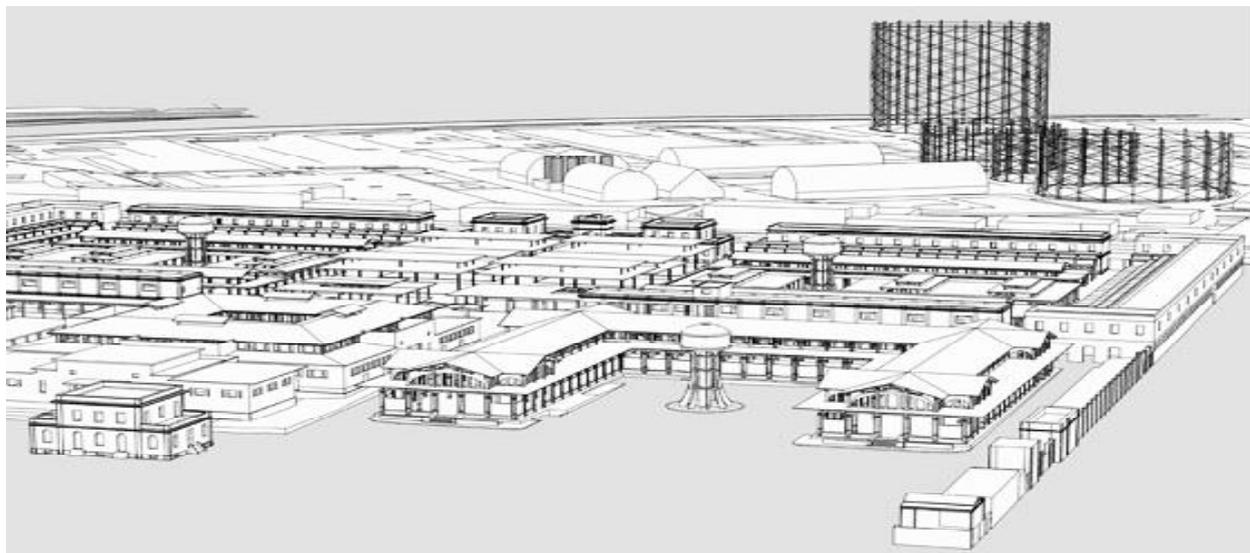# Stand-Alone Detector 1 zone CXM200/Q V3

The years of experience in the industrial sector and the united to prestige that has always distinguished the **BEINAT Srl.** and the concept of the previous version, the new autonomous detector **CXM200/Q** has been created which has the prerogative to detect **Gas methane or LPG.**

Gas detection

The detector has two danger levels:

1st LEVEL, 1st Pre-Alarm. This is set at 13 % of L.E.L.

2nd LEVEL, Main Alarm. This is set at 20% of L.E.L.

The concentration of leaks is shown as a percentage of the LEL through Display.

Thanks to innovative technical plus what control's software, the detector is proper to civil employments and industrial applications, that united to other technical, it is able to select with some micro interrupters the followings functions:

To choose inserting or not the **Positive Safety**

To choose the relay functioning mode (to impulse or to continuous)

To select the enabling function of the main alarm reset button.

It allows a self-diagnosis and therefore an AUTOMATIC CALIBRATION so as to constantly maintain the maximum detection accuracy. The self-calibration means the detector can adapt in harsh and variable temperature environments, avoiding false alarms.

The **CXM200/Q** is equipped with a **test button** to assist the full control of the system.

Indispensable tool for annual checks of the detector TS1008

To facilitate the reading of the functional parameters of the probe as well as the control of annual operating, the **BEINAT S.r.l.**   has built a new portable tester **TS1008.**

The tester allows to read all the data in the memory of the probes eand by serial transmission**,** it prints the ticket that confirms the testing data, **certifying your own work.**.

Important: Assembly / maintenance of the appliance must be carried out by qualified personnel and in accordance with applicable laws and regulations.

The manufacturer assumes no responsibility for the use of products that have to comply with particular environmental and / or installation standards.

