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RS 0021

DIGITAL GAS DETECTION CONTROL UNIT FOR SENSORS WITH S-BUS PROTOCOL

CE

USER MANUAL

Read carefully before use

GENERAL INFORMATION

This device is a gas control unit with RS485 serial communication, based on the S-Bus protocol. Fitted with 5 ON/OFF outputs (4 alarm relays + 1 auxiliary relay), it can configure and manage up to 32 devices, among the following types:

- Gas concentration transmitters for Carbon Monoxide (CO), Methane (CH4) and L.P.G. and S-Bus interface.
- Input module (for up to 8 voltage free or 12Vdc On-Off channels).
- PC or System monitor for monitoring of the system.

The central unit will show on its LCD display the data in a cyclic fashion, by pressing keys '▲' o '▼'.
The status of each transmitter (normal operation, prealarm, alarm or fault) as well as of the input module will be evidenced through the relevant icons on the display.

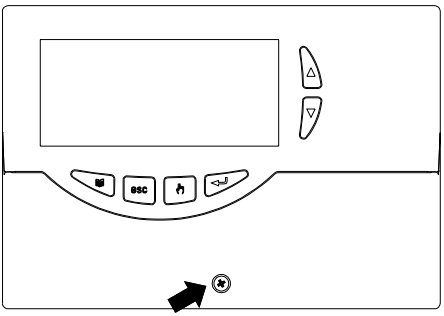
INSTALLATION

⚠ WARNING

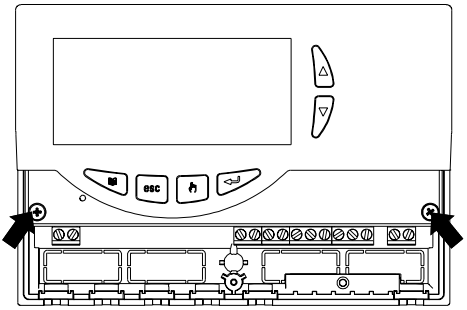
- ***This control unit is NOT approved for installation in ATEX-classified areas.***
- ***The cables that go towards the remote transmitters must have a 24 AWG or 22 AWG cross-section and not exceed 1000 m in length. Do not use the same duct for signal and power supply cables.***
- ***We strongly recommend using shielded cables if the installation is performed in environments with strong EMC disturbance.***
- ***The installation and electrical connections of this device must be carried out by qualified technical personnel and in compliance with current technical and safety regulations.***
- ***Ensure the system is powered off before conducting the electrical connections.***
- ***The installer is responsible for setting up a detection system compliant with current regulations, both at a national and European level, and choosing suitable types of loads to connect to the control unit, as well as configuring the system parameters correctly. Contact the retailer for any queries.***

CARRY OUT THE OPERATIONS BELOW TO INSTALL THE DEVICE:

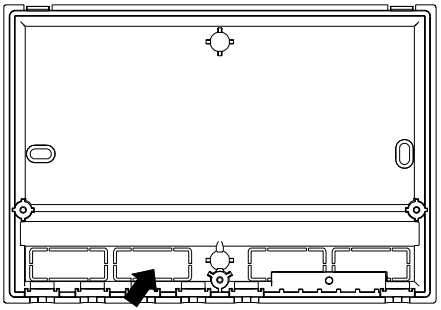
1. Take out the indicated screw and remove the door.



2. Take out the 2 indicated screws and separate the cap fitted with the electronics from the base.

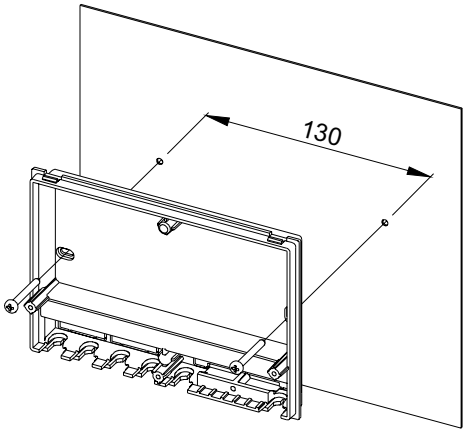


3. ASSEMBLY WITH THE CABLE INPUT AT THE REAR: If the cable fasteners (supplied) are not necessary for the installation, use a screwdriver to remove the base blocks required to pass the cables and in step 6, insert the blocks supplied.

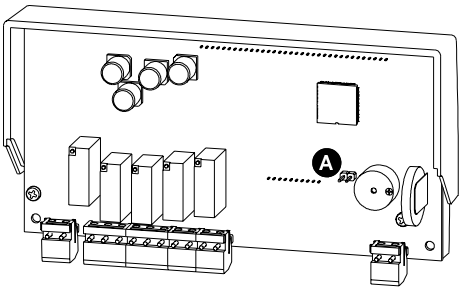


4. Fix the base of the control unit to the wall.

Dimensions are expressed in mm.



5. If the control unit is at the end of the RS485 network, insert the Jumper provided into connector **A**. The connector is located on the electronics applied to the cover, as shown in the following table:

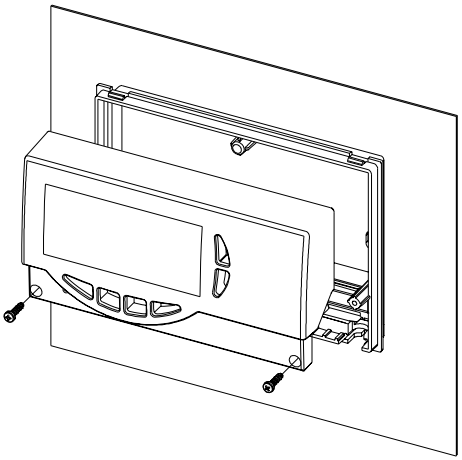


Jumper provided

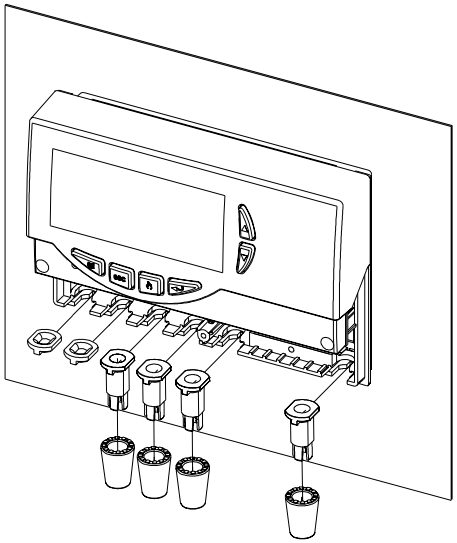
⚠ WARNING

For further information on the termination resistor, refer to paragraph '120 Ohm termination resistor' at page 4.

6. Insert the cover again with the electronics at the base.

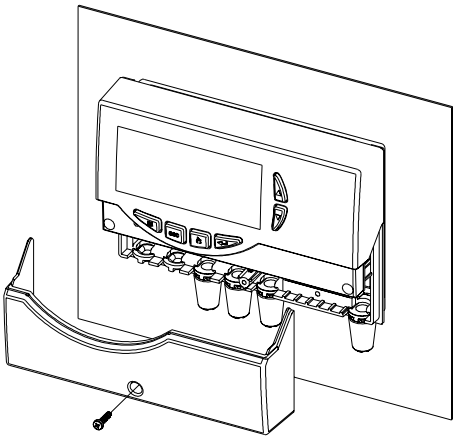


7. ASSEMBLY WITH CABLE INPUT ON THE LOWER SIDE: insert the cable fasteners and/or the blocks supplied.



8. Perform the electrical connections (see the paragraph on electrical connections).

9. Close the control unit by placing back the door.



⚠ WARNING

When closing the control unit make sure that the removable terminals have been inserted correctly (the screws of the terminals must be facing upwards).

ELECTRICAL CONNECTIONS

The control unit is powered with a 12Vdc voltage.
When the central unit also supplies the devices connected to it, the power source must be capable of supplying the required current, i.e. the overall power required by the whole system. This means that when all 32 devices are connected the power source must capable of delivering at least 5A at 12Vdc.

The OUT1, OUT 2, OUT 3, OUT 4 and OUT 5 outputs are Normally Open (NO) and can be used both to control generic loads and as a siren or a flashing indicator or, depending on the system configured, a gas shut-off solenoid valve.
Please note that all the control unit's outputs are voltage-free, i.e. they do not supply power to the loads and this allows the user to employ loads with different operating voltages.

The COM output (RS485 serial communication) is used to exchange data between the devices and the control unit. No more than 32 devices (transmitters, input modules, System monitor and PC) can be connected to the control unit and these must be compatible with the S-Bus protocol (see Fig. 2 - 3 - 4 - 5 - 6).
Each transmitter is identified by a unique number set through a pair of rotary commutators fitted on the S-Bus interface board on the transmitters.
The input module is identified on the RS485 bus with number 246, which can be set by setting the rotary switch located on the module on value 2.
Warning ! On the central unit RS0021 only one input module can be connected !
The PC and the System monitor don't have an identifying address to be set.
The control unit can recognise the transmitters and the possible input module through the reply they provide when they receive a query. The transmitters can have non-consecutive addresses, but cannot have the same identification number.
For further information, carefully read the S-Bus interface instruction manual and/or the relevant transmitter.
For the electrical connections, please refer to the connection diagram shown in Fig. 1.

