



## FIRE DETECTION AND ALARM SYSTEM

### Advanced Compact Analogue Alarm Control Panels

# CAE -400



## User, installation and commissioning manual



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## 1 Introduction.

The CAE-400 alarm control panel is suitable for medium-sized and large facilities where reliability and power are required. With a capacity of 250 addresses per loop, it allows detectors, manual call points, sounders and Easy Detect modules to be connected. Capacity for two 12 V/12 Ah batteries. Thanks to its metal casing, it can be installed on any surface and in any industrial setting.

The ADVANCED COMPACT CAE-400 range of analogue alarm control panels has been designed in accordance with the EN54-2 and EN54-4 standards. Available in 1- to 4-loop versions with a range of up to 3 km and high stability based on an Ultrafast frequency analysis. Its Ed-Fast Search technology performs one of the fastest readings on the market, providing all information in a short space of time. It features a 7" TFT screen for improved system visualisation. It has four main control buttons for quick and intuitive navigation of the menu. It can be programmed using a membrane keypad or SCE-200 programming software via a USB cable or Ethernet connection.

Thanks to its state-of-the-art processor, you can obtain a topological map of the system's wiring, which is useful for fault detection, real-time information on the BUS status, displaying the status of communications and their response times, duplicate addresses, and BUS voltage. Capacity: 1,000 zones, 250 areas, 250 groups, 250 virtual relays, and logging of 32,000 separate events (general, alarms, faults, technical, and tests).

It has a built-in Ethernet port for integration and remote management with EdCloud. It is possible to connect a network card to manage up to 64 alarm control panels and/or repeaters via RS485. Modbus output for integrations, Contact-ID for connection to fire alarm receiving centres. It also has type B USB port.

This manual contains all the technical information necessary to install the system correctly and information to allow the user to operate the alarm control panel.

Maintenance information and a troubleshooting guide for common problems are also included.

It automatically alerts surveillance personnel if there is a fire or a malfunction. It uses analogue fire detectors for this purpose.

### 1.1 Glossary of symbols.

The following pictograms are included in this manual for ease of understanding.

#### PRECAUTIONS



**Earth connection.** This connection is essential and the earthing must be installed correctly.



**Electrostatic-sensitive** electronic equipment. When handling the electronic circuit it is necessary to wear an anti-static wrist strap to avoid damaging it.



Possibility of «HIGH VOLTAGE» **electric shocks**. Take precautions to avoid personal injury.



**Lead batteries.** Risk of explosion in the event of a short circuit and risk of corrosion if there is a leak.



**External radiation source**, motors, radio stations, etc.



**Warning**, caution.

#### ATTENTION

You must follow the instructions carefully to avoid personal injury and damage to the equipment.

## 1.2 Glossary of terms.

Explanation of the terms used to describe the installation and operation of analogue alarm control panels.

Loop	<p>The system's structure that forms a closed circuit.</p> <ul style="list-style-type: none"> <li>• The two-wire output cable from the analogue alarm control panel runs throughout the whole of the facility (maximum 3 km) and then back to the alarm control panel.</li> <li>• Information input devices (detectors, zone modules, and manual call points) and output devices (sounders and relays) are connected along this line.</li> <li>• It provides power and communications to the devices.</li> <li>• It has a maximum capacity of 250 devices and points.</li> </ul> <p>An alarm control panel can have 1 or more loops.</p>
Device	<p>Each of the devices that can be connected to the analogue loop, such as:</p> <ul style="list-style-type: none"> <li>• detectors (optical, thermal and optical/thermal)</li> <li>• manual call points</li> <li>• sounders</li> <li>• input and/or output modules</li> <li>• conventional zone modules</li> </ul> <p>Each device has a product reference and unique serial number, printed on the device itself.</p>
Point	<p>Each of the loop addresses occupied by a device, corresponding to an input signal (detector, manual call point, input, etc.) or output signal (sounder, outputs, etc.), which individually reports its status.</p> <p>A device can have 1, 2, 4 or 8 points, depending on its product reference, and these points can be of the same type, or of different types. They occupy consecutive addresses in the loop.</p> <p>Each point must be associated with a zone and, optionally, up to 4 groups.</p>
Type	<p>Common characteristics of points (sensor, activation, etc.), even if they belong to devices with different references.</p>
Zone	<p>Physical subdivision of the protected premises in which an action can be carried out separately to any other subdivision.</p> <p>The action may be, for example:</p> <ul style="list-style-type: none"> <li>• indicating that a fire has occurred (detection zone)</li> <li>• sounding a fire alarm (alarm zone)</li> </ul> <p>All points must be associated with a zone. The alarm control panel has capacity for 1000 zones.</p> <p>Optionally, zones can be associated with an area and up to four groups.</p>
Detection zone	<p>The building will be divided into detection zones so that the source of the alarm can be quickly identified based on the information provided by the control and indicating equipment.</p> <p>The EN 54-13 standard specifies the limits and characteristics that a detection zone must meet.</p>
Conventional detection zone	<p>Detection zone where conventional detectors or manual call points, or other types of fire detectors, such as linear light barriers, are installed and connected to a conventional analogue zone module.</p>
Alarm zone	<p>Whether the building is divided into alarm zones will depend on the need to distinguish between the type of evacuation and the type of alarm that must be sounded. If an alarm signal must always be sounded throughout the entire building, no division is necessary. Any division into alarm zones must be in accordance with the safety plan.</p>

