Addressable Gas Detector
RGA Series

C E

Directive 2004/108/EC
Conform to the norm EN50270 : 2006
IP55 according to the norm EN60529/A1: 2000

I. PRESENTATION

Gas detectors of the **RGA** series are employed to detect the presence of combustible or toxic substances in an atmosphere mainly composed of air and were designed and developed to offer professional features of sensitivity and stability.

Detector calibration is done on factory with the appropriated devices and required gas for testing.

RGA series detectors, marketed in IP55 dust containers, are designed to easily connect to the addressable analog detection lines of panels using **DEFNET-D** protocol.

The detector consists of two cards:
- one motherboard wholly controlled by a microprocessor which supervises all aspects of gas measurement to detect and control the sensitive element
- a second board, controlled by a microprocessor, allows the detector to interface itself to the addressable detection lines and to forward to the panel the fault, alarm and warning information.

Using a portable programmer (TLC) allows functional testing of the detector and the customization of the configuration.

I.1 LOOP MANAGEMENT

Each interface card includes an insulator, which, when closed, ensures the continuity of the detector line between terminals "L + in" "L + out. "

In case of short-circuit detection line, the intelligence system, shared between the central and detectors, can quickly isolate the affected section of line from short-circuit**, no sensor is lost**.
Note: In order for this to be valid, the line must be connected to the detection loop.

II.   INSTALLATION

The installation of the detector and execution of system must be performed in a workmanlike manner by qualified personnel and in compliance with directives and regulations.
In general, **in the absence of specific requirements**, install the detector in a vertical position with the sensing element always turned down the position indicated in the table below.

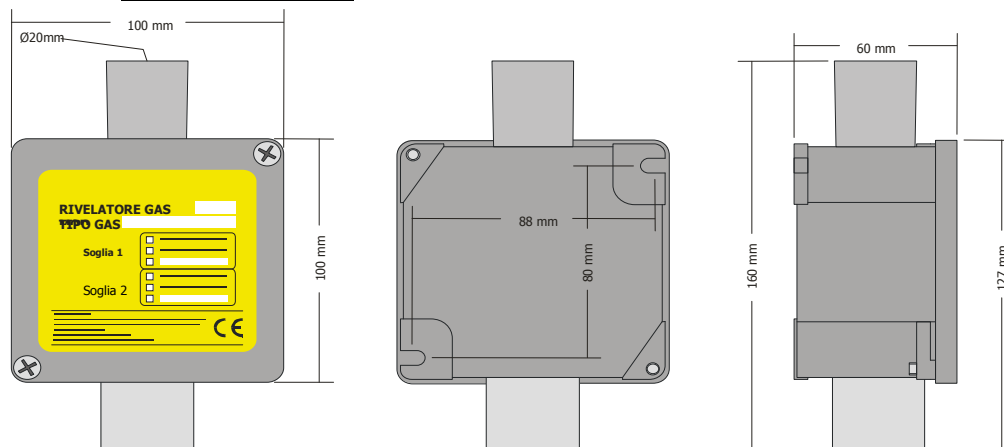| Codice	Tipo di gas	Posizione
RGA-CH4	Methane	About 30 cm from the ceiling
RGA-H2	H_2 (Hydrogen)	About 30 cm from the ceiling
RGA-VB	Gasoline vapors	About 30 cm from the floor
RGA-GPL	GPL	About 30 cm from the floor
RGA-C3H8	Propane	About 30 cm from the floor
RGA-COEL	CO (Carbon monoxide)	About 150 cm from the floor
RGA-R134A	R134a	Near the high-risk areas
RGA-C2H2	Acetylene	Near the high-risk areas

II.1   INSTALLATION INSTRUCTIONS

Do not install the detector near fans or air intakes which could dilute the concentration of gas and thereby reduce the efficiency of the detector.

Install the sensor using the special fins on the container in charge for this purpose.

Do not drill holes gathered into the detector.

The detector is equipped with plastic protection for the probe, it must be removed at the time of startup of the detector itself.