Important note

Before connecting the equipment, it is recommended that you read the instruction manual carefully and keep it for future reference. It is also recommended to perform the electrical connections correctly as per enclosed drawings, observing the instructions and the Standards.

N.B. Refer to the documentation in all cases where the symbol is on the side

Installation and user guide

INSTALL IN SAFE AREA, NO ATEX

CONFORMITY

IEC

EN 50194
EN 50270
EN 61010-1
Compliant EN 60079-29-1
Installation EN 60079-29-2
Reports issued by TUV Italia

Precautions

CHECK the integrity of the unit after having removed it from the box.
Check that the data written on the box correspond to the type of gas used.
When doing the electrical connections, follow the drawing closely.
Any use of the detector for purposes other than the intended one is considered improper, and as a result of which **BEINAT S.r.l.** therefore disclaims any responsibility for possible damages caused to people, animals or objects.
TERMS and EXPECTATIONS: The installation of the detector, its ordinary and extraordinary maintenance, every six months, and its out of service removal at the end of the functional life guaranteed by the manufacturer, must be carried out by **authorized or specialized personnel.**
Do not allow it to become wet.
The control unit can be seriously damaged as it is not waterproof either when immersed in water or exposed to high levels of humidity.
Do not drop it.
Heavy knocks or falls during transportation or installation can damage the appliance.
Avoid abrupt temperature fluctuations.
Sudden temperature variations can cause condensation and the control unit could work poorly.
Cleaning
Never clean the device with chemical products. If necessary, wash with a moist cloth.

MAINTENANCE

The user periodically (every 6 months) must perform a check of the operation of the control unit by spraying a suitable test gas at the base of the probes connected until the alarm condition is reached.
• At least once a year make a more accurate check by a specialist technician.
• Disabling the detector must be carried out by qualified personnel.

Technical Specifications

Power Supply .... 230/240 VCA 50/60 Hz ± 10%
Power Consumption 2,5W
Pre alam Relay, switching .... 10A 250V resistive - 5A 30Vdc resistive
Main alarm relay switching..10A 250V resistive - 5A 30Vdc resistive
Type of insulation .... Class II

Sensor .... Catalytic
Sensitivity Prealarm ....al 13% del L.I.E.
Sensitivity of main alarm ....al 20% del L.I.E.
Device Accuracy .... 1% FS
Sensor's faults detected by Fault Circuit .... Interruption, short circuit, or wear
Control autozero.. included in the algorithms of the microprocessor
Response Time .... < 10"
Warm-up time..90 seconds
Audible and visual signal alarm by .... LED diode and buzzer

Micro switch for enabling buttons of main alarm... Built in
Micro-switch for the selection of the working mode relay..Built in
Test buttons .... Built in
Reset buttons .... Built in
Micro-switch for selection positive safety.. built in
Remote reset terminal lock..Built in
Solenoid Valve Control .... Class A or class B
Max. and min. functioning temperature .... -10°C to +50°C
Max. and min. functioning humidity .... Lower than 90% RH
Electromagnetic Compatibility "CE" .... Reference Norm **EN 50270**
Enclosure................................ .... Polipropilene Autoestinguente VDE0471
External degree of protection IP64
Size 135x90x45

