OLDHAM
Gas Monitoring Solutions

MX15
Measuring Unit

INSTALLATION AND OPERATING INSTRUCTIONS

INDUSTRIAL SCIENTIFIC

ATMOSPHÈRES EXPLOSIVES 94/9CE SAQ Approuvé INERIS 94/9EC QAS Approved EXPLOSIVE ATMOSPHERES

AFAQ ISO 9001 VERSION 2000

CE ATEX

Made in France

Ref : NPM15GB

Warnings

Read these instructions carefully before installation and start-up particularly ensuring compliance with the instructions regarding safety of equipment with regard to the intermediary or final user.

The electrical installation and connections should be performed by qualified personnel in accordance with the manufacturer instructions and the standards of competent authorities in the industry.

Non-compliance with the instructions may have a serious impact on people's safety. Strict compliance is required particularly for electrical installation and assembly (connections, service lines).

Any modification of the equipment as well as use of unauthorized parts will result in cancellation of any warranty.

The central unit is designed to be used for specific purposes that are indicated in the technical specifications. It is not authorized to exceed the specified values in any case.

This document is not contractually binding. In the interests of its customers, INDUSTRIAL SCIENTIFIC reserves the right to modify the technical specifications of its equipment without notice in order to improve its performance.

Signalling

Operating ground terminal

Attention! Risk of electric shock.

Attention (see accompanying documents)

INDUSTRIAL SCIENTIFIC

GAS DETECTION

We are delighted that you have chosen an **INDUSTRIAL SCIENTIFIC** instrument and would like to thank you for your choice.

We have taken all the necessary measures to ensure that your instrument provides total satisfaction.

Now it is important to read this document carefully.

E X T E N T O F R E S P O N S I B I L I T Y

* **INDUSTRIAL SCIENTIFIC** declines its responsibility towards any person for material damage, physical injury or death resulting wholly or partly from inappropriate use, installation or storage of its equipment resulting from failure to observe instructions and warnings and/or standards and regulations in force.

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C L A U S E S C O N C E R N I N G P R O P E R T Y

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W A R N I N G S

* This document is not contractually binding. In the interests of its customers, **INDUSTRIAL SCIENTIFIC** reserves to modify the technical specifications of its equipment without notice, in order to improve its performance.

* **READ THIS MANUAL CAREFULLY BEFORE FIRST USE OF THE EQUIPMENT:** this manual must be read by any person who is or will be responsible for using, maintaining or repairing this equipment.

* **This equipment will only provide the announced performance levels if it is used, maintained and repaired according to INDUSTRIAL SCIENTIFIC directives, by INDUSTRIAL SCIENTIFIC personnel or by personnel approved by INDUSTRIAL SCIENTIFIC**

G U A R A N T E E

2 years guarantee in normal conditions of use on parts and technical labour, return in our workshops, excluding consumables (sensors, filters, etc.)

Table of contents

I. Presentation

The MX15 measuring and alarm unit has been designed for simple facilities that do not require the implementation of an electrical cabinet.
The MX15 central unit can be connected to combustible or toxic gas detectors or oxygen detectors.

The measurement of the sensor is displayed on the MX15 central unit and compared to alarm thresholds. In the event that the threshold is exceeded, the central unit activates the relays that can control external units.

The MX15 central unit consists of the following components:

- A wall case with access «hatch» to settings (potentiometers)
- A motherboard including all system components (power supply, display, relays and connectors
- A front face with tactile keys.

II. Technical specifications

1. Characteristics

Mounting	Box on DIN rail
Dimensions:	185 * 157 * 67 mm
Materials:	ABS type plastic
Cable inputs/outputs:	3 cable gland type M20 cable diameter 5.5 to 12 mm 1 cable gland M16: diameter 4 to 8 mm direct input available through wall crossing
Protection:	IP31
Electric power supply	230 VAC or 115VAC upon request and 21 V at 30 VCC
Consumed power:	16 VA
<u>Operating conditions</u>	
Ambient temperature:	-10 to +45°C
Storage temperature:	-10 to +40°C
Humidity:	5% to 95% non-condensed
Embedded audible alarm:	through buzzer
Number of measuring channels	1

Number of sensors:	*1 OLC10-type combustible gas detector or 2 OLC10 TWIN detectors for detection of methane, butane, propane in boiler rooms and GPL, GNV or H2 in parking lots *1 OLCT10-type combustible gas detector for detection of methane, butane, propane in boiler rooms and GPL, GNV or H2 in parking lots *1 to 5 detectors of same type OLCT10 for detection of CO, NO, NO2.
Cable length:	OLC10 and OLC10 TWIN: max. 300 m at 3x1.5 mm² (4x1.5 mm² between the two OLC10 TWIN) OLCT10 EXPLO: 1,000 m at 1.5 mm² OLCT10 TOX: 2,000 m at 1.5 mm²
Measurement:	continuous
Measuring ranges	programmable
Display	front
Type:	LCD screen 4 digits 7 segments, 3 characters 14 icon segments 4 LEDs
Description of unit and gas:	programmable by user in a list 3 characters edited by user
Keyboard:	through tactile keys for access to menus, indicator test, acknowledgment

Alarms

Type:	2 independent thresholds defined by user manual or automatic erasure by increasing or decreasing value through programming viewing through red indicator relay output (alarm 1 and 2)
Relays	2 independent alarm relays with positive/negative safety programmable by manufacturer. 1 out of order relay in positive safety break or make contact that may be configured on all relays using a jumper
Cutoff level	2A / 250 Volts AC/ 30 volts DC

Connection

Type:	spring terminals
Cable section:	maximum 2.5 mm²

Remote acknowledgment	through short circuit of 2 MX15 terminals, using an external potential-free dry contact (maximum 2 meters)

Certification

ATEX 94/9/CE Directive:	category (3)G for metrology in explosive gas detection EN 61779-1 and 4 in zones 2.
Low-voltage directive:	in accordance with EN 61010
Electromagnetic Compatibility Directive CEM:	in accordance with EN 50270

III. Detail specifications for use in Explosive Atmospheres in accordance with the ATEX 94/9/CE European Directive

The MX15 detection central unit, designed for measurement of explosive gas, is compliant with the requirements of the ATEX 94/9/CE European Directive regarding explosive atmospheres.