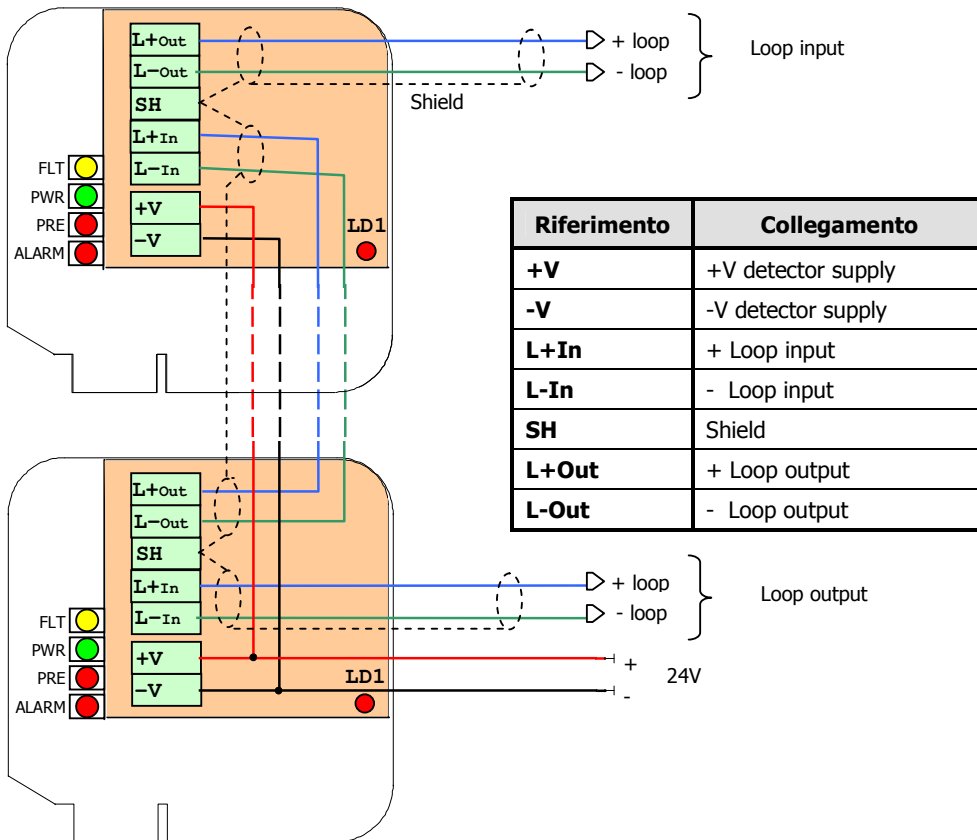II.2   SIZE AND ASSEMBLY

III.   TECHNICAL SPECIFICATIONS

PARAMETER	VALUE		
Supply	from 12Vcc to 28Vcc		
Nominal current (stand-by)	RGA-COEL	25mA @ 12Vcc and 13mA @ 24Vcc	
	Other	55mA @ 12 Vcc and 28mAa@ 24 Vcc	
Consumption of detection line (loop)	In standby with isolator open	230µA	
	In standby with isolator closed	130µA	
	In alarm with LED LD1 on	1,5 mA	
Operating temperature	from 0°C to 45°C		
Weight	390 g		
Dimensions	H:160mm x L:100mm x P:60mm		
Tube-box connection	Ø 20 mm		
IP Protection	IP55		
Activation threshold (Programmable)	RGA-COEL	preallrm = 15% LIE	alarm = 30% LIE
	Other	prealarm = 100ppm	alarm = 200 ppm
Life length of sensing element	5 years (within the nominal condition of use)		
Additional programmable functions With programming tool (DETTEL)	- pre alarm filter with programmable delay from 0 to 240 s - alarm filter with programmable delay from 0 to 240s - test of pre alarm and alarm output.		

CONNECTIONS

All the connections must be done without supply.

Open the cover of the detector, extract the connector before cabling.

The cable to use (type and section) to connect the detector to the panel must follow the recommendations on the panel manual (generally 0,8mm² section).

The cable to use (type and section) for connection of supply will depend on the quantity of gas detectors to connect and the distance from the power supply source.

The power supply source must have the (-) isolated from the ground.

Riferimento	Collegamento
+V	+V detector supply
-V	-V detector supply
L+In	+ Loop input
L-In	- Loop input
SH	Shield
L+Out	+ Loop output
L-Out	- Loop output

III.1 LED STATUS INDICATORS

The detector is equipped with 5 LEDs indicate the status and the detector.

The meaning of these LEDs is as follows:

Reference	Position	Color	Meaning
PWR	Motherboard	Green	Supply ok
FLT	Motherboard	Yellow	Fault
PRE	Motherboard	Red	Prealarm
ALARM	Motherboard	Red	Alarm
DL1	Interface card	Red	Managed by panel

IV.   ADDRESSING OF DETECTOR

The detector is supplied with its address initially sets to 0.
Once configured, the gas detector will use 2 addresses, the one selected with the programming tool and the successive address (the highest address is dedicated for the signalisation of pre-alarm and the first for alarm).

V. SETTINGS AND MAINTENANCE

The detector alarm thresholds are configured in factory at a value of 15% LIE or 100 ppm for pre alarm and 30% LIE or 200 ppm for alarm.

The filter delays for prealarm and alarm are fixed to 15s as default value. The alarm and prealarm activation thresholds and filter delays can be modified using the TLC gas tool (optional).

The detectors should be checked periodically at the intervals required by regulations relating to the maintenance of security installations.
The efficiency of the detectors should still be checked at intervals not exceeding six months.

Both the functional verification of the installation that the periodic inspections of maintenance can be carried out through the proper kit consists of:
- Gas bottle league title (a concentration guaranteed)
- Short adapter detection head and valve with plug for gas bottle.
- Terminal TLC for viewing and verification of the detector

WARNING

☹ The sensor in the detector cannot be exposed to acid substances or vapors, toxic gases and solvent vapors. These elements can damage the sensor in provisional or definitive way. This type of damages is not covered by producer warranty and involves the complete substitution of the sensitive element.