WARNING! Actions to be taken in case of alarm
Gas
1) Put out all free flames.
2) Close the main gas tap or the LPG cylinder tap.
3) Do not turn any lights on or off; do not turn on any electrical device or appliance.
4) Open windows and doors in order to increase ventilation.
If the alarm stops, its cause must be found and the relevant consequent measures taken.
If the alarm continues and the cause of gas presence cannot be found or removed, abandon the building and call the emergency services when outside (fire department, distributors, etc.)
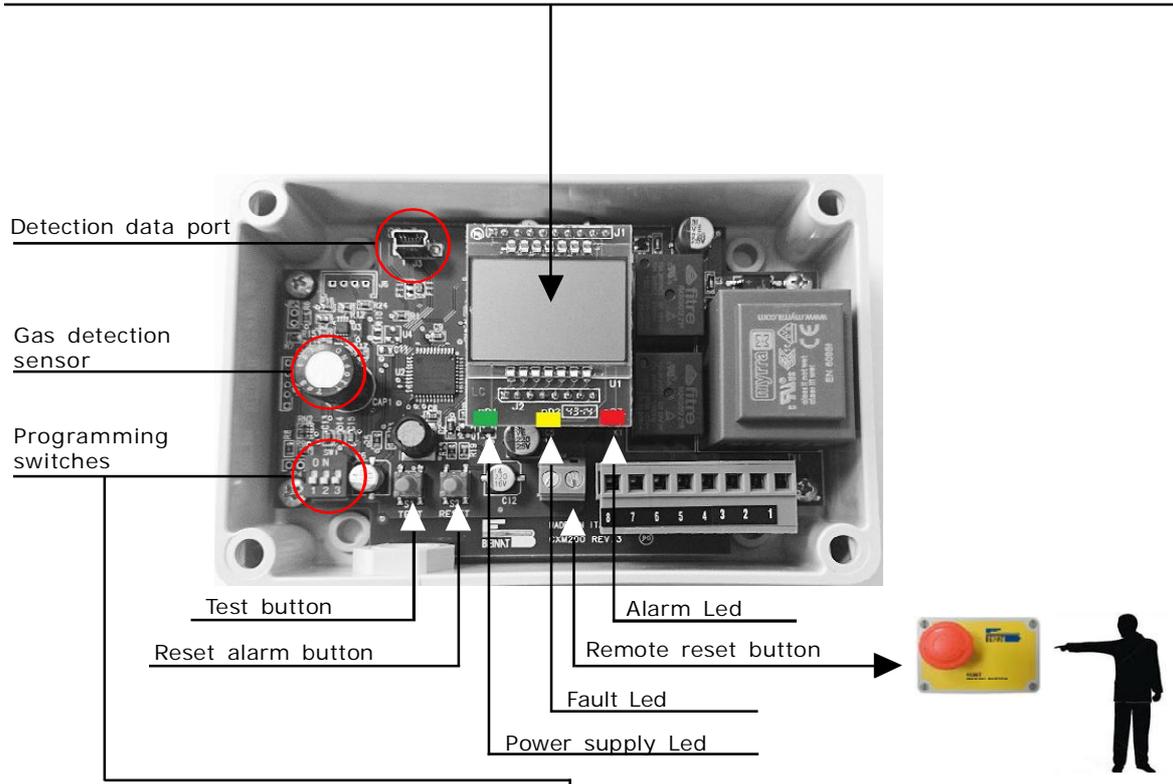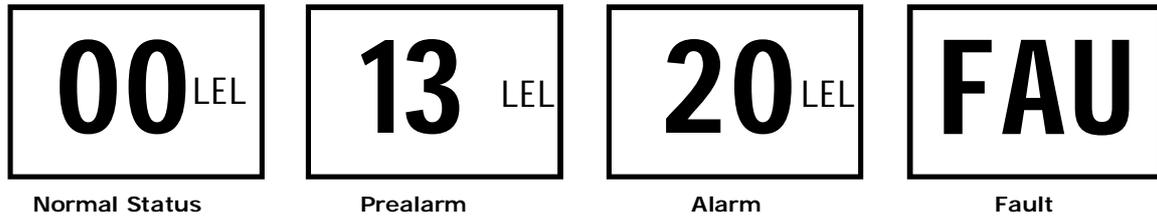**IMPORTANT:** The operation test should not be carried out with the gas tap as this does not guarantee a sufficient concentration to activate the general alarm.
Warning !!
If you have the following symptoms: vomiting, sleepiness, or else, go to the closest first aid station and inform the operators that you could have been poisoned by **Carbon Monoxide**, **or by an excess or deficiency of oxygen**


The installation of the detector is not exempt from ... The compliance with all regulations concerning the characteristics, installation and use of gas appliances. The ventilation of the spaces and the elimination of combustion products are described in the UNI norms according to ART. 3 LAW 1083 / 71 and relevant legal provisions.