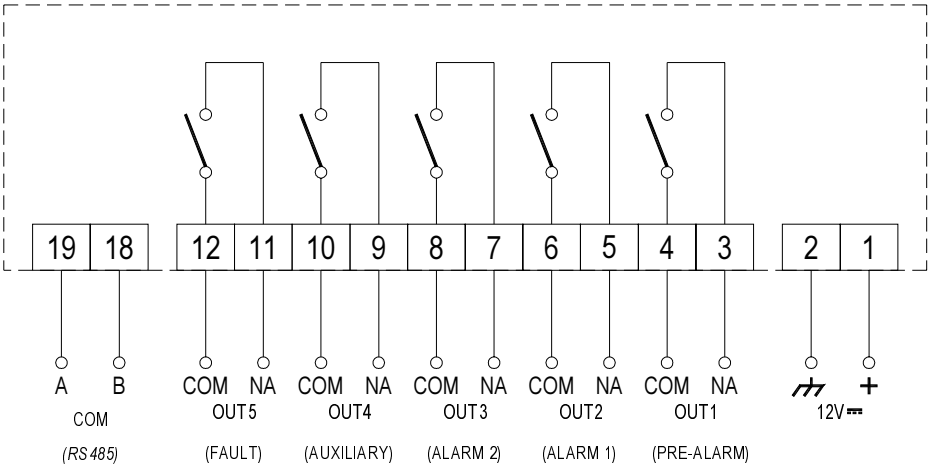


Fig. 1: Wiring diagram.

120 ohm termination resistor.
The elements at the ends of the RS485 network (gas control unit - transmitter) must have an activated 120 Ohm termination resistor.
The termination resistors on the gas control unit are activated by a Jumper and those on the S-Bus interface by a dip-switch.
The elements at the ends of the network can be either a control unit and a transmitter or two transmitters, according to how the devices are arranged in the network (see the connection examples in Fig. 4 and Fig. 5).
Do not activate more than two termination resistors per system.

⚠ WARNING

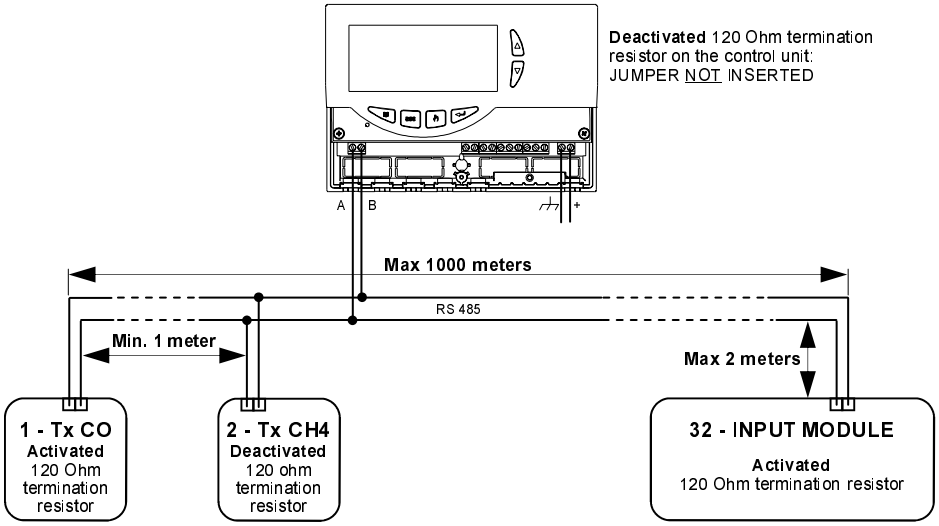
RS485 BUS CONNECTION CABLES

- The Bus connections must be made using a BELDEN 9841 or BELDEN 9842 equivalent shielded twisted-pair, indicated in the following table:

TYPE	No OF PAIRS	DC RESISTANCE		NOMINAL IMPEDANCE (Ohm)	NOMINAL CAPACITY		AWG
		CONDUCTORS Ohm/km	SHIELD Ohm/km		BETWEEN CONDUCTORS pF/m	BETWEEN CONDUCTORS AND SHIELD pF/m	
BELDEN 9841	1	78,7	11,0	120	42,0	75,5	24 (0.25 sq.mm)
BELDEN 9842	2	78,7	7,2	120	42,0	75,5	24 (0.25 sq.mm)

- Total lenght of the RS485 bus must not exceed 1000 meters.
- Minimum distance between two adjacent devices must be less than 1 meter.
- The lenght of any branch derived from the main bus must be less than 2 meters.
- The shield of the BUS cable must be earthed **on only one end**, for example on the peripheral device in the proximity of the control unit. Another earthing would not ensure shield equipotential.
- Do not use the same duct for the Bus cables and the power cables.

Example of implementation of an RS485 bus.



POWER CABLES

- Use a flame retardant cable having an adequate cross-section, according to the utilities connected to the control unit. The cross-section must never be below 2.5 sq.mm. Calculate the cable cross-section according to its length and the the number of connected utilities, in order to fall within the power range of the devices, thereby ensuring proper operation.
- To prevent using conductors with large cross-section, the devices can be powered point to point by means of single power supplies.
- The RS485 network does not require the earth wires of the devices to be interconnected.
- In the event of communication problems, for example with point to point power supply and unearthed devices, it can be useful to interconnect the earth wires of the devices.
- In the event of devices with earthed power supply (e.g., the PC), bonding and earthing together can create problems.

- The simple wiring of the RS485 network can sometimes lead to overlook some important precautions, which can cause errors or even communication failure in the entire network.

EXAMPLES OF CONNECTION ERRORS

- Data cables pass in the same duct with power 230V~ cables.
- Cable transit in the proximity of the sources of interference, such as power cables of electric motors or contactors.
- Bonded earth wires.
- Loose contacts or unsuitable electrical connections in the junction box.
- Use of unsuitable RS485 data transmission cables, such as non-twisted cables.
- Use of cables with unsuitable cross-section.
- High voltage drops at the power cable.

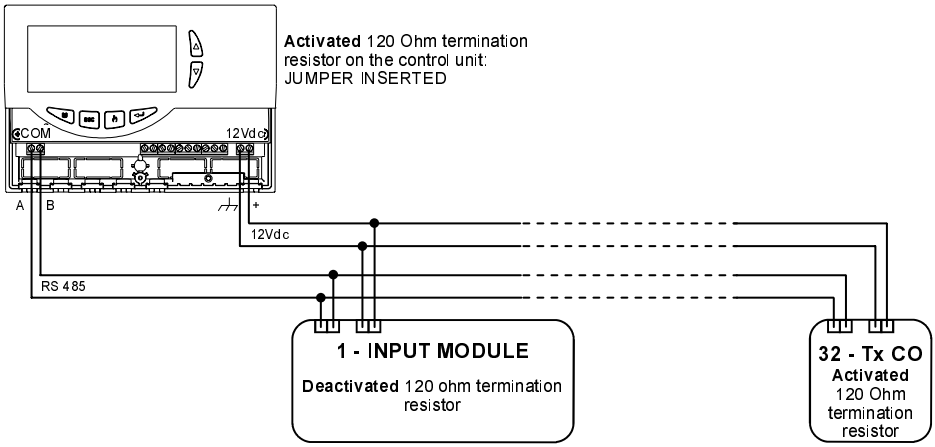


Fig. 2: Wiring example, with common power supply and termination on Central Unit (first device on the bus) and on a Transmitter (last device on the bus).

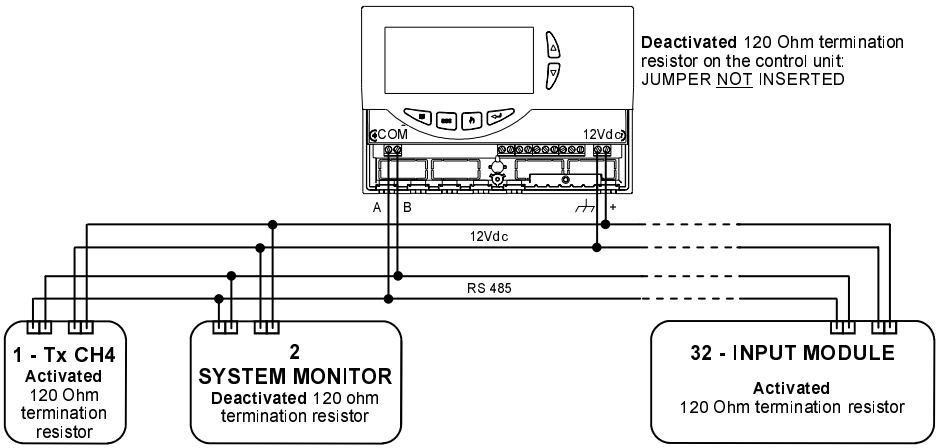


Fig. 3: Wiring example, with common power supply and termination on a Transmitter (first device on the bus) and on the Input Module (last device on the bus).