Thanks to its metrological performance, the MX15 central unit associated with the INDUSTRIAL SCIENTIFIC CEX300 and OLC 10 detectors is a safety device for ATEX Zone 2 classified areas. The central unit can also reduce the risk of explosion through information provided to external units.

The site manager where the equipment is installed should take into consideration and comply with the information in the following paragraphs. Refer to the provisions of the ATEX 1999/92/CE European Directive regarding the enhancement of safety and health of the workers exposed to risks of explosive atmospheres.

1. Specifications for mechanical and electrical installation in Classified Zone

Installation will be performed in accordance with existing standards, in particular, EN 60079-14, EN 60079-17 standards.

The MX15 central unit should not be exposed to mechanical vibrations and should be installed in a safe area, away from explosive atmospheres.

It is essential to refer to the operating and start-up instructions of the above-mentioned gas detectors in paragraph ‘Detail specifications for use in explosive atmospheres in accordance with the ATEX 94/9/CE European Directive.’

2. Metrological Specifications

The central unit complies with the metrological European standards EN61779 and EN61779-4 for methane (calibration gas), butane, propane and hydrogen (gas as per response curves), when the central unit is used with CEX300 and OLC 10 gas detectors.

In the event that the central unit is used with other types of sensors supplying a measuring current of 4/20 mA, they should comply with paragraph 1.5 of Appendix II of the Atex 94/9/CE Directive and be compatible with their characteristics (see central unit transfer curve).

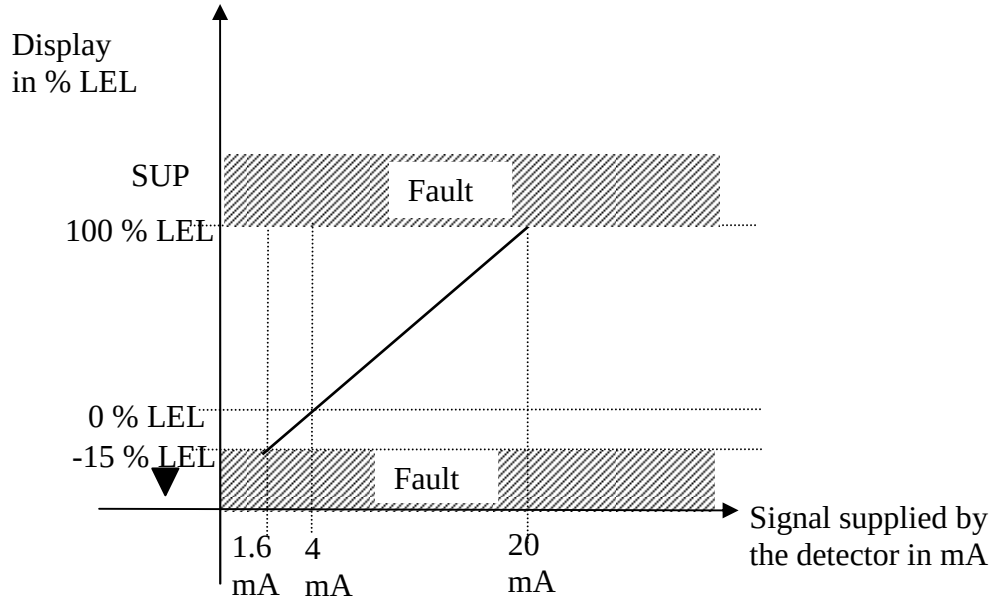
Note: the test vibrations in accordance with EN61779-4 paragraph 4.13 have not been performed because they do not apply due to the operating conditions of the MX15 central unit.

3. Connection of detectors other than INDUSTRIAL SCIENTIFIC to the MX15 central unit

As previously explained, the user who want to connect detectors other than INDUSTRIAL SCIENTIFIC, should ensure that they are compatible with the central unit so that the unit is considered a safety device.

3.1. Transfer curves of central unit in configuration 0 at 100% LEL

The following curve provides a response to the central unit regarding the measured value and fault processing, based on the value of the input current supplied by the detector. In the event that the user connects a detector of a brand other than INDUSTRIAL SCIENTIFIC to the MX15 central unit, he/she should ensure that the transfer curve is compatible with the input characteristics of the central unit, so that the information provided by the detector is accurately interpreted. In addition, the central unit should supply a sufficient supply voltage taking into account the cable drops.



Caution: When the measurement is >= to 100% LEL, the measuring unit memorizes this scale overrun, the channel passes to alarm and fault mode. The resetting of this status is manual and is the responsibility of the user who should comply with the safety instructions of his/her site. The resetting is either validated through an ON/OFF of the central unit or through a maintenance operation.