00LEL	**13** LEL	**20**LEL	**FAU**
Normal Status	**Prealarm**	**Alarm**	**Fault**

Detection data port

Gas detection sensor

Programming switches

Test button

Reset alarm button

Alarm Led

Remote reset button

Fault Led

Power supply Led

Micro-switches **1** Positive safety
Micro-switches **2** Working mode of the main alarm relay

Micro-switch **3** to enabling the reset buttons
Position **ON enabled** (memorisation)
position **OFF disabled**
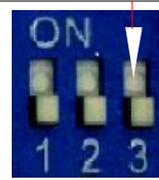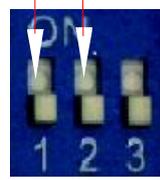
Switch 1 - Selection Of the Positive Safety
In position ON, enables the function of the positive Safety. The relay changes state of working mode after performing the waiting phase and switches when the **detector** enters into the state of maiin alarm.
In position OFF, disables the function of the **Positive Safety.** The relay changes state of working mode only when the detector enters into the state of maiin alarm.
Switch 2) Operating mode of the main alarm relay.
From the micro Switching 2, two Operating modes of the main alarm relay can be selected.
In position ON (continuous) the relay is closed until the gas is no longer detected, if is selected the switch 3 or until you press the RESET button.
In position OFF (impulse) the relay is closed for 20 seconds after that it disenergizes.
Switch 3 - Enabling Reset Buttons (Maintenance of the memory of alarm).
In position **ON,** Its enables the reset buttons (alarm memorisation) In case of alarm, the relay remains closed until is pressed one of the reset buttons.
In position **OFF**, the device **don't enable the reset buttons**

Electrical Connections

WARNING.
Before connecting to the mains power, ensure the voltage is correct.
Carefully follow the instructions and the connections according to Regulations in force, keeping in mind that **the signal cables should be laid separate from the power cables.**
An automatic cut-off switch (appropriately identified as devicesectioning of the detector) should be incorporated in the electrical system, adequatelylocated and easily accessible.
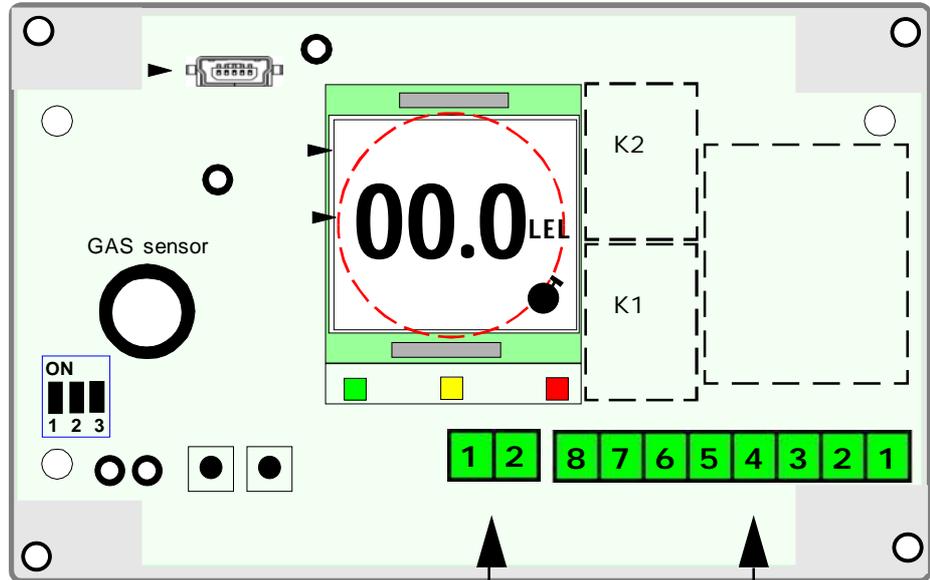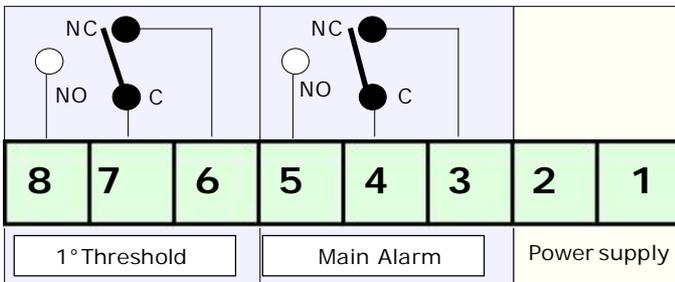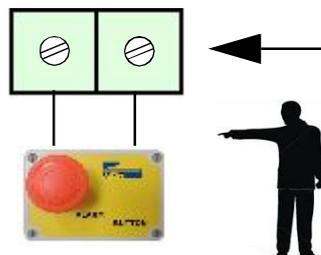
GAS sensor