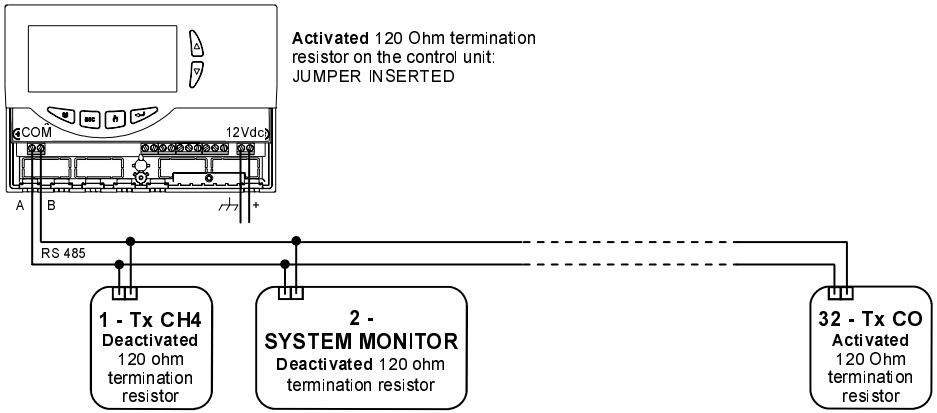


Fig. 4: Wiring example, with separated power supply and termination on Central Unit (first device on the bus) and on a Transmitter (last device on the bus).

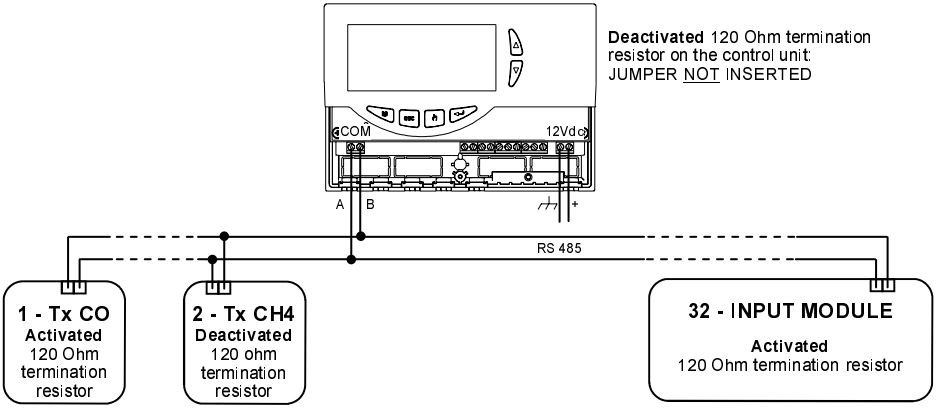


Fig. 5: Wiring example, with separated power supply and termination on a Transmitter (first device on the bus) and on an Input Module (last device on the bus).

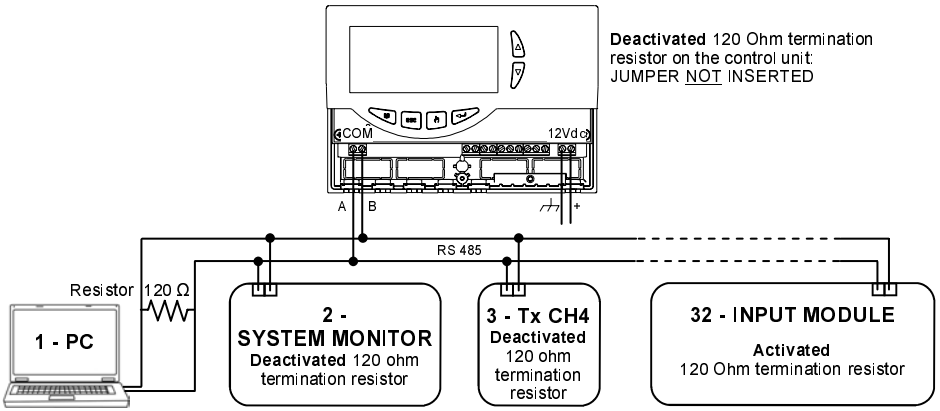
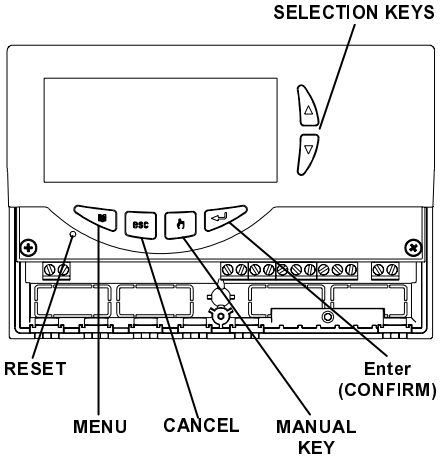


Fig. 6: Wiring example, with separated power supply and termination on a PC (first device on the bus) and on an Input Module (last device on the bus).

DESCRIPTION OF THE CONTROLS



START-UP

TURNING THE UNIT ON AND OFF

To turn the control unit on or off, press the '**esc**' key for at least 2 seconds.
When the control unit is turned on, it carries out a diagnosis of the internal circuit to check it is operating correctly.
If the control unit does not detect any anomalies, the red LED remains on, otherwise it keeps on flashing quickly and the display shows the type of error.

BACKLIGHT

The display's backlight is activated by pressing any of the keys and automatically turns off after about 20 seconds.

AUDIO SIGNALS

The control unit is fitted with an internal buzzer that allows to generate audio signals when the keys are pressed or in the event of an alarm or failure.
The audio signals can be disabled by setting the relevant 'Installer Parameter'.

DISPLAYING TRANSMITTER DATA

On the alphanumeric display the control unit normally shows the data sent by the transmitters connected.
Press the '▲' or '▼' keys to view the data sent by each transmitter in a cyclical sequence.
Moreover, the status of each transmitter is shown by the designated icons on the display.
If the icon is flashing, this means that an anomaly has been detected (e.g. a pre-alarm, alarm and/or failure), while if it is steady, it means that the transmitter is operating correctly.

INPUT MODULE DATA DISPLAY

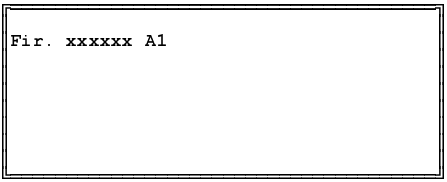
When an input module is connected to the Central Unit, both during the scan and normal operation, the display will show the icon ' '.
The Central Unit will display the status of all inputs only when at least one input is active (stato **ON**).
By pressing keys '▲' or '▼' it is possible to display in sequence the input status, in addition to the data sent by every single transmitter.

RESET

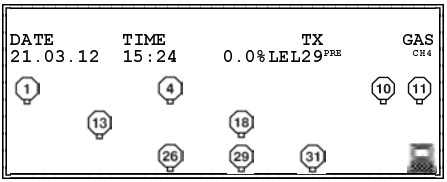
To reset the device, press the '**RESET**' key located under the removable door. **DO NOT USE NEEDLES**.

OPERATION

Once power is applied the Central Unit will perform a diagnose of the internal circuitry for proper operation; the red led on the front panel will turn on and the following information will be shown:



where 'xxxxxx' is the firmware version installed.
The data is displayed for about 2 seconds, after which the main screen appears (example):



The following information is displayed for each transmitter connected:

DATE: the current date is displayed during normal operation.
'display events' shows the date on which a pre-alarm, alarm, failure, etc. occurred.

TIME: the current time is displayed during normal operation.
'display events' shows when a pre-alarm, alarm, failure, etc. occurred.

TX: during normal operation, the display shows the gas concentration detected by the selected transmitter (number 29 in the example) and the current status.
'display events' shows the gas concentration detected by the transmitter indicated on the right (number 29 in the example) and the status that occurred.

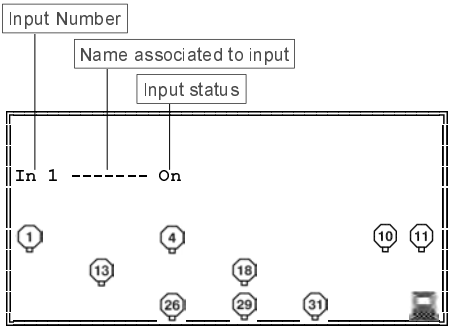
Values displayed in LEL % (for LPG or Methane transmitters) or ppm (in the case of Carbon monoxide) are the actual concentrations detected by the transmitters.

On the right of the selected transmitter, the control unit displays the current status of the relative transmitter as shown below:

' ' Active status (normal operation).
'**PRE**' Pre-alarm status (the icon of the relative transmitter flashes)
'**AL1**' Alarm status 1 (the icon of the relative transmitter flashes)
'**AL2**' Alarm status 2 (the icon of the relative transmitter flashes)
'**FLT**' Failure status (the icon of the relative transmitter flashes)

GAS: the type of gas detected by the selected transmitter (CH4 in the example) is shown both during normal operation and in 'display events'.

Regarding the input module and only when at least one input is in **ON** state, the following information will be shown:



Input Number: Shows the number of the input associated to the status shown.
Name associated to input: Through the submenu 'In' in the 'PARAMETER' menu the name of the desired input can be set.
Input State: shows with 'ON' or 'OFF' the status of the input.

Operating statuses
The control unit has the following operating statuses:

Off
This is the status when the control unit is off and no communication is carried out with the connected devices.
The display shows the current date and time and the word '**Off**'.

Normal operation
In this status, the control unit supervises the system and the connected devices.
During start-up, the control unit resumes communication with the transmitters and the status is saved after about 2 seconds.