3.2. Power supply and load resistance characteristics

Maximum current available between terminals 2 and 3: 300 mA at 20 V.
Maximum no load voltage between terminals 2 and 3: 30 V
Load resistance between terminals 1 and 2: 47 ohms

4. Marking

OLDHAM Arras
CE
Ex II (3) G
OSA 05ATEX0120

IV. Central unit installation

1. Central unit mounting

Mounting is performed using a DIN rail, positioned so that it provides a 5 cm free area around the central unit.
The MX15 central should be installed in all facilities away from explosive atmosphere, preferably in an attended area (control centre, console room, control room, etc.) and in a less humid (no condensation) and temperate environment (see chapters 2.1 and 3)

2. Central unit electrical connections

Electrical connections should:

- be performed by a specialist and while the central unit is off (power supply is shut off)
- comply with existing regulations (including NF C 15-100)
- has a minimum section of 1.5 mm² and a maximum section of 2.5 mm^2 for power supply from power system (230VAC)

Check the current nature and network voltage (the network voltage should match the voltage specified on the central unit maker's plate).

2.1. Protective ground

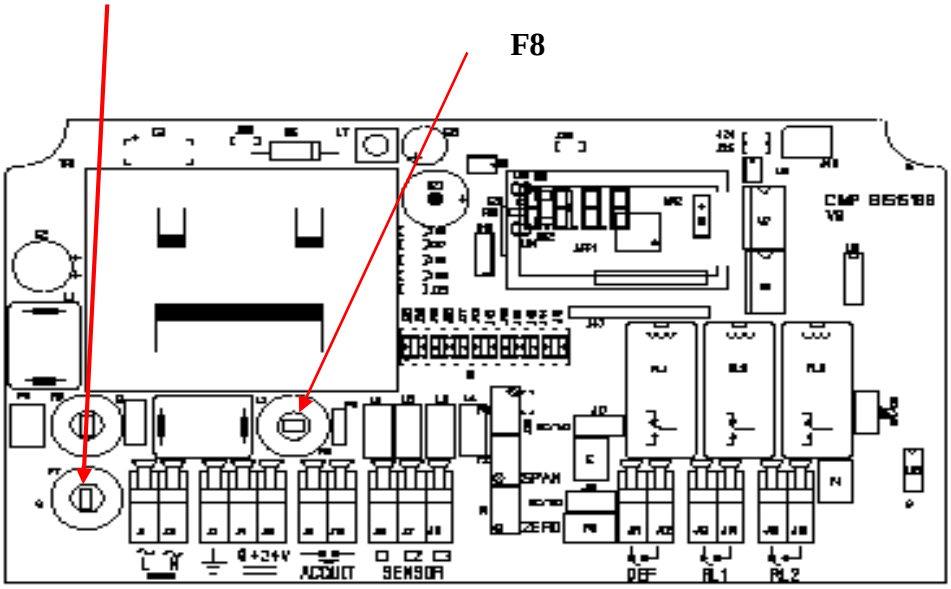
The central unit must be connected to an operating ground. The ground terminal (yellow ochre) is identified by the following symbol: ⏚
Refer to wiring examples at the end of the manual.

2.2. Power supply

2.2.1. Power supply 230 Volts (115VAC on request)

230VAC is standard power supply: protection is provided

- either through **F8**= 630 mA/250VAC
- either through **F6/F7** = 100 mA/250VAC



A special "**115VAC**" configuration is provided by the manufacturer upon request.

The central unit should be protected upstream through a bipolar differential circuit breaker.

The response curve is of type D**.**

The mains should be wired on the two terminals **L** (orange**)** and **N** (blue), as indicated in the wiring examples at the end of manual.

2.2.2. Power supply **24 VDC** (protection through F8) can be connected on terminals **0** and **+24V**, as indicated in the wiring examples at the end of the manual.

2.3. Measuring channel

2.3.1. Sensors

The various types of sensors should be connected on the **terminals C1, C2 and C3** (white) of the connector as indicated in the wiring examples at the end of manual.

The "Wheatstone bridge"-type "**explosive gas** " sensors with **3 active wires**:

C1: median point (signal)
C2: detector filament (-)
C3: compensator filament (+)

Sensors/transmitters **4/20 mA** with **2 active wires** :

C1: signal (current return to ground)
C2: not connected
C3: positive power supply (+24 Volts)

Sensors/transmitters **4/20 mA** with **3 active wires** :

C1: signal (current return to ground)
C2: power supply 0 Volt
C3: positive power supply +24 Volts

1. For each sensor family, the manufacturer will insert a programming support (Explo 340mA or 4 -20mA) to the circuit: see above figure.
2. **Note**: if several OLCT10 toxic sensors are connected (maximum 5), programming of the electronic circuit is required, which should be performed by an authorized person.

2.3.2. Alarm relays

The MX 15 central unit has two alarm relays corresponding to two pre-programmed instant alarm thresholds.

The relays are in positive safety (negative upon request) and potential-free.

REL1 terminals match the relay 1 contacts (alarm 1).

REL2 terminals match the relay 2 contacts (alarm 2).

The relay contacts can be used “normally open or closed” moving the appropriate jumper (next to relays)

The relay contacts are potential-free.

Refer to the wiring examples at the end of manual.

2.3.3. Fault relays

The fault relay is in positive safety.

The DEF terminals match the fault relay contacts (fault).
The relay contacts can be used “normally open or closed” moving the appropriate jumper (next to the relay)

The relay contacts are potential-free.

Refer to the wiring examples at the end of the manual.

2.3.4. Remote acknowledgment

A pushbutton for “remote acknowledgment” may be connected to the MX15 central unit to the “acknowledgment” terminals (dry and potential-free contacts) at a maximum 2-meter distance.
Refer to the wiring examples at the end of manual.

V. Operating instructions

1. Instructions on the display upon activation:

Upon activation of the central unit a list of information is automatically displayed on the display unit: software version, maintenance access code, pre-programmed alarm thresholds, stabilisation time sheet, etc. and then the measurement continuously supplied by the sensor.