ON
1 2 3

K2

K1

00.0 LEL

1 2   8 7 6 5 4 3 2 1

Diagram of the terminal block relay
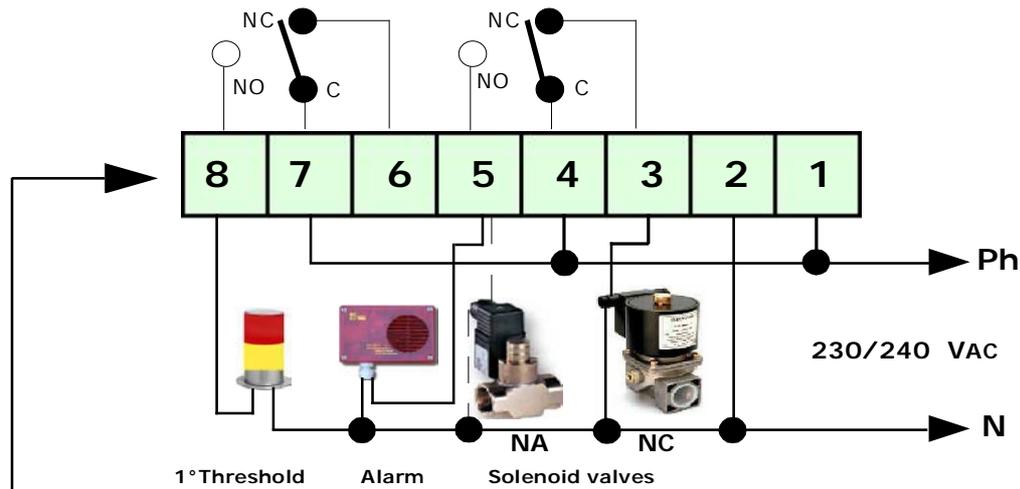**PLEASE NOTE!**
All relays are free of voltage