Pre-alarm
This status is activated if a transmitter reports a gas concentration level higher than the set Pre-alarm limit.
The activation of the Pre-alarm status activates the Pre -alarm relay (OUT 1).
The display shows the word '**PRE**', the icon related to the transmitter that reported the anomaly flashes and the buzzer is activated.
The control unit continues to supervise the system and the connected transmitters.

Alarm 1
This status is activated if a transmitter reports a gas concentration level that is higher than the Alarm 1 limit.
The activation of the Alarm 1 status activates the Alarm 1 Relay (OUT 2).
The display shows '**AL1**', the icon related to the transmitter that reported the anomaly flashes and the buzzer is activated.
The control unit continues to supervise the system and the connected transmitters.

Alarm 2
This status is activated if a transmitter reports a gas concentration level that is higher than the Alarm 2 limit.
The activation of the Alarm 2 status activates the Alarm 2 Relay (OUT 3).
The display shows the word '**AL2**', the icon related to the transmitter that reported the anomaly flashes and the buzzer is activated.
The control unit continues to supervise the system and the connected transmitters.

Fault
This status is activated if a transmitter reports a Failure to the control unit.
The activation of the Failure status activates the Failure Relay (OUT 5).
The display shows '**FLT**', the icon related to the transmitter that reported the anomaly flashes and the buzzer is activated.
The control unit continues to supervise the system and the connected transmitters.

Activation of the Auxiliary output
If at least one of the other statuses (PrA, AL1, AL2, FLt, InP) is activated, the control unit simultaneously activates the Auxiliary relay. For details on the control logic of the auxiliary relay see the **AUH** parameter.

Communication error
This status is activated if a transmitter does not reply to the queries of the control unit.
In case of the transmitters the display shows the following words:
' **rH. COM Error %LEL -- FLT** '. The buzzer is activated, the icon related to the transmitter that reported the anomaly and the word **SET** start to flash.
In case of an input module the display shows the following words:
' **rH. COM Error In** '; the buzzer is activated and the icon ' ' flashes.
The control unit continues to supervise the system and the connected devices.
When the problem is cleared, the control unit resumes normal operation.

Gas Type Reading Error
This status is activated if the type of gas reported by a transmitter to the control unit does not match the one detected during the scan.
This may be caused by incorrect reception of the data sent by the transmitters or if the settings of the type of

gas on the transmitter have been changed without performing a new scan.
The display shows:
' **rH. COM Error %LEL -- FLT** '. The buzzer is activated, the icon related to the transmitter that reported the anomaly and the word **SET** start to flash.
The control unit continues to supervise the system and the connected transmitters.

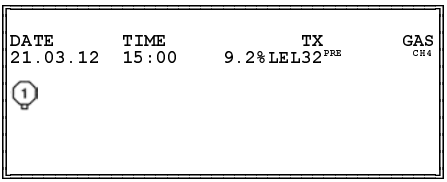
Full Scale Reading Error
This status is activated if the full scale value reported by a transmitter to the control unit does not match the one detected during the scan.
This may be caused by incorrect reception of the data sent by the transmitters or the full scale value on the transmitter has been changed without performing a new scan.
The display shows:
' **rH. COM Error %LEL -- FLT** '. The buzzer is activated, the icon related to the transmitter that reported the anomaly and the word **SET** start to flash.
The control unit continues to supervise the system and the connected transmitters.

Pre-alarm, Alarm and Failure functions
The control unit can manage pre-alarm, alarm 1, alarm 2 and failure events separately through four separate output relays that are normally open.
In the event of a pre-alarm, alarm or failure, the control unit changes the status of the relays in accordance with the logic set through the 'PARAMETER' menu.
For instance, if the pre-alarm limit is reached, the control unit activates the relative relay. Then, if the alarm 1 limit is reached, the control unit activates also the relay alarm 1 and the same applies if also the Alarm 2 and Failure limits are reached.
At the same time the control unit saves the date and time of each of significant event (pre-alarms, alarms, failures, etc.) and also saves the follow basic information (example):
Date - Time - Detected gas concentration - Number of the concerned transmitter - Transmitter status - Gas detected.
If the gas concentration goes back to values that cause the anomaly to end, the corresponding relay goes back to its normal operating status, depending on how the operating mode of the relay has been set via the '**rMEM** ' installer parameter.

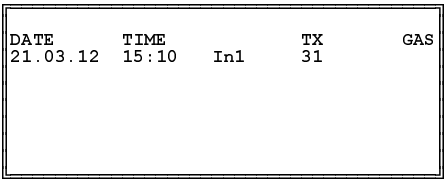
Auxiliary relay
The control unit has an auxiliary relay (SPST). This is normally open and is activated based on the operating mode set by the installer using the '**AUH**' parameter (see the 'PARAMETER' value).

Displaying the latest anomaly
The control unit's memory saves the date and time of the latest anomaly detected by each transmitter and/or input module connected to it.
This information can be viewed by the user at any time by pressing the '**MENU**' key on the main screen and then pressing the '▲' or '▼' keys to browse through the events detected.
The control unit can save up to 32 events and the most recent one replaces the oldest one. The events are displayed starting from the most recent one (no. 32) to the oldest one (no. 1).

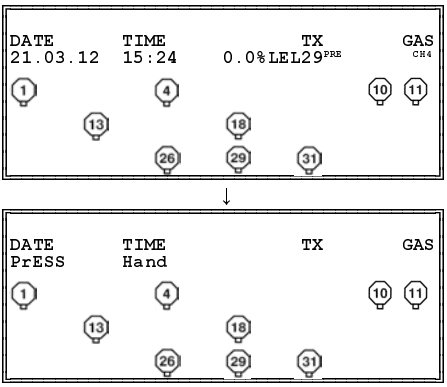
Example of display of an anomaly caused by transmitter n. 1:



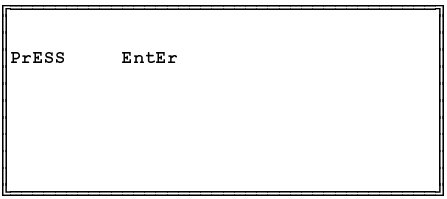
Example of display of an anomaly caused by input 1 of the input module:



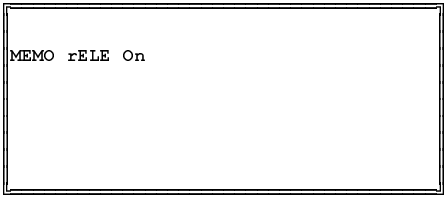
Relay reset due to an anomaly
If either the cause of the anomaly has been removed or, in case of transmitters, the concentration returns to normal values and there is a relay memory set to request the manual intervention of the operator to reset the status of the relays, the display shows the indication below:



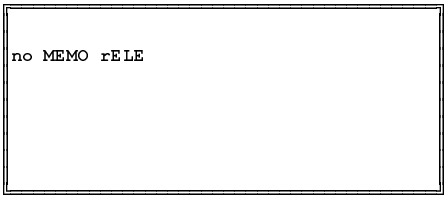
The icon of the transmitter that detected the anomaly keeps flashing. Press the ' ☝ ' button, as shown by the information on the display.



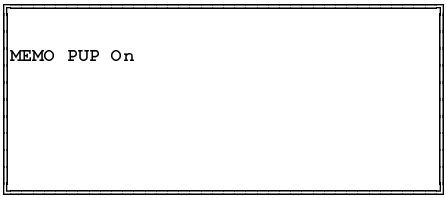
If there is an activated relay memory, the indication below is displayed after an alarm:



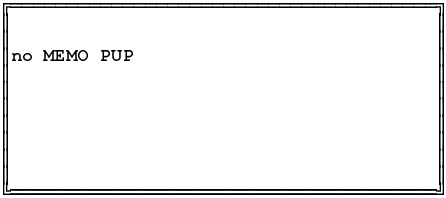
If instead there are no activated relay memories, the indication below is displayed after an alarm:



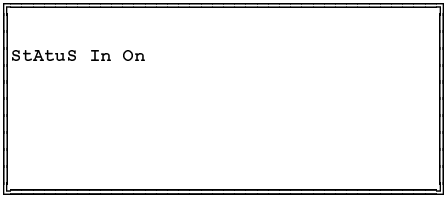
Press '**Enter**'.
The control unit's display shows information regarding any alarms caused if there is no power.
If also an alarm caused by the fact that there is no power occurred, the display shows the indication below:



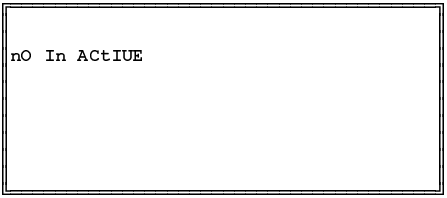
If instead there are no alarms caused by the fact that there is no power, the display shows the indication below:



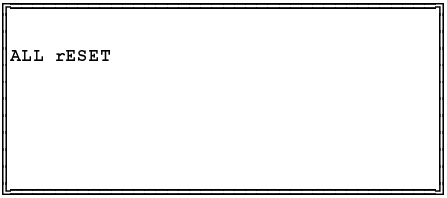
Press the key '**Enter**'.
On the display of the Central Unit is shown the information about a possible alarm caused by the activation of an input:



On the other hand if no input was activated, the display will show the following indication:



Press '**Enter**'; a data reset is conducted and the display shows the following indication



The control unit automatically goes back to the normal display.
To exit the management of this function without resetting the relays, press '**Esc**' or wait for about 5 seconds after any of the keys has been pressed.