1.1. Measuring channel display

The MX 15 central unit continuously displays the measurement; however, by simultaneously pressing the + and – keys of the front keyboard, the measurement will be replaced with an interrupted line on the display unit.
To return to the measurement display, press one of the two keys, + or - .
To return to normal operation, simultaneously press the + and – keys.

2. Menus

Reminder: for safety purposes, only authorized and trained people are allowed to use the following menus.

2.1. Menu viewing

To exit the normal operating mode and access the menu list, use the front keyboard:

- press the **MENU** key
- use **+ / - and ENTER** keys, validate the standard access code « **1000** »
- use + or – key to view the available menus, such as:

PROGRAMMING (PRG)
USI (factory calibration) *
INITIALISATION (INI)
CODE (COD)
BUZZER (BUZ)
TEST (TST)

*** the USI menu is not detailed below because it is only reserved for the manufacturer: never use it without previous training!**

2.2. Menu validation

- display the desired menu as indicated in the previous chapter
- validate this menu by pressing the **ENTER** key

2.3. To exit while viewing a menu (ECHAP)

Simultaneously press the + and - keys and validate or don't validate the recording of potentially modified parameters:

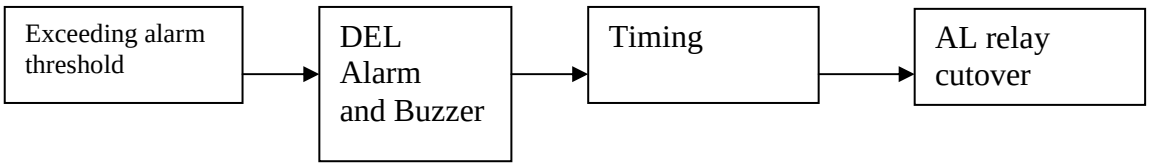
- press ENTER to abort without any change
- press «+», then ENTER to exit by validating the changes.

2.4. Programming menu

A maintenance key  is displayed while using the programming menu

- This allows programming of parameters of the measuring channel such as:
  - On/off: yellow DEL is blinking
  - Detected gas chemical symbol (CH4 /CO, etc.)
  - Measuring unit (%LEL/ppm, etc.)
  - Measuring scale and decimal point (0.1/1.0/10/100/1000, etc.)
  - Programming of two gas alarm thresholds (characteristics): corresponding red DEL is on during this step
  - Selecting the erasure type of gas alarms
    1. **manual (MAN)** = if the gas concentration again becomes lower than the preset alarm threshold, this alarm must be acknowledged manually by pressing the **acknowledgment key** 
    2. or **automatical (AUT)** = if the gas concentration again becomes lower than the preset alarm threshold, the acknowledgment is automatic.
  - Timing (in minutes and seconds) of the alarm relay activation time: yellow DEL is blinking

Diagram of alarm activation



  - Timing (in minutes and seconds) of the fault relay activation time: yellow DEL is on continuously
  - Timing of the central unit upon activation (relays disabled): yellow DEL is blinking and the following icon  is displayed.
  - Indicating the type of sensor used, such as:
    - Bridge: in bridge (filaments), types OLC10, CEX300, etc.
    - EHP: EXPLO (explo. 4/20mA), type OLCT10, etc.
    - InC: fire (ionic, optical, etc.)
    - O2: oxygen
    - Aut: other (toxic, etc.)

- Indicating the maintenance mode, MAN or AUT:
  - **AUT**: Detection of detector calibration mode of this function (yellow DEL blinking on MX15)
  - **MAN**: No detection of detector calibration mode
- Timing (in minutes and seconds) upon exit of «calibration» menu (relays disabled)
- Validation of potentially modified parameters in this menu (yes or no):
  - If "**NO**" validated: the changes are not taken into contact
  - If "**YES**" validated: the new programming will be saved.

2.5. Initialisation menu (INI)- Start-up

This menu is used to INITIALISE the microprocessor based on the connected sensor
It is used in the following cases:

- by INDUSTRIAL SCIENTIFIC when new equipment is shipped
- during the first installation
- during a cell or sensor replacement

2.6. Code (access) menu

This menu changes the access code for various menus (**1000** in standard upon shipment of equipment):

- display the CODE menu (+ and – key)
- validate it (enter)
- display current code
- indicate the new code using the + and – keys
- validate this new code (enter)
- finally confirm it (yes/no/enter)

2.7. Buzzer menu

Allows or does not allow the use of the buzzer embedded to the MX15 central unit:

- display the BUZZER menu (+ and – keys)
- validate it (enter)
- validate **ON** (active buzzer) or **OFF** (buzzer off)
- finally confirm (yes/no/enter)

2.8. TEST menu (TST)

Disables the relays embedded to MX15 upon voluntary activation of alarms through injection of a standard gas on the sensor to test the alarms or to calibrate:

- display the **TST** menu (+ and – keys)
- validate it (enter): yellow DEL is blinking
- yellow DEL is blinking, the TST message and the  key are displayed, confirming that the relays are disabled during the test or calibration

Attention: this menu should be used for calibration after a first start-up.

INDUSTRIAL SCIENTIFIC recommends:

Calibrate the sensor connected to the MX15 central unit at least once a year, then based upon environmental conditions (T°, dust, vibrations etc.). It is also recommended to calibrate the detector upon exposure to high gas concentrations.

Reminder: for safety purposes, only authorized and trained people are allowed to use the following menus.

