm.

OPERATION

The LED on the fascia, when lit, indicates that RFG 749 is receiving power (fig. 2.3). When the power comes on, the detector does not activate the alarms for 1.5 - 2 minutes which is the period necessary for the sensor to become stabilized. After this period the detector is ready to sound the alarm.

The internal sensor monitors the concentration level of gas in the surrounding air and the detector, in the event that this concentration exceeds the level of alarm, sets off an audible warning and activates the output relay which can control a gas safety shut-off valve or a fan for changing air.

The alarm level is equivalent to a concentration of 0.3 % of gas in the air, that is, about 1/20 of the concentration necessary to render the gas-air mixture explosive. This allows action to be taken under conditions of maximum safety in the event of an alarm.

The alarm state, once acquired, will continue even if the concentration of gas should return below the level of alarm. In order to reset the detector to its normal state it is necessary to press the button located on the fascia below the LED (fig. 2.4).

CONSTRUCTION

RFG 749 is constructed in two parts:

- Base (fig. 2.2) suitable for wall mounting, in self-extinguishing plastic, comprising:
 - Terminal block for electrical connections (fig.3.1) protected against accidental contacts.
 - Cable entry for passage of leads from rear (fig.3.3)
 - Cable entries for passage of leads from below (fig.3.4)
 - Screw holes for attaching to wall (fig. 3.5)
- Detector (fig. 2.1), enclosed in a casing made from self-extinguishing plastic, which includes the electronic circuit (constructed according to standards of Italian Electrotechnical Committee - CEI), the sensor, the output relay and the alarm buzzer. On the fascia are located the power supply indicator LED (fig. 2.3) and the reset button (fig. 2.4).

The output relay is airtight and is filled with inert gas which, by preventing the formation of sparks, ensures the maximum safety of operation.

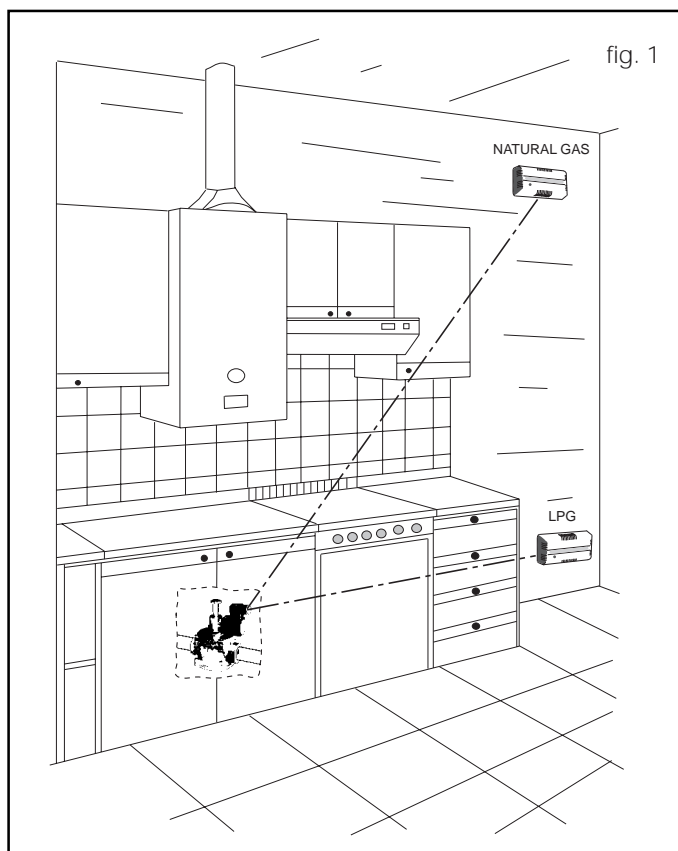
The casing is secured to the base by four retaining clips and the electrical connections between the electronic circuit and the terminal block are by means of pins which are pressed directly into the terminal sockets.

INSTALLATION

The correct location of RFG 749 is essential for its correct operation and depends on the type of gas to be monitored and its density in respect of air.