Relay reset if there is no power

Transmitters:
If there is no power and it is necessary to conduct a reset, depending on how the '**rSPU**' installer parameter has been set, the control unit automatically goes back to the normal operating mode or requests the manual intervention of the operator to reset the status of the relays.

Input module:
When at least one input was active, in case of lack of supply voltage and subsequent restoration, the Central Unit will require manual intervention of the operator to reset the state of the relay.
For manual reset, proceed as described in the previous paragraph '**Relay reset due to an anomaly**'.

Backup System
As the system is powered with 12Vdc, the system's backup is performed by connecting an emergency unit to the power supply lines that serve both the transmitters and the control unit.
The signal that reports there is no 12V power supply is sent by the emergency unit. In any case the control unit manages the lack of voltage as described in the paragraph '**Relay reset if there is no power**' by saving the lack of voltage like it saves the gas alarms.

INSTALLER PARAMETERS

Press 'Enter (↵)' to access the installer parameters.

Entering the Password
The display shows 'PWD 0000' and the leftmost digit is flashing, which indicates the request to enter the password. To enter the 4 password digits use the '▲' or '▼' keys. By pressing '**Enter**' the current digit is confirmed and the second digit starts to flash and so forth until the last digit. Use the '**Enter**' key to confirm the last digit and you will access the installer parameters.
The control unit's factory-set password is '0000'.

Changing the Password
To change the saved password, press '**Enter** ' and proceed as follows:

PRESS THE 'MENU' KEY.

⇩

THE DISPLAY SHOWS ' PWD H0000 '.

⇩

THE CURRENT PASSWORD, (same procedure described above)

⇩

THE DISPLAY SHOWS ' PWD n0000 '.

⇩

ENTER THE NEW PASSWORD.

⇩

THE DISPLAY SHOWS ' PWD C0000 '.

⇩

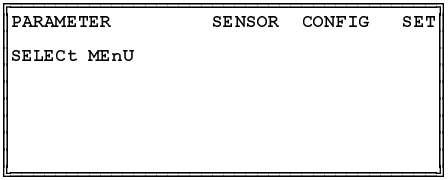
ENTER THE NEW PASSWORD.

⇩

THE CONTROL UNIT SAVES THE NEW PASSWORD AND ACCESSES THE INSTALLER PARAMETERS

Press '**esc**' to exit the password management mode at any time.

Using the installer parameters
After entering the correct Password, you enter the mode that allows to change installer parameters ('SET' icon on):



Every time the installer parameters are accessed, the icon of the '**PARAMETER**' menu starts to flash.
Use the '▲' or '▼' keys to select the menu you wish to access by selecting '**PARAMETER**', '**SENSOR**' or '**CONFIG**':
Press '**Enter** ' to enter the mode to change the selected parameter.
To exit the installer mode, press '**esc**' or wait 20 seconds.

⚠ **WARNING**
- **In the "installer parameters" mode all the outputs are disabled.**
- **All the default values indicated should be considered as purely indicative, as they may vary in relation to the version and without prior notice.**
- **Before making any changes to the parameters, the control unit must have recognised the transmitters connected. The first operation to conduct is the self-recognition of the transmitters (see CONFIG MENU).**

CONFIG MENU

Through this menu the control unit recognises and automatically memorises all the connected transmitters and the input module connected to it.

SELECT THE CONFIG MENU (FLASHING ICON) AND PRESS 'Enter'.

⇩

THE DISPLAY SHOWS 'EntEr to SCAn'.

⇩

PRESS 'Enter'.

⇩

THE CENTRAL UNIT HAS STARTED THE SEQUENCE FOR AUTO-SCAN OF THE DEVICES CONNECTED TO THE BUS. THE DISPLAY SHOWS THE ICON 'SET' AND A FLASHING MESSAGE 'SCAn in ProG'. DURING AUTO-SCAN THE UNIT WILL SHOW THE ICONS OF DETECTED TRANSMITTERS AND THE ICON ' ' IN CASE AN INPUT MODULE IS FOUND.

⇩

ONCE THE RECOGNITION PHASE HAS BEEN COMPLETED, IF THE CONTROL UNIT DETECTS LEAST ONE DEVICE IT AUTOMATICALLY GOES TO THE SAVING STAGE AND THE DISPLAY SHOWS: 'SEnSOr rEc'

⇩

ONCE THE SAVING PHASE HAS BEEN COMPLETED, THE CONTROL UNIT RESUMES NORMAL OPERATION.

IF INSTEAD THE CONTROL UNIT DOES NOT DETECT ANY DEVICE, THE DISPLAY SHOWS: 'Go to ConF Ig --'.

⇩

CHECK THE CONNECTION OF THE DEVICES AND CARRY OUT THE SELF-LEARNING PROCEDURE DESCRIBED ABOVE AGAIN.

⚠ WARNING!

- **The central unit accepts no more than 32 devices attached on the bus; in case more than 32 devices are detected on the same bus, when scan ends the message "OUEr LOAd nEt" is shown and the scan results are discarded.**
- **Once the self-learning procedure has been launched, it CANNOT be interrupted.**
- **When the unit is turned on for the first time, the values of the pre-alarm, alarm 1 and alarm 2 limits are not configured.**
- **The default limit values are saved only after conducting the first scan.**
- **The possible presence of a PC and/or the System monitor will not be evidenced on the central unit display.**
- **Whenever a PC and/or an System monitor are attached to the bus it is not necessary to perform a new auto-scan procedure.**
- **If new transmitters are added and therefore a new self-learning procedure is carried out, manually configured values are lost and brought back to the default values.**

SENSOR MENU

This menu is used to choose whether to set the pre-alarm, alarm and failure limits individually (one at a time) for each transmitter connected or, providing all the transmitters detect the same type of gas, as a whole (i.e. all the transmitters connected have the same set limits).

Access to this menu is allowed only after the sensors connected have been recognised.

SELECT THE SENSOR MENU (FLASHING ICON) AND PRESS 'Enter'.

⇩

THE DISPLAY SHOWS `-------S32 --` AND S32 IS FLASHING.

⇩

PRESS 'Enter'; THE 'SET' ICON STARTS TO FLASH.

⇩

USE THE '▼' AND '▲' ARROWS TO SELECT THE DESIRED OPTION:

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. INSTEAD PRESS 'esc' TO UNDO THE CHANGE.

⇩

TO EXIT THIS MENU, PRESS 'esc' AGAIN OR WAIT FOR 40 SECONDS WITHOUT PRESSING ANY KEY.

Here below is a detailed view of the adjustment ranges related to this menu:

SETTING THE LIMIT MODE

Data	Adjustment range	Default
----	S32 .. ALL	S32

⚠ WARNING!

- **If option 'S32' is selected, the settings must be repeated individually for each transmitter connected, while by setting the parameter to 'ALL', the settings are inserted just once and apply to all the transmitters connected.**
- **The 'ALL' parameter can be selected only if all the transmitters connected detect the same type of gas.**
- **If the parameter is changed from ALL to S32, this brings all the limits of the sensors to the default values, based on the type of gas set on the board.**
- **If the parameter is changed from S32 to ALL, the limits of the sensors are aligned with the values of the first sensor.**
- **The selections made in this menu apply to the settings of the limits. These are set through the 'PARAMETER' menu, under the ' tHrE ' parameter.**

PARAMETER MENU

This menu is used to configure the parameters that have a direct influence on the operation of the entire system installed.

SELECT THE PARAMETER MENU (FLASHING ICON) AND PRESS 'Enter'.

⇩

THE DISPLAY SHOWS THE FIRST PARAMETER THAT CAN BE SELECTED

⇩

USE THE '▼' OR '▲' ARROW TO BROWSE THROUGH THE AVAILABLE INSTALLER PARAMETERS:

'tHrE': To set the gas detection limits
'LOGIC': To set the relay logic
'dELAY': To set the relay delay
'AUH': To set the condition to activate the auxiliary relay
'rSPU': To set the relay reset
'rMEM': To set the memories of the relays
'rSEU': To reset recorded events
'dd-On': To reset the days the sensor is ON
'SOUnd': To set the audio signals
'F-dA': To set the date format
'St-rtc': To adjust the clock
'In': Inputs management

⇩

TO ENTER THE MODE TO CHANGE THE SELECTED PARAMETER, PRESS 'Enter'.

⇩

CONFIGURE DATA RELATED TO EACH INDIVIDUAL PARAMETER AS SHOWN BELOW.

⇩

PRESS 'esc' TO GO BACK TO THE PARAMETER SELECTION.

⇩

TO EXIT THIS MENU, PRESS 'esc' AGAIN OR WAIT FOR 40 SECONDS WITHOUT PRESSING ANY KEY.