Procedure to be followed when the MX15 central unit is connected to an explosive gas sensor (OLC10/CEX300, etc.):

- the TEST menu was validated (see above)
- remove the small cover on the front of MX15 to access the setting potentiometers
- adjust, if needed, the ZERO (read the display unit) using a zero potentiometer «**O**»

<u>Reminder</u>: make sure that you have clean air - otherwise inject air or nitrogen on the sensor (with calibration kit) with a flow rate of 60 l/h, then wait for the stabilisation of measurement

- Now inject the standard gas (60l/h) on the sensor and wait for the measurement stabilisation
- Make sure that the gas concentration is correct by reading the display unit
- Otherwise, adjust the sensitivity using a "**S**" potentiometer
- Disconnect the standard gas cylinder
- Wait for the "return to zero" on the display unit
- Press the TEST key to exit this menu
- The yellow "DEL" is off and the display unit indicates an interrupted line
- Press one of the two keys + or – to display the measurement, if needed
- Position the small cover in place.

Procedure to be followed when a MX15 central unit is connected to a transmitter 4-20 mA without local maintenance device (calibration position switch, etc.) :

- the TEST menu was validated to disable the relays of the central unit: see the beginning of this chapter
- adjust the transmitter (see manual of relevant product)
- make sure that the transmitter instructions (O and S) match those of the central unit. Refine the adjustments, if needed, of the central unit and, in this case, refer to the previous paragraph
- upon completion of calibration, wait for the «return to zero» on the display unit of the central unit
- Press the TEST key to exit this menu
- Yellow "DEL" is off and the display unit shows an interrupted line
- Press one of the two keys + or – to display the measurement, if needed.

3. TESTING of relays and external controls

It is also recommended to periodically check alarm activation and the corresponding external controls.

4. Cleaning

Do not use alcohol or ammonia-based liquids to clean the central unit.
If needed, clean the outside of the case with a damp cloth.

5. Central unit maintenance

The central unit does not require special maintenance.
If sensor calibration is required, this operation should only be performed by qualified personnel.

Gas detection instruments are potential life-saving devices. Recognizing this fact, Industrial Scientific Corporation recommends that a functional “bump” test be performed on every fixed gas-monitoring instruments as part of a regular maintenance program. A functional test is defined as a brief exposure of the detector to a concentration of gas(es) in excess of the lowest alarm set-point for each sensor for the purpose of verifying sensor and alarm operation and is not intended to be a measure of the accuracy of the instrument.
Industrial scientific further recommends that a full instrument calibration be performed using a certified concentration(s) of calibration gas(es) quarterly, every 3 months.* Calibrations may be necessary more or less frequently based, for example, on application, field conditions, exposure to gas, sensor technology, and environmental conditions. The frequency of calibration is best determined by company policy or local regulatory agencies.
If an instrument fails to operate properly during any functional “bump” test, a full instrument calibration should be performed successfully prior to use.
These recommendations are based on safe work procedures, industry best practises, and regulatory standards to ensure worker safety. Industrial scientific is not responsible for setting safety practices and policies.

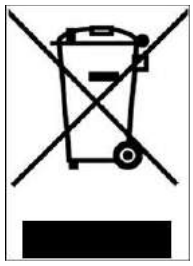
** For new installations it may be prudent to carry out bump tests frequently at first (perhaps weekly), increasing the time intervals (to, perhaps, monthly or more) as confidence grows with experience in the installation concerned, on the basis of the maintenance record.*

- **REFER TO CHAPTERS 4.2.5 AND 4.2.8 (INITIALISATION AND TEST)**
- **Do not forget to initialise the system upon cell replacement: use the “INI” menu (chapter 4.2.5).**

6. Replacement of fuses

Fuse replacement should be performed only by qualified personnel.
List and type of fuses used in the MX15 central unit: the fuses used should comply with CEI 127, should be timed and have a low cutoff power.