8	7	6	5	4	3	2	1
NC NO C			NC NO C				
1° Threshold			Main Alarm			Power supply	

Connecting remote reset button

Connections of a solenoid valve Normally Closed without Positive Safety

NC
NO   C   NC
                 NO   C

8	7	6	5	4	3	2	1

→ Ph

230/240 VAC

→ N

NA   **NC**

1°Threshold   **Alarm**   **Solenoid valves**

Connections of one solenoid valve Normally Closed with Positive Safety

NC
NO   C   NC
                 NO   C

8	7	6	5	4	3	2	1

→ Ph

230/240 VAC

→ N

1°Threshold   **Solenoid valve**
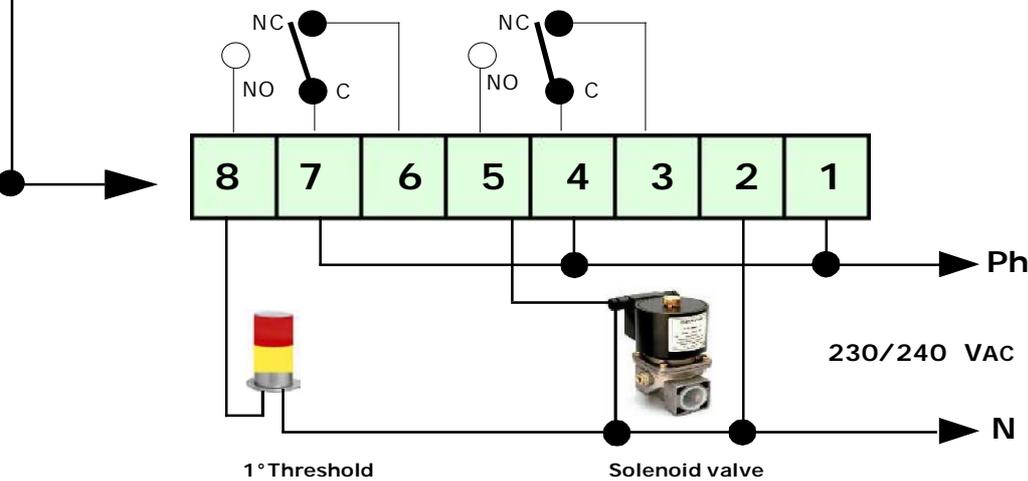
Connections of a solenoid valve normally closed without positive safety, sirens powered to 12VDC and battery.

NC
NO   C   NC
                 NO   C

8	7	6	5	4	3	2	1

→ Ph

230/240 VAC

→ N

NA   **NC**

1°Threshold   **Alarm**   **Solenoid valves**

12 V

Power supply 230/12V

45 mm

135mm

90 mm

Opening of the Cover.
With the help of a screwdriver
to turn counterclockwise for
a quarter of turn

Closing of the Cover.
With the help of a screwdriver
to turn   counterclockwise for
a quarter of turn

00.0 LEL

ON   Fault   Alarm
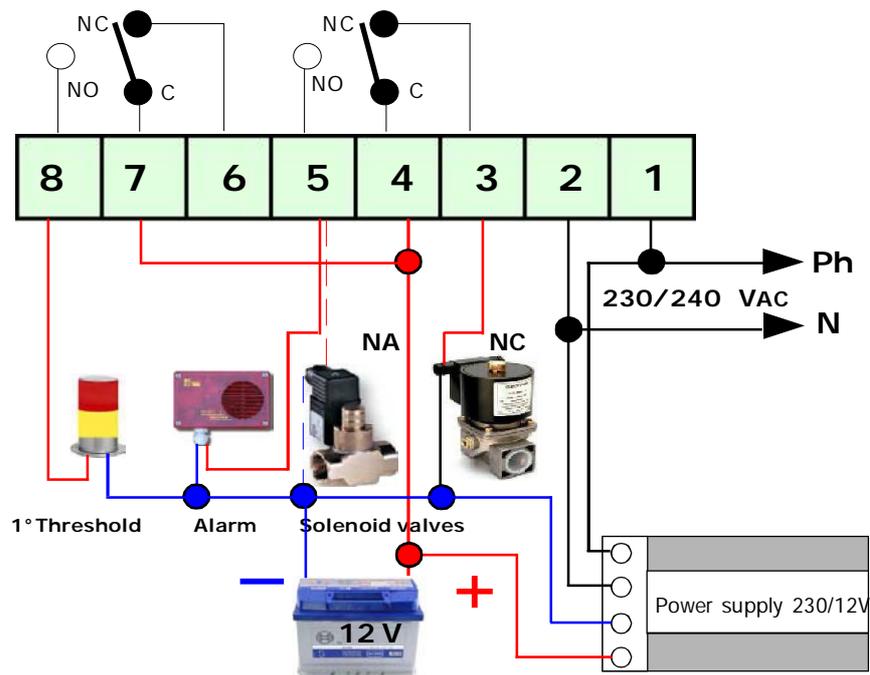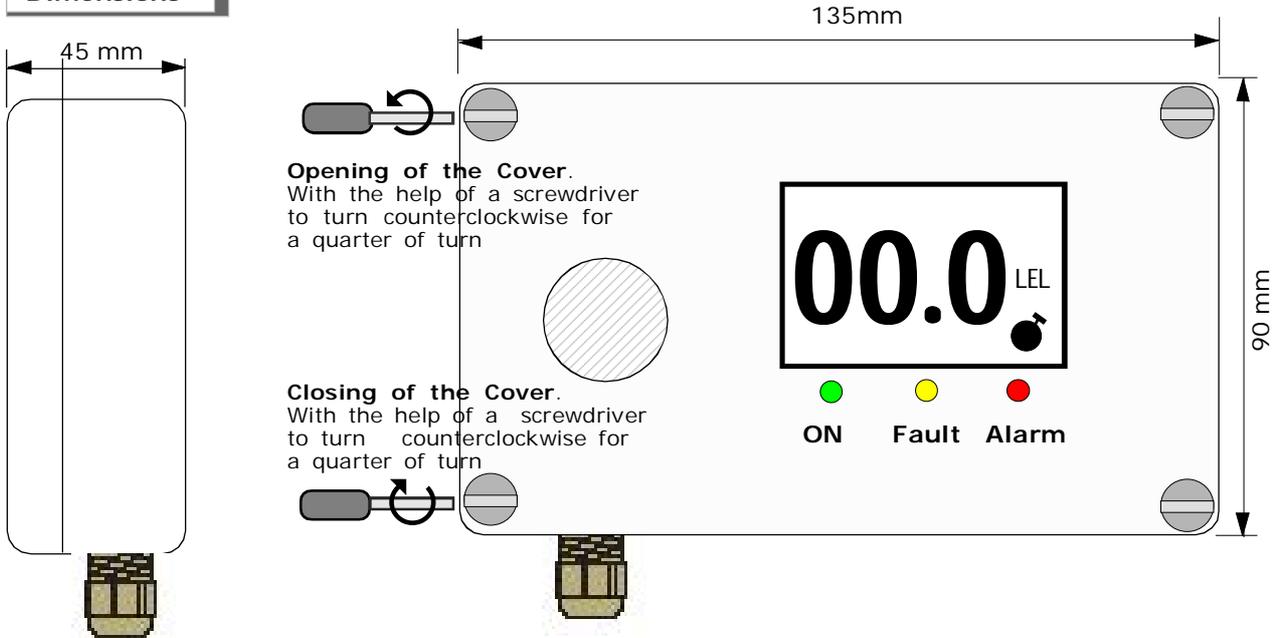
Installation and positioning of the detector