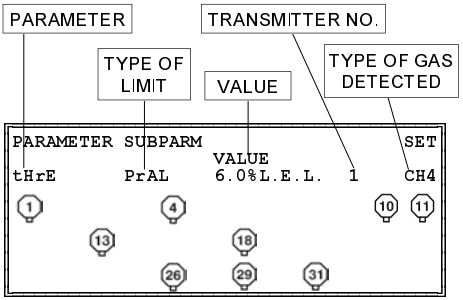
' tHrE ' - SETTING THE GAS DETECTION LIMITS

Use this parameter to set the pre-alarm and alarm limits only for the connected transmitters.
If the 'SENSOR' menu was previously set to 'S32', the limits must be set individually (one at a time) for each transmitter connected.
If instead the 'SENSOR' menu was previously set to 'ALL', the limits set apply to all the transmitters connected.
Depending on the type of gas detected by the transmitters connected, the limits are expressed in LIE % (for LPG or METHANE) or in ppm (for CO).
When the limits are adjusted, the icon relating to the transmitter whose limit is being modified will start to flash.

SELECT THE 'tHrE' PARAMETER AND PRESS 'Enter'; THE FIRST LIMIT THAT CAN BE CONFIGURED STARTS TO FLASH.

⇩

Here below is an example of how this is displayed:



⇩

USE THE '▼' AND '▲' ARROW TO CYCLICALLY BROWSE THROUGH THE PRE-ALARM, ALARM 1 AND ALARM 2 LIMITS THAT CAN BE SET FOR EACH TRANSMITTER CONNECTED; THE TYPE OF LIMIT SELECTED AND THE ICON OF THE RELATIVE TRANSMITTER START TO FLASH.

⇩

TO ENTER THE MODE TO CHANGE THE LIMIT SELECTED, PRESS 'Enter' TWICE THE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED VALUE USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. TO UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc'; THE CONTROL UNIT GOES BACK TO THE LIMITS THAT CAN BE SET. THESE CAN BE SELECTED THROUGH THE '▼' AND '▲' ARROWS.

⇩

REPEAT THE PROCEDURE ABOVE TO CHANGE THE OTHER LIMITS.

⇩

PRESS 'esc' TO GO BACK TO
THE PARAMETER SELECTION.

Here below is a detailed view of the adjustment ranges related to this menu:

SETTING THE GAS DETECTION LIMITS FOR METHANE AND LPG TRANSMITTERS WITH 100% LIE FULL SCALE

Data	Adjustment range	Default
PrAL	OFF | 1 .. 60% L.I.E.	6.0%
AL1	OFF | 1 .. 60% L.I.E.	10.0%
AL2	OFF | 1 .. 60% L.I.E.	20.0%

SETTING THE GAS DETECTION LIMITS FOR METHANE AND LPG TRANSMITTERS WITH 50% LIE FULL SCALE

Data	Adjustment range	Default
PrAL	OFF | 1 .. 50% L.I.E.	6.0%
AL1	OFF | 1 .. 50% L.I.E.	10.0%
AL2	OFF | 1 .. 50% L.I.E.	20.0%

SETTING THE GAS DETECTION LIMITS FOR CARBON MONOXIDE TRANSMITTERS (CO) WITH 500 ppm FULL SCALE

Data	Adjustment range	Default
PrAL	OFF | 1 .. 500ppm	20
AL1	OFF | 1 .. 500ppm	50
AL2	OFF | 1 .. 500ppm	99.9

SETTING THE GAS DETECTION LIMITS FOR CARBON DIOXIDE TRANSMITTERS (CO) WITH 250 ppm FULL SCALE

Data	Adjustment range	Default
PrAL	OFF | 1 .. 250ppm	20
AL1	OFF | 1 .. 250ppm	50
AL2	OFF | 1 .. 250ppm	99.9

⚠ WARNING

- **For each transmitter the user can disable one or more thresholds by setting them to OFF. With such setting a 'zoned' management can be obtained. Example:**
  Zone 1: (first group of transmitters, from 01 to 10): Thresholds: PrAL set as desired, AL1 OFF, AL2 OFF.
  Zone 2: (second group of transmitters, from 11 to 22): Thresholds: PrAL OFF, AL1 set as desired, AL2 OFF.
  Zone 3: (third group of transmitters, from 22 to 32): Thresholds: PrAL OFF, AL1 OFF, AL2 set as desired.
- **If a transmitter previously recognised by the control unit is replaced with a new one with a different full scale, the control unit automatically resets the limits for that transmitter to the default values.**

' LOGIC ' - SETTING THE RELAY LOGIC

This parameter allows to invert the control logic of all the relays, i.e. to change the output from Normally Open (NO) to Normally Closed (NC) and vice versa.

SELECT THE 'LOGIC' PARAMETER AND
PRESS 'Enter'; THE FIRST
RELAY THAT CAN BE CONFIGURED STARTS
TO FLASH.

⇩

USE THE '▼' OR '▲' ARROW TO
BROWSE THROUGH THE FIVE RELAYS
THAT CAN BE SET;
THE SELECTED RELAY STARTS TO FLASH.

⇩

TO ENTER THE MODE TO CHANGE THE
SELECTED LOGIC PRESS 'Enter' TWICE
THE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED LOGIC USING
THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING.
TO UNDO THE CHANGE, PRESS 'esc'.
THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc'; THE CONTROL UNIT
GOES BACK TO THE LIST OF RELAYS
THAT CAN BE CONFIGURED.
THESE CAN BE SELECTED USING THE
'▼' AND '▲' ARROWS.

⇩

REPEAT THE PROCEDURE ABOVE
TO CHANGE THE OTHER LOGICS.

⇩

PRESS 'esc' TO GO BACK TO
THE PARAMETER SELECTION.

Here below is a detailed view of the adjustment ranges related to this menu:

SETTING THE LOGIC OF RELAY 1
RELATED TO OUTPUT 1, pre-alarm

Data	Adjustment range	Default
rL1	nOr .. Reu	nOr

SETTING THE LOGIC OF RELAY 2
RELATED TO OUTPUT 2, alarm 1

Data	Adjustment range	Default
rL2	nOr .. Reu	nOr

SETTING THE LOGIC OF RELAY 3
RELATED TO OUTPUT 3, alarm 2

Data	Adjustment range	Default
rL3	nOr .. Reu	nOr

SETTING THE LOGIC OF RELAY 4 RELATED TO OUTPUT 4, auxiliary		
Data	Adjustment range	Default
rL4	nOr .. Reu	nOr

SETTING THE LOGIC OF RELAY 5 RELATED TO OUTPUT 5, failure		
Data	Adjustment range	Default
rL5	nOr .. Reu	nOr

⚠ WARNING!

- **The ' nOr ' logic refers to the NO (normally open) relay, while the ' Reu ' logic refers to the NC (normally closed) relay.**

' dELAY ' - SETTING THE RELAY DELAY

This parameter allows to set the delay associated with the activation of each individual relay based on the logic set.

SELECT THE 'dELAY' PARAMETER AND PRESS 'Enter'; THE FIRST DELAY VALUE THAT CAN BE CONFIGURED, RELATED TO OUTPUT 1, STARTS TO FLASH.

⇩

USE THE '▼' OR '▲' ARROW TO BROWSE THROUGH THE FIVE DELAYS THAT CAN BE CONFIGURED; THE VALUE SELECTED STARTS TO FLASH.

⇩

TO ENTER THE MODE TO CHANGE THE SELECTED DELAY, PRESS 'Enter' TWICE; THE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED DELAY USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. TO UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc'; THE CONTROL UNIT GOES BACK TO THE LIST OF DELAYS THAT CAN BE CONFIGURED. THESE CAN BE SELECTED WITH THE '▼' AND '▲' ARROWS.

⇩

REPEAT THE PROCEDURE ABOVE TO CHANGE THE DELAYS FOR THE OTHER OUTPUTS.

⇩

PRESS 'esc' TO GO BACK TO THE PARAMETER SELECTION.

Here below is a detailed view of the adjustment ranges related to this menu:

SETTING THE DELAY RELATED TO OUTPUT 1, pre-alarm		
Data	Adjustment range	Default
DEL1	0 .. 250 sec.	0 sec.

SETTING THE DELAY RELATED TO OUTPUT 2, alarm 1		
Data	Adjustment range	Default
DEL2	0 .. 250 sec.	0 sec.

SETTING THE DELAY RELATED TO OUTPUT 3, alarm 2		
Data	Adjustment range	Default
DEL3	0 .. 250 sec.	0 sec.

SETTING THE DELAY RELATED TO OUTPUT 4, auxiliary		
Data	Adjustment range	Default
DEL4	0 .. 250 sec.	0 sec.

SETTING THE DELAY RELATED TO OUTPUT 5, failure		
Data	Adjustment range	Default
DEL5	0 .. 250 sec.	0 sec.

' AUH '

SETTING THE CONDITION TO ACTIVATE THE AUXILIARY OUTPUT (OUT4)

This parameter is used to set the mode to activate the '**OUT4**' auxiliary output.

SELECT THE 'AUH' PARAMETER AND PRESS 'Enter'; THE DISPLAY SHOWS 'ACt' AND THIS IS FLASHING.

⇩

PRESS 'Enter' TWICE TO CHANGE THE MODE TO ACTIVATE THE AUXILIARY OUTPUT; HE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED MODE USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. TO UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc' TWICE TO GO BACK TO THE INSTALLER PARAMETERS SELECTION.