7. Scrapping of mx15

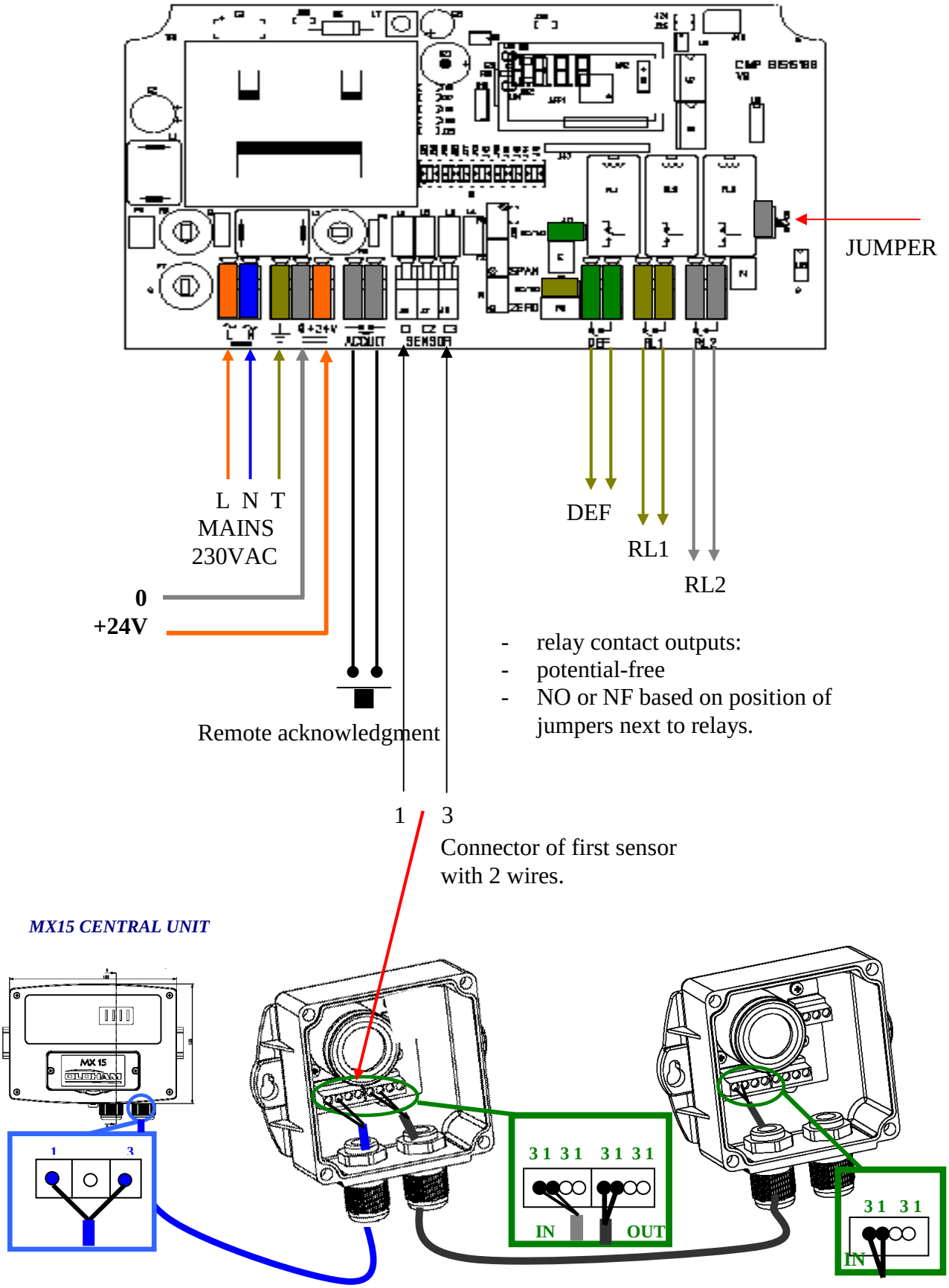


Concerning the conservation, of the protection and the improvement of the quality of the environment, as well as for the protection of the health of the persons and the careful and rational use of natural resources, MX15 has to be the object of a selective collection for the electronic equipments and cannot be scrapped with the normal domestic waste. The user thus has the obligation to separate the MX15 of the other waste so as to guarantee that it is recycled in a sure way at the environmental level. For more details of the existing sites of collection, contact the local administration or the distributor of this product.

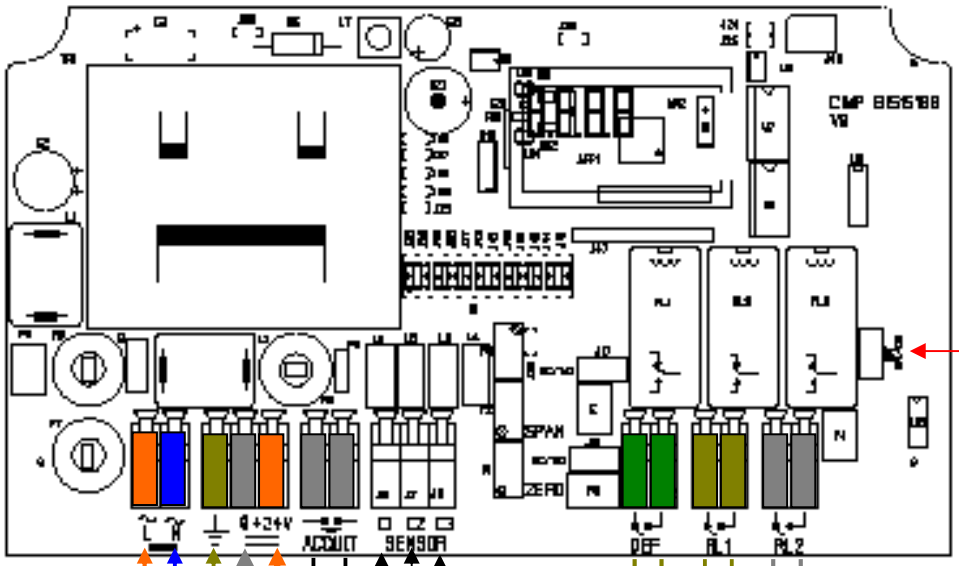
VI. Spare parts

- Fuse 630 mA/ref. 6154627
- Full electronic map/ref. 6451569
- Potentiometer cover/ref. 6123711
- Cover retention screw /ref. 6902569
- Equipped ready front cover (self-adhesive front panel, small cover mounted, 4 screws)/ref. 6323648

VII. Examples of connections



Example of connection between a MX15 central unit and two OLCT10-type sensors for detection of the same gas (maximum 5 sensors) .