The most essential factor for the proper functioning of the **CXM200/Q** is its correct installation.
By following the instructions in this paragraph high accuracy can be obtained, together with the absence of false alarms.
The **CXM200/Q** is designed so that it can be mounted externally or built into electrical panels.
During installation the normal precautions required for electronic devices should be maintained and therefore:
- Install the device away from sources of heat.
- Prevent liquids from coming into contact with the **CXM200/Q**; the external structure has an IP55 grade of protection.
You can connect many types of remote probes to this unit. Therefore, they should be positioned at different heights depending on the type of gas to be detected.
These heights are:
- **30 cm** from the lowest point of the floor in order to detect   *Heavy gases (L.P.G. etc.)*
- **30 cm** from the highest point of the ceiling in order to detect   *light gases (Methane, etc.)*

It is important to note that the remote probes should be installed according to the following restrictions:
1) The detector should not be placed near the appliances to be controlled (boilers, burners, industrial kitchens, etc.) but on the opposite side.
2) The detector should not be affected by smoke, vapour, and moving air, as they could distort their measurement.
3) The detector should not be placed near sources of heat, ventilators or fans.
4) The detector should not be placed behind barriers that hinder the prompt detection of gas, near aspirators, fans well as places where the temperature drops below 10 ° C or rises above 50 ° C.

IMPORTANT. It should be noted that the internal GAS sensors of the detector are perishable components with a variable average life span from 5 to 6 years. Therefore after this period of time has elapsed it is advisable to keep under control the fault LED.
When turning on leds fault is necessary make the replacement of the probe by a specialized technician.