Here below is a detailed view of the adjustment range related to this menu:

SETTING THE CONDITION TO ACTIVATE THE AUXILIARY OUTPUT OUT 4

Data	Adjustment range	Default
ACt	ALL..PrE..AL1.. AL2..FLt	ALL

*: 'InP' is shown only when during auto-scan an input module is detected.

⚠ **WARNING**

ALL: if this mode is selected, the auxiliary output is activated either when at least one of the Pre-alarm, Alarm 1, Alarm 2 and Failure outputs are activated or when at least one input of the input module is active.

PrE: if this mode is selected, the auxiliary output is activated only when the Pre-alarm output is activated.

AL1: if this mode is selected, the auxiliary output is activated only when the Alarm 1 output is activated.

AL2: if this mode is selected, the auxiliary output is activated only when the Alarm 2 output is activated.

FLt: if this mode is selected, the auxiliary output is activated only when the Failure output is activated.

InP: if this mode is selected the auxiliary output is activated when at least one input of the input module is active.

' rSPU '

SETTING THE RELAY RESET UPON START-UP

This parameter is used to set the mode to reset the normal operation of each control unit output if the power supply is cut off.

The normal operation of the outputs is resumed based on the relay logic set.

⚠ **WARNING**

This parameter only refers to the relevant gas transmitters.

SELECT THE 'rSPU' PARAMETER AND PRESS 'Enter'; THE FIRST RELAY THAT CAN BE CONFIGURED STARTS TO FLASH.

⇩

USE THE '▼' OR '▲' ARROW TO BROWSE THROUGH THE FIVE RELAYS THAT CAN BE SET; THE SELECTED RELAY STARTS TO FLASH.

⇩

TO ENTER THE MODE TO CHANGE THE SELECTED LOGIC, PRESS 'Enter' TWICE THE 'SET'ICON STARTS TO FLASH.

⇩

SET THE DESIRED MODE USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc'; THE CONTROL UNIT GOES BACK TO THE LIST OF RELAYS THAT CAN BE CONFIGURED, WHICH CAN BE SELECTED USING THE '▼' AND '▲' ARROWS.

⇩

REPEAT THE PROCEDURE ABOVE TO CHANGE THE RESET MODE OF THE OTHER RELAYS.

⇩

PRESS 'esc' TO GO BACK TO THE PARAMETER SELECTION.

Here below is a detailed view of the adjustment range related to this menu:

SETTING THE RESET OF RELAY 1 RELATED TO OUTPUT 1, pre-alarm

Data	Adjustment range	Default
rL1	MAn .. AUt	AUt

SETTING THE RESET OF RELAY 2 RELATED TO OUTPUT 2, alarm 1		
Data	Adjustment range	Default
rL2	MAn .. AUt	AUt

SETTING THE RESET OF RELAY 3 RELATED TO OUTPUT 3, alarm 2		
Data	Adjustment range	Default
rL3	MAn .. AUt	AUt

SETTING THE RESET OF RELAY 4 RELATED TO OUTPUT 4, auxiliary		
Data	Adjustment range	Default
rL4	MAn .. AUt	AUt

SETTING THE RESET OF RELAY 5 RELATED TO OUTPUT 5, failure		
Data	Adjustment range	Default
rL5	MAn .. AUt	AUt

⚠ WARNING

MAn: if you choose this mode, the relative relay goes back to the normal operating mode manually, i.e. the intervention of the operator is required (see paragraph ' Relay reset if there is no power').

AUt: if this mode is selected, the relative relay will automatically go back to the normal operating status, based on the set logic.

' rMEM ' - SETTING THE RELAY MEMORY

This parameter is used to set the mode to reset the normal operation of each control unit output if an anomaly (pre-alarm/alarm/failure status) triggered the activation of the relative relay.
The normal operation of the outputs is resumed based on the relay logic set.

SELECT THE 'rMEM' PARAMETER
PRESS 'Enter'; THE FIRST MEMORY THAT CAN BE CONFIGURED STARTS TO FLASH.

⇩

USE THE '▼' OR '▲' ARROW TO BROWSE THROUGH THE FIVE MEMORIES THAT CAN BE CONFIGURED; THE SELECTED MEMORY STARTS TO FLASH.

⇩

TO ENTER THE MODE TO CHANGE THE SELECTED MEMORY PRESS 'Enter' TWICE THE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED MODE USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. TO UNDO THE CHANGE, PRESS 'esc'.
THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc'; THE CONTROL UNIT GOES BACK TO THE LIST OF MEMORIES THAT CAN BE CONFIGURED. THESE CAN BE SELECTED WITH THE '▼' AND '▲' ARROWS.

⇩

REPEAT THE PROCEDURE ABOVE TO CHANGE THE MODE TO RESET THE OTHER MEMORIES.

⇩

PRESS 'esc' TO GO BACK TO THE PARAMETER SELECTION.

Here below is a detailed view of the adjustment range related to this menu:

SETTING THE RESET OF MEMORY 1 RELATED TO OUTPUT 1, pre-alarm		
Data	Adjustment range	Default
MEM1	dIS .. EnA	dIS

SETTING THE RESET OF MEMORY 2 RELATED TO OUTPUT 2, alarm 1		
Data	Adjustment range	Default
MEM2	dIS .. EnA	dIS

SETTING THE RESET OF MEMORY 3
RELATED TO OUTPUT 3, alarm 2

Data	Adjustment range	Default
MEM3	dIS .. EnA	dIS

SETTING THE RESET OF MEMORY 4
RELATED TO OUTPUT 4, auxiliary

Data	Adjustment range	Default
MEM4	dIS .. EnA	dIS

SETTING THE RESET OF MEMORY 5
RELATED TO OUTPUT 5, failure

Data	Adjustment range	Default
MEM5	dIS .. EnA	dIS

Note: dIS: if this mode is selected, the relative relay automatically goes back to the normal operating status, according to the set logic.

EnA: if this mode is selected, the relative relay needs to manually go back to the normal operating status, i.e. the manual intervention of the operator is required (see paragraph' Relay reset due to an anomaly '.

' rSEU ' - RESETTING RECORDED EVENTS

This parameter is used to delete all the anomalies from the control unit's memory (for instance pre-alarm, alarm, failure, communication error, lack of power supply, inputs activation, etc.) recorded up to that moment.

SELECT THE 'rSEU' PARAMETER AND
PRESS 'Enter'; THE DISPLAY
SHOWS Rse? AND THIS IS FLASHING.

⇩

PRESS 'Enter' TWICE;
THE DISPLAY SHOWS 'no' AND THE 'SET'
ICON AND THEY BOTH START FLASHING

⇩

SELECT 'YES'
BY USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING.
TO UNDO THE CHANGE, PRESS 'esc'.
THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc' TWICE; THE CONTROL UNIT
RESETS THE MEMORIES AND
GOES BACK TO THE PARAMETER SELECTION.

' dd-On '

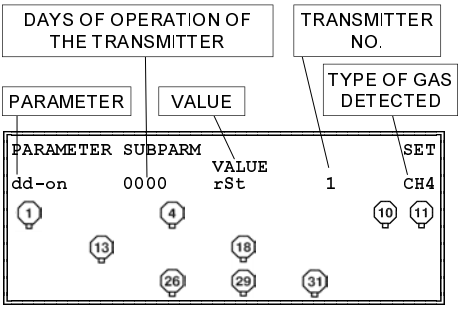
RESETTING THE DAYS THE SENSOR IS ON

Use this parameter to reset the counter that records the number of days each transmitter connected to the control unit is in operation.

SELECT THE 'dd-on' PARAMETER AND
PRESS 'Enter'; THE DISPLAY
SHOWS THE NUMBER OF DAYS RELATED TO
THE FIRST SENSOR SELECTED,
WHICH STARTS FLASHING.

⇩

Here below is an example of how this is displayed:



⇩

USE THE '▼' AND '▲' ARROWS TO
CYCLICALLY BROWSE THROUGH
THE CONNECTED TRANSMITTERS;
THE NUMBER OF DAYS RELATED TO THE
SELECTED TRANSMITTER STARTS TO FLASH.

⇩

TO RESET THE DAYS OF OPERATION OF
THE SELECTED TRANSMITTER,
PRESS 'Enter' 3 TIMES;
THE CONTROL UNIT RESETS THE COUNTER
AND THE DISPLAY SHOWS THE
NUMBER OF DAYS, EQUAL TO ZERO,
WHICH STARTS FLASHING.

⇩

USE THE '▼' AND '▲' ARROWS TO
CYCLICALLY BROWSE THROUGH
THE CONNECTED TRANSMITTERS; REPEAT
THE THE PROCEDURE ABOVE TO
RESET THE COUNTER
OF OTHER TRANSMITTERS CONNECTED.

⇩

PRESS 'esc' TO GO BACK TO
THE PARAMETER SELECTION.

⚠ WARNING

- When a transmitter is selected, this is shown by the indication of the number of the connected transmitter and the relative icon starts to flash.

' SoUnd ' - SETTING THE AUDIO SIGNALS

This parameter is used to enable or disable the audio signals of the control unit (keyboard tones, alarms and diagnostics).

SELECT THE 'SoUnd' PARAMETER AND PRESS 'Enter'; THE DISPLAY SHOWS 'Act' AND THIS STARTS FLASHING.

⇩

PRESS 'Enter' TWICE; THE 'SET' ICON STARTS TO FLASH.