JUMPER

L N T

MAINS
230VAC

0

+24V

DEF

RL1

RL2

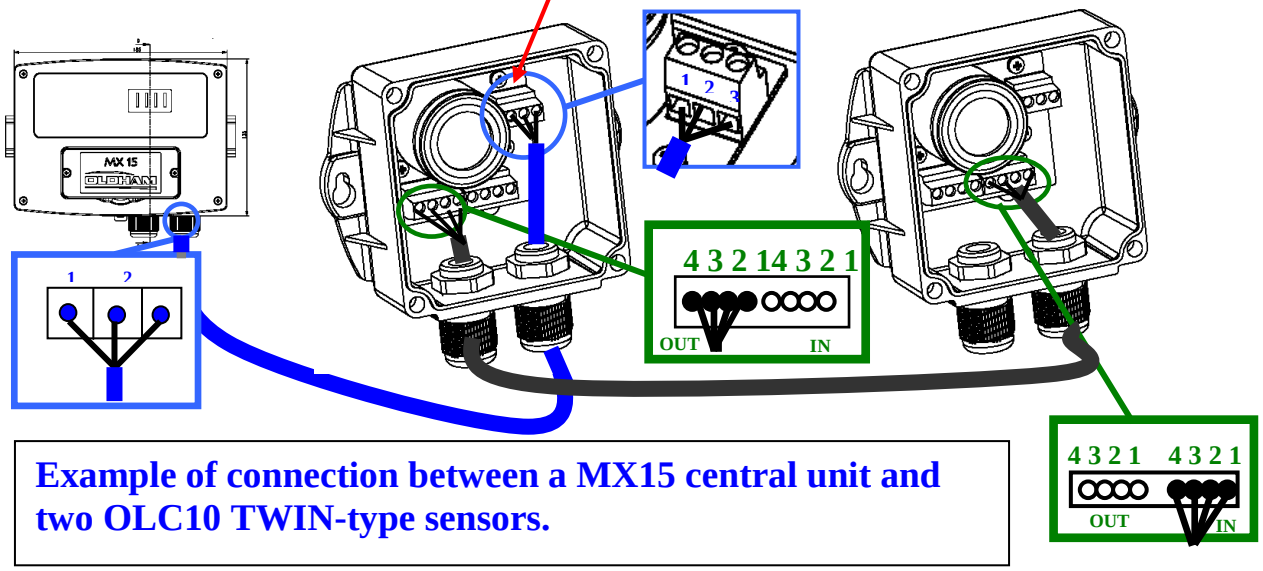
- relay contact outputs:
- potential-free
- NO or NF based on position of jumpers next to relays.

Remote acknowledgment

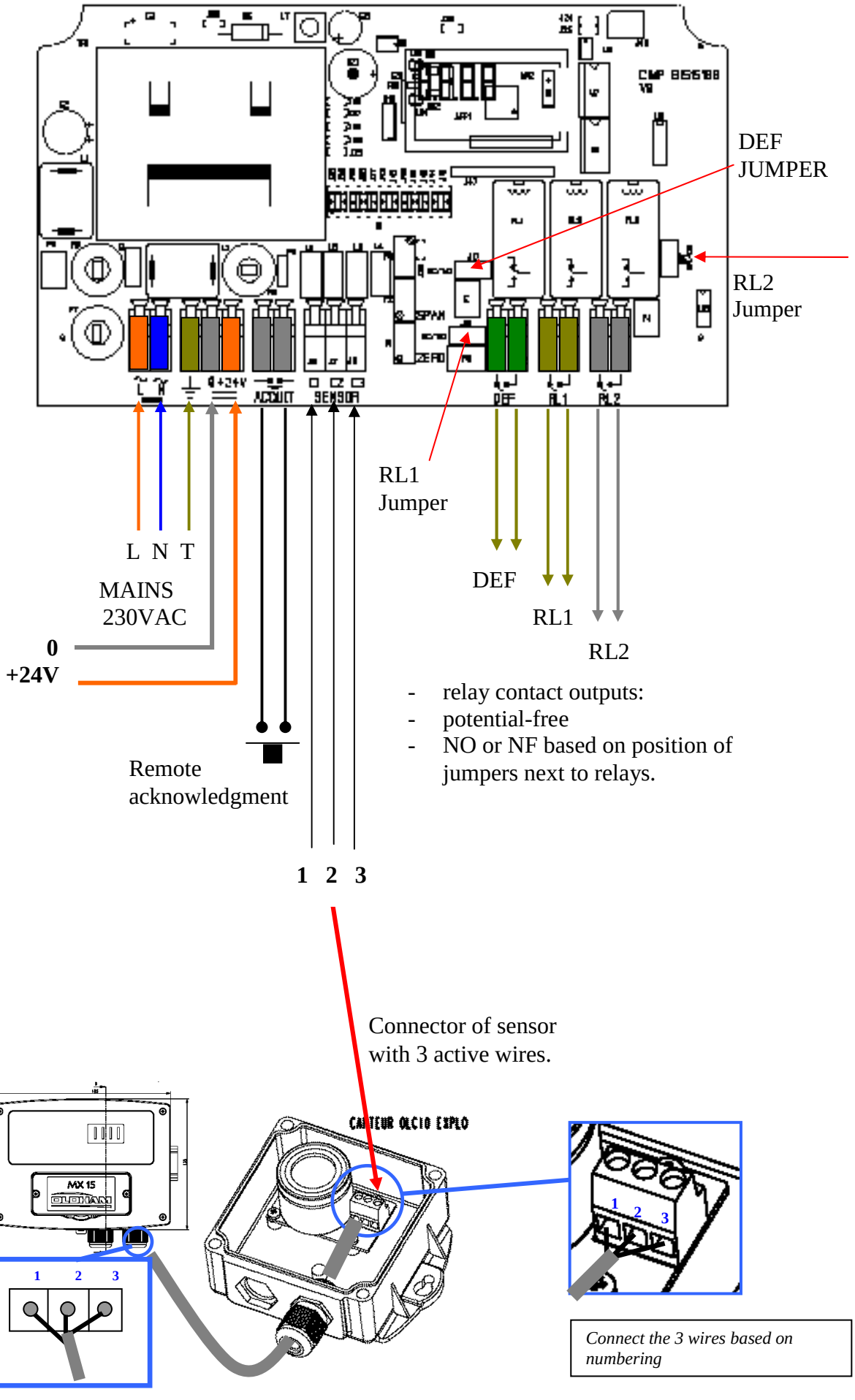
1 2 3

Connector of first sensor with 3 active wires.

MX15 CENTRAL UNIT



Example of connection between a MX15 central unit and two OLC10 TWIN-type sensors.



Example of connection with an EXPLO or TOXIC sensor with 3 active wires.