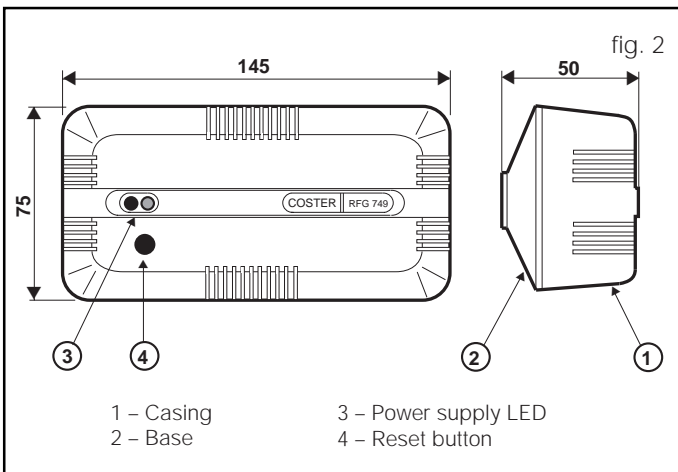


TYPICAL INSTALLATION

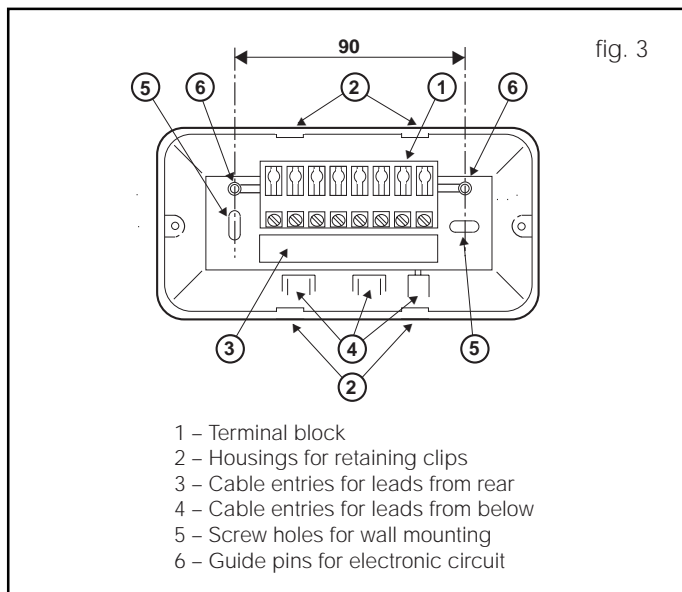


Type of gas	Position
Natural gas (light)	20 to 60 cm. from the ceiling
LPG (heavy)	20 to 60 cm. from the floor

OVERALL DIMENSIONS



BASE



It is advisable to locate the detector at a certain distance from the gas appliances in order to avoid false alarms due to small gas leakages when lighting the gas or to fumes emitted during the cooking of foods:

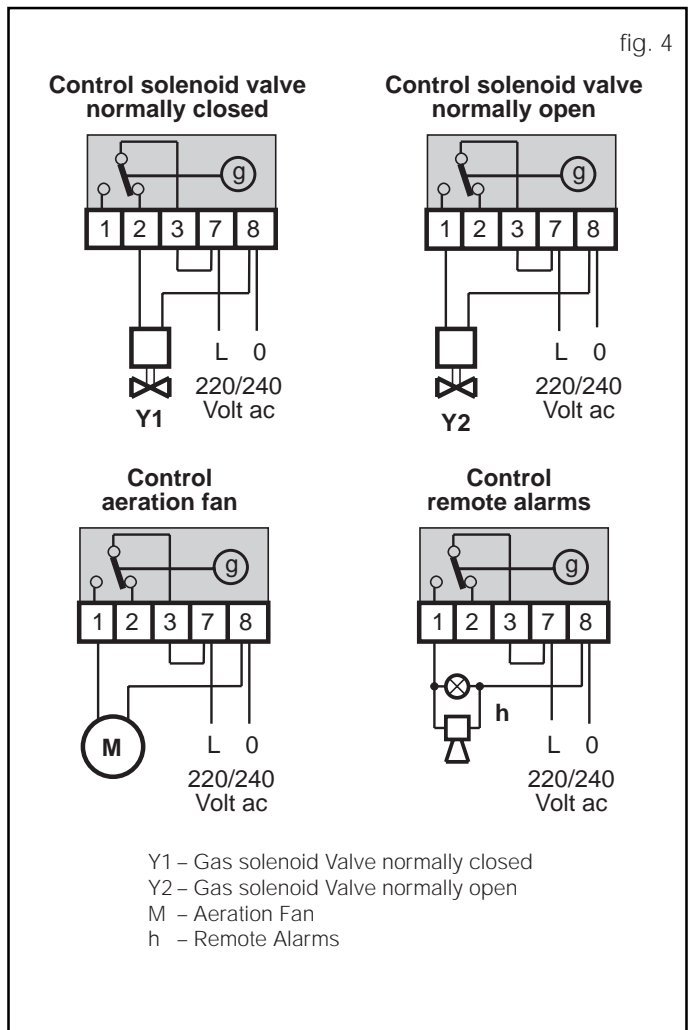
- Boilers and calorifiers : 1 to 2 metres
- Cookers : 2 to 3 metres

- Remove the base (fig. 2.2) from the casing (fig. 2.1) by pressing with the hands on the two longer sides of the latter so as to release the four retaining clips.
- Attach the base to the wall using the screw holes provided (fig. 3.5) and taking care to pass the electric leads through the appropriate cable entries (fig.3.3 or 3.4).
- Make the connections following the wiring diagrams (fig. 4) and observing the safety regulations in force at the time of making the installation.
- Re-insert the casing on the base by pressing lightly on the facia until the retaining clips fit into their housings (fig. 3.2).

TESTING

The simplest way of testing if the detector is working correctly is to simulate the presence of gas by releasing gas from an ordinary cigarette lighter near the detector.

WIRING DIAGRAM



The detector should set off the audible alarm and activate the relay output.

To reset to the normal state, press the button on the facia.

To ascertain that the detector continues to function correctly it is advisable to carry out this test at least every three or four months.

TECHNICAL DATA

Power supply	220/240 V ac
Frequency	50 to 60 Hz
Consumption	2 VA
Voltage-free output contact:	
- type	SPDT
- maximum voltage applicable	250 Volts
- maximum capacity	5(1) A
Sensing element:	
- type	Figaro TGS 813
- heating time	180 s
- alarm level	0.3% gas in air
Ambient temperature:	
- operating	0 to 45 °C
- storage	- 20 to + 60 °C
Protection	IP 30
Weight	0.40 kg
Dimensions	145 x 75 x 50 mm.