⇩

SET THE DESIRED MODE USING BY USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING. TO UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc' TWICE TO GO BACK TO THE INSTALLER PARAMETERS SELECTION.

Here below is a detailed view of the adjustment range related to this menu:

SETTING THE AUDIO SIGNALS		
Data	Adjustment range	Default
ACt	dIS .. EnA	dIS

⚠ WARNING

dIS: **if this mode is selected, the audio signals are disabled.**

EnA: **if this mode is selected, the audio signals are enabled.**

' F-dA ' - SETTING THE DATE FORMAT

This parameter is used to set the date format: European (EU) or USA.

SELECT THE 'F-dA' PARAMETER AND PRESS 'Enter'; THE DISPLAY SHOWS 'Mod' AND THIS IS FLASHING.

⇩

PRESS 'Enter' TWICE; THE CURRENT FORMAT AND THE 'SET' ICON START TO FLASH.

⇩

SET THE DESIRED FORMAT USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM THE SETTING TO UNDO THE CHANGE, PRESS 'esc'. THE 'SET' ICON IS NOT FLASHING.

⇩

PRESS 'esc' TWICE TO GO BACK TO THE INSTALLER PARAMETERS SELECTION.

Here below is a detailed view of the adjustment range related to this menu:

SETTING THE TIME FORMAT		
Data	Adjustment range	Default
Mod	EU .. USA	EU

' St-rtc ' - SETTING THE CLOCK

To set the control unit's clock, proceed as follows:

SELECT THE 'St-rtc' PARAMETER AND PRESS 'Enter'; THE DISPLAY SHOWS THE DATE AND TIME. THE NUMBER RELATED TO THE YEAR AND THE 'SET' ICON START TO FLASH.

⇩

SELECT THE CURRENT YEAR USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM; THE NUMBER OF THE MONTH STARTS TO FLASH.

⇩

SELECT THE CURRENT MONTH USING THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM; THE NUMBER OF THE DAY STARTS TO FLASH.

⇩

SELECT THE CURRENT DAY USING
THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM;
THE HOUR DIGIT STARTS
TO FLASH.

⇩

SELECT THE CURRENT HOUR USING
THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO CONFIRM;
THE MINUTE DIGIT STARTS
TO FLASH.

⇩

SELECT THE CURRENT MINUTES USING
THE '▼' OR '▲' ARROW.

⇩

PRESS 'Enter' TO
CONFIRM THE SETTING MADE.
THE DISPLAY GOES BACK TO THE INSTALLER
PARAMETERS SELECTION.

⚠ WARNING

- **Verify that the time and date are correct.**
- **By pressing 'esc' in any position, the system selects the previous digit. Press 'esc' several times to exit the clock setting mode.**
- **If for instance, you want to set only the hour digits , press 'Enter' several times (this confirms the date set) until you reach the stage where you can set the hour digits and then proceed as described above.**
- **The position of the day, month and year varies depending on the selected mode, European or USA.**

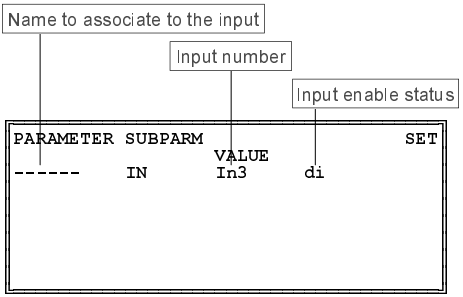
' IN ' - INPUTS MANAGEMENT

Through this parameter each single input of the relevant input module can be configured. In case there is no input module connected, the message '**nOnE**' will appear with 'In' flashing.

ONCE PARAMETER 'IN' IS SELECTED
PRESS KEY 'Enter'; THE FIRST
AVAILABLE INPUT FLASHES.

⇩

In the following an example is shown:



⇩

THROUGH KEYS '▼' AND '▲', IT IS
POSSIBLE TO CYCLE AMONG THE 8
AVAILABLE INPUTS.
THE SELECTED INPUT FLASHES.

⇩

IN ORDER TO MODIFY DATA FOR THE
SELECTED INPUT PRESS THE 'Enter' KEY
THE LEFTMOST CHARACTER OF THE NAME
TO BE ASSOCIATED TO THE INPUT
STARTS FLASHING.

WARNING

Use 'EDIT TEXT' as follows:
With keys '▼' or '▲' move through the available letters and numbers (0..9 and A..Z.._); press the key 'Enter' to confirm the selected character. The second character flashes; proceed as described above until the last character is reached: upon confirmation the name is stored in memory.
In case a character is to be modified it is necessary to repeat the whole procedure from the beginning.
Note: character '_' means space.

⇩

TO STORE IN MEMORY THE NAME IT IS
IS NECESSARY TO CONFIRM ALL CHARACTERS
BY PRESSING THE KEY 'Enter'.

⇩

ONCE THE NAME IS CONFIRMED, THE NEXT
STEP IS ENABLING/DISABLING OF THE
AUXILIARY RELAY; ICONS 'SET' AND
INPUT ENABLE STATUS FLASH.

⇩

SET THE DESIRED VALUE THROUGH
ARROWS '▼' O '▲'.

⇩

PRESS KEY 'Enter' TO CONFIRM THE SETTINGS. PRESS INSTEAD KEY 'esc' TO CANCEL THE MODIFICATION. ICON 'SET' DOES NOT FLASH.

⇩

SELECT THROUGH ARROWS '▼' AND '▲' THE NEXT INPUT; IN ORDER TO CONFIGURE THIS INPUT FOLLOW THE DIRECTIONS DESCRIBED ABOVE.

⇩

PRESS KEY 'esc'; THE UNIT RETURNS TO DISPLAY THE CONFIGURABLE PARAMETERS. USER CAN CHOOSE THROUGH ARROWS '▼' AND '▲'.

In the following are explained the available values for this parameter:

AUXILIARY RELAY ACTIVATION FROM INPUT 1 ALARM

Data	Values	Default
In1	En .. di	En

AUXILIARY RELAY ACTIVATION FROM INPUT 2 ALARM

Data	Values	Default
In2	En .. di	En

AUXILIARY RELAY ACTIVATION FROM INPUT 3 ALARM

Data	Values	Default
In3	En .. di	di

AUXILIARY RELAY ACTIVATION FROM INPUT 4 ALARM

Data	Values	Default
In4	En .. di	di

AUXILIARY RELAY ACTIVATION FROM INPUT 5 ALARM

Data	Values	Default
In5	En .. di	di

AUXILIARY RELAY ACTIVATION FROM INPUT 6 ALARM

Data	Values	Default
In6	En .. di	En

AUXILIARY RELAY ACTIVATION FROM INPUT 7 ALARM

Data	Values	Default
In7	En .. di	En

AUXILIARY RELAY ACTIVATION FROM INPUT 8 ALARM

Data	Values	Default
In8	En .. di	En

Note:
En = **Enabled**: input will trigger auxiliary relay
di = **Disabled**:input will not trigger auxiliary relay

PERIODICAL INSPECTION

We recommend you periodically check the whole detection system, control unit + transmitters, is operating correctly by applying gas on each transmitter and checking the value displayed.
If necessary, refer to current regulations applying in the country of installation.

CONVERSION FROM LEL% TO V/V%

Refer to the User Manual of the remote sensor.

TECHNICAL FEATURES

Power supply:		12V= ± 10%
Absorption:		18 mA Normal operation 40 mA Normal operation with active Backlight. 100 mA Alarm Condition
Transmitter type:		S-Bus transmitters (SX series) for fuel gases, such as Methane and LPG or toxic ones, like CO.
Adjustment range:		0 .. 100% LEL 0 .. 500 ppm
Full Scale:		50% .. 100% Tx data from the S-Bus ACISB0 board.
Accuracy:		Related to the Tx data from the gas sensor.
Resolution:		0.1% LEL and 1 ppm.
Contact rating:		5 x 2A@250V~ SPST Voltage-free
Protection level:		IP 40
Operating temp.:		0°C .. 40°C
Storage temp.:		-10°C .. +50°C
Humidity limits:		20% .. 80% RH (non-condensing)
Container:	Material:	V0 self-extinguishing ABS
	Colour:	Signal white (RAL 9003)
Dimensions:		156 x 108 x 47 mm (L x H x D)
Weight:		~ 550 g

NORMATIVE REFERENCES

The product complies with the following standards (EMC 2004/108/CE and LVD 2006/95/CE):
EMC reference standards: EN 50270
LVD reference standard: EN 60335-1
Product standard: EN 60079-29-1

TROUBLESHOOTING

- **Problem**
  Forgotten password.
- **Solution**
  Contact the manufacturer.
- **Problem**
  A transmitter shows the 'FLT' failure message.
- **Possible cause**
  The input current loop has been interrupted or the transmitter is not powered correctly.
- **Solution**
  Check to make sure that in the connections between the transmitter and control unit there are no interruptions. Use a multimeter to check if there is a voltage of 12Vdc between the '+V' and 'Gnd' terminals of the transmitter.

WARRANTY

With a view to constantly develop its products, the manufacturer reserves the right to make changes to technical data and performances without prior notice.
The consumer is protected against conformity defects of the product in compliance with the European Directive 1999/44/CE and the document relating to the manufacturer's warranty policy. The full text of the warranty is available from the seller upon request.

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