30 cm. Light Gases

30 cm. Heavy Gases

Turning on

1) Connect by the external switch that must be provides of the fuses of protection.
2) The COUNT DOWN will appear on the display for about 100 seconds (warm up) then the the device is ready to detect.
If there is no presence of gas in the environment the display indicates **" 0 "** The percentage of gas displayed in **LEL**

 3) Pressing the **TEST** button to simulate the presence of gas, the detector performs the following operations:

The numbers on the display representing the percentage of the LEL increase:
On reaching the 13% you hear switching the relay pre-alarm
On reaching 20% turns on the red LED alarm and switching the relay

a)
no maintenance memory
When the concentration of gas ceases, the led and the sound of the buzzer will end and connected devices will be deactivated.

b)
maintenance of memory
When the concentration of gas ceases, the **CXM200/Q** maintains the alarm indefinitely. To restore the memory, press the RESET button.

* To complete the general test, emit gas from a pre-calibrated aerosol within 20% of LEL.
Performing a test using a common cigarette lighter you could damage the sensor.
This test should be carried out at least once a year.

Troubleshooting and solutions before calling a technician

If the device does not start up.
Check that the 230V mains power is correctly connected.
If the Fault LED lights up.
Check if **CXM200/Q** the detection capsule is faulty due to an excessive quantity of cigarette lighter gas.
It could also be exhausted: It should be replaced after 5/6 years.

If the detector is repeatedly issuing an alarm.
Check that there are no gas leaks. If the alarm signal and the FAULT indicator light turn on together, check the detection capsule.
If the detector is issuing an alarm and does not shut off the devices connected to it.
Check that the wiring is correct and that the jumper that carries power to the relay has been set properly. **All relays must be free from electrical power**.
Check the drawing of the connections.
If a 12Vdc solenoid valve, which does not work well, is connected to the **CXM200/Q**.
Direct connection of 12Vdc solenoid valves or sirens to the CXM200/Q is not permitted.
An external power unit must always be used.

Do not tamper with the detector.
To avoid impairing the device calibration, and electric discharges.

If other problems arise, a specialised and/or authorised technician and/or the **Distributor** of **BEINAT S.r.l.** should be contacted directly.

INSURANCE. This device is insured by the SOCIETÀ REALE MUTUA for the PRODUCT'S GENERAL LIABILITY up to a maximum of 1,500,000.00 EURO against damages caused by the device in case of failures in functioning.

WARRANTY. The warranty term is 3 years from manufacturing date, in agreement with the following conditions. The components acknowledged as faulty will be replaced free of charge, excluding the replacement of plastic or aluminium cases, bags, packing, batteries and technical reports.
The device must arrive free of shipment charges to **BEINAT S.r.l.**
Defects caused by unauthorized personnel tampering, incorrect installation and negligence resulting from phenomena outside normal functioning shall be excluded from the warranty.
BEINAT S.r.l. is not liable for possible damage, direct or indirect, to people, animals, or things; from product faults and from its enforced suspension of use.
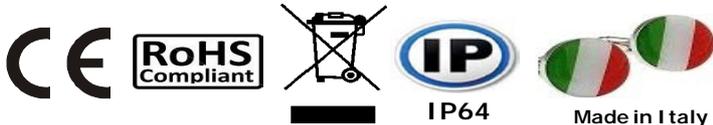
BEINAT
GAS SOLUTIONS

DISPOSAL OF OLD ELECTRICAL & ELECTRONIC EQUIPMENT.
This symbol on the product or its packaging to indicates that this product shall not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment, such as for example:
- sales points, in case you buy a new and similar product
- local collection points (waste collection center, local recycling center, etc...).
By ensuring this product is disposed of correctly, you will help prevent potential negative consequence for the environment and human health, which could otherwise be caused by inappropriate waste handing of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.
Attention: in some countries of the European Union, the product is not included in the field of application of the National Law that applies the European Directive 2002/96/EC and therefore these countries have no obligation to carry out a separate collection at the "end of life" of the product.

CE RoHS Compliant IP64 Made in Italy

Detector CXM200/Q   *Lo styling è della b & b design*

Dealer stamp

Purchase date: . . . .

Serial number: . . . .

Beinat S.r.l. following the purpose of improving its products, it reserves the right to modify the technical, aesthetic and functional characteristics at any time and without giving any notice.