INDUSTRIAL SCIENTIFIC

DECLARATION DE CONFORMITE CONSTRUCTEUR
Manufacturer Declaration of Conformity

CE

La **Société OLDHAM S.A.**, ZI Est 62000 Arras France, atteste que le matériel neuf :
*(The **Company OLDHAM S.A.**, ZI Est 62000 Arras France, declares that the following new material:)*

CENTRALE DE MESURE *(control unit)* **MX15**

Reliée aux détecteurs de gaz explosibles *(connected to Flammable Gas detectors)* type
CEX300 / OLC 10 & OLCT 10

est conforme aux exigences des Directives Européennes suivantes :
(comply with the requirements of the following European Directives :)

I) Directive Européenne ATEX 94/9/CE du 23/03/94 : Atmosphères Explosives
The European Directive ATEX 94/9/CE of 23/03/9: Explosive Atmospheres

Normes harmonisées appliquées : *(Harmonised applied Standards)*	**EN 61779 - 1, EN 61779 -4** Métrologie pour la détection des gaz combustibles *(Performance requirements for combustible gases)*
N° du dossier de certification OLDHAM : *(N° of OLDHAM certification file)*	**OSA 05ATEX0120**
Catégorie *(Category):*	Ex **II (3) G**

II) Directive Européenne CEM 89/336/CEE du 3/05/89 : Compatibilité Electromagnétique
The European Directive EMC 89/336/CEE of 3/05/89: ELECTROMAGNETIC COMPATIBILITY

Normes harmonisées appliquées : *(Harmonised applied Standards)*	**EN 50270** (Rapport d'essai /Test report n°R04 072 27/08/04 de/from AEMC Le Rheu France)

III) Directive Européenne DBT 73/23/CEE -93/68/CEE du 22/07/93 : Basse Tension
The European Directive LVD 73/23/CEE -93/68/CEE of 22/07/93 Concerning Low Voltage

Normes harmonisées appliquées : *(Harmonised applied Standards)*	**EN 61010-1** (Rapport d'essai /Test report n°05304363 06/02/06 de/from APAVE Le Rheu France)

CE/ATEX 501 B

Arras, le 12/06/06

La Personne Autorisée ATEX
The ATEX Authorized Representative

Lionel Witrant

Directeur Technique
Technical Director

AFAQ ISO 9001

Nous nous engageons – We undertake

1 Les Plus
Au travers de notre service client, à répondre rapidement et efficacement à vos besoins de conseil, de suivi de commande, et ce, partout dans le monde.
A répondre dans les plus brefs délais à toutes questions d'ordre technique.

2 Qualité
A vous assurer la meilleure qualité de produits et de services conformément aux normes et directives internationales en vigueur.

3 Fiabilité & Contrôles
A vous fournir un matériel fiable. La qualité de notre production est une condition essentielle à cette fiabilité. Elle est garantie grâce à des vérifications très strictes réalisées dès l'arrivée des matières premières, en cours et en fin de fabrication (tout matériel expédié est configuré selon vos besoins).

4 Mise en service
A mettre en service, sur demande, votre matériel par nos techniciens qualifiés Ism.ATEX. Un gage de sécurité supplémentaire.

5 Formation
A dispenser des formations ciblées.

6 Contrat d'entretien
A vous proposer des contrats d'entretien évolutifs au regard de vos besoins pour vous garantir une parfaite sécurité :
- Une ou plusieurs visites par an, garantie totale ou partielle,
- Renouvelable par tacite reconduction,
- Incluant le réglage des détecteurs de gaz fixes ou portables et le contrôle des asservissements.

7 Dépannage sur site
A faire intervenir nos techniciens du **Service Après Vente** rapidement. Ceci est possible grâce à nos implantations de proximité en France et à l'étranger.

8 Dépannage en usine
A traiter tout problème qui ne pourrait être résolu sur site par le renvoi du matériel en usine. Des équipes de **techniciens spécialisés** seront mobilisées pour réparer votre matériel, dans les plus brefs délais, limitant ainsi au maximum la période d'immobilisation.
Pour toute intervention du Service Après Vente en France, un numéro Indigo a été mis en place : le 0 825 842 843

1 *Strong points*
Through our customer service to respond to your needs for advice and order follow-up services wherever in the world you may be.
To answer all your technical questions as quickly as possible.

2 *Quality*
To provide you with products and services of the best quality, in accordance with current international directives and regulations.

3 *Reliability and inspections*
To supply you with reliable equipments. The quality of our production is essential to achieve reliability. Quality is ensured by extremely strict verifications carried out as soon as raw materials are received, during production and at the end of manufacture (all shipped equipments are configured to meet your requirements).

4 *Start-up*
That our Ism.ATEX qualified technicians will start up your equipment, if you wish so. This gives you the guarantee of additional safety.

5 *Training*
Will train on risks, on products and on consulting: Highlights that meet your needs.

6 *Maintenance contract*
To offer you open-ended maintenance contracts according to your needs so as to give you the guarantee of complete safety:
- *One or more visits a year, comprehensive or partial warranty,*
- *Renewal by tacit agreement,*
- *Including the adjustment of fixed or portable gas detectors, the calibration of equipment and the verification of servo-control systems.*

7 *Field servicing*
*To send out our **After-Sales Service** technicians quickly for servicing on your site. This is made possible by our efficient network in France and other countries.*

8 *Factory repairs*
*We give the undertaking that any problem that cannot be solved in the field will be dealt with by the return of the equipment concerned to our factory. Teams of **specialized technicians** are on hand to ensure the immediate repair of your equipment in the shortest possible time, so keeping downtimes for your equipment to a minimum.*
For any specific technical question, please contact our technical support service : 00 33 3 21 60 80 80

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