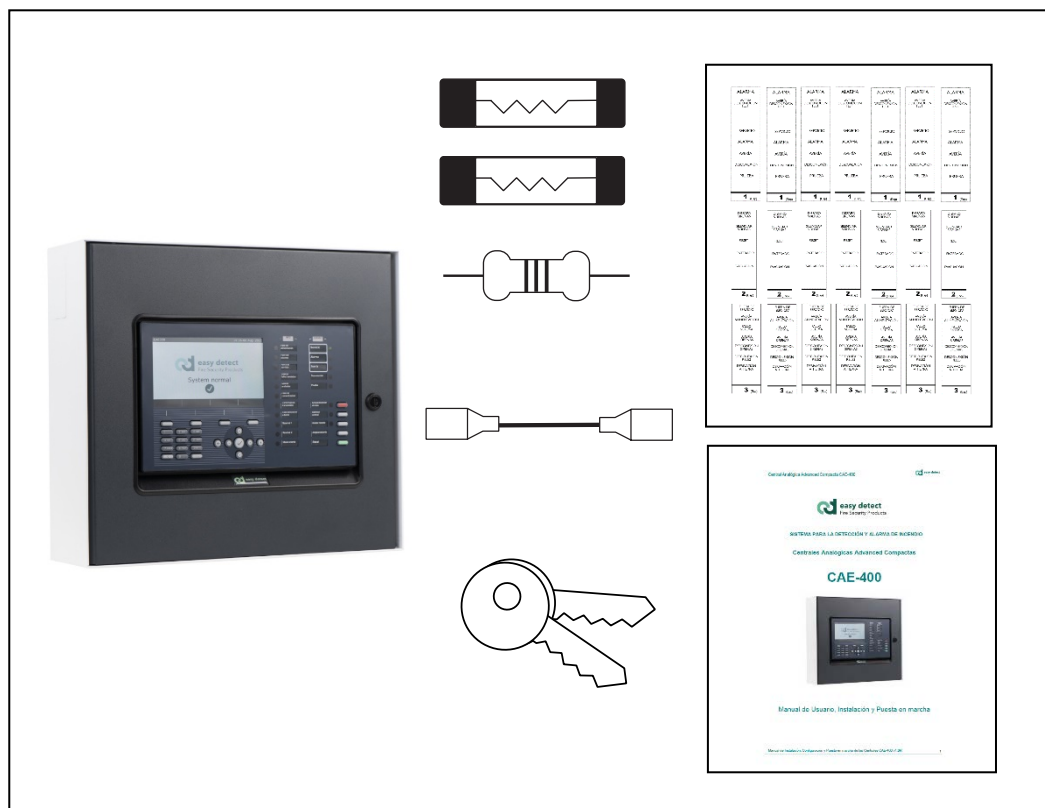
Area	<p>Physical subdivision of protected premises covering one or more zones where common actions are carried out. They may be limited, for example, by the firewalls on one floor of the building, and may correspond to the alarm zone.</p> <p>Optionally, an area can be associated with up to four groups.</p>
Group	<p>Detection groups. Groups of points, zones or areas where common actions are performed; they differ from those defined as zones or areas.</p> <p>Manoeuvre groups. Groups of common actions that will be carried out in a zone or area.</p> <p>A group can only consist of up to 100 components of the same type, and they cannot be mixed.</p> <ul style="list-style-type: none"> <li>• Points</li> <li>• Zones</li> <li>• Areas</li> </ul>
Manoeuvre	<p>A set of actions that are performed when a cause occurs (e.g. alarm state) and which have an effect (activation of outputs, sounders, disconnection of points, zones or areas, etc.).</p>
Cause	<p>A condition that must be met at a point, zone, area, group or virtual module, for a manoeuvre to be performed. For example:</p> <ul style="list-style-type: none"> <li>• Alarm condition of a point (detector or manual call point).</li> <li>• 2-alarm condition in a zone.</li> <li>• 2-alarm condition of a zone in an area.</li> </ul> <p>AND/OR functions and NOT (not activated) states are supported, as are intermediate states using virtual modules.</p>
Effect	<p>Action that is performed in a manoeuvre when the condition that triggers it is met. It affects evacuation sounders and outputs, activating and resetting them, and may include delay times between each action.</p> <p>It may also involve changing the state of a virtual module to be used as a cause in another manoeuvre.</p>
Virtual module	<p>Function available in the alarm control panel, which is used to present intermediate condition states, to allow for more complex conditions, and it can be used as both an input and output element.</p> <p>A virtual module can be activated:</p> <ul style="list-style-type: none"> <li>• When a condition for a manoeuvre is met.</li> <li>• When it is activated manually by a user.</li> </ul>
Delayed mode	<p>An operating mode in which, once an alarm has been received from a point, the output signals are delayed so that the presence of a fire can be verified before automatic actions are taken or an orderly evacuation of people is carried out.</p>
Response time	<p>When delayed mode is activated, this is the time that elapses between an alarm state being received and the programmed manoeuvres automatically being activated, if the alarm control panel is not attended to and the inspection time is extended.</p>
Inspection time	<p>With delayed mode is activated, once an alarm state is received, there is a time delay to allow the cause of the alarm to be verified before the programmed manoeuvres are automatically activated. It can be extended and cancelled.</p>

### 1.3 Contents of the packaging.

Once the alarm control panel has been removed from its original packaging, make sure that it contains the following items:

- Analogue alarm control panel.
- Two 4.7 K  $\Omega$  end-of-line resistors (for the sounder outputs).
- 5x20 5 A fuse.
- 5x20 0.5 A fuse.
- Basic instruction manual.
- Sheet with multi-language cards for language customisation.
- Battery jumper.
- Set of keys for the Control Panel door

Before starting the installation, make sure that the contents of the packaging are correct and in a good condition. If there is any problem with the product, repack it and contact your dealer.



**Fig. 1 Contents of the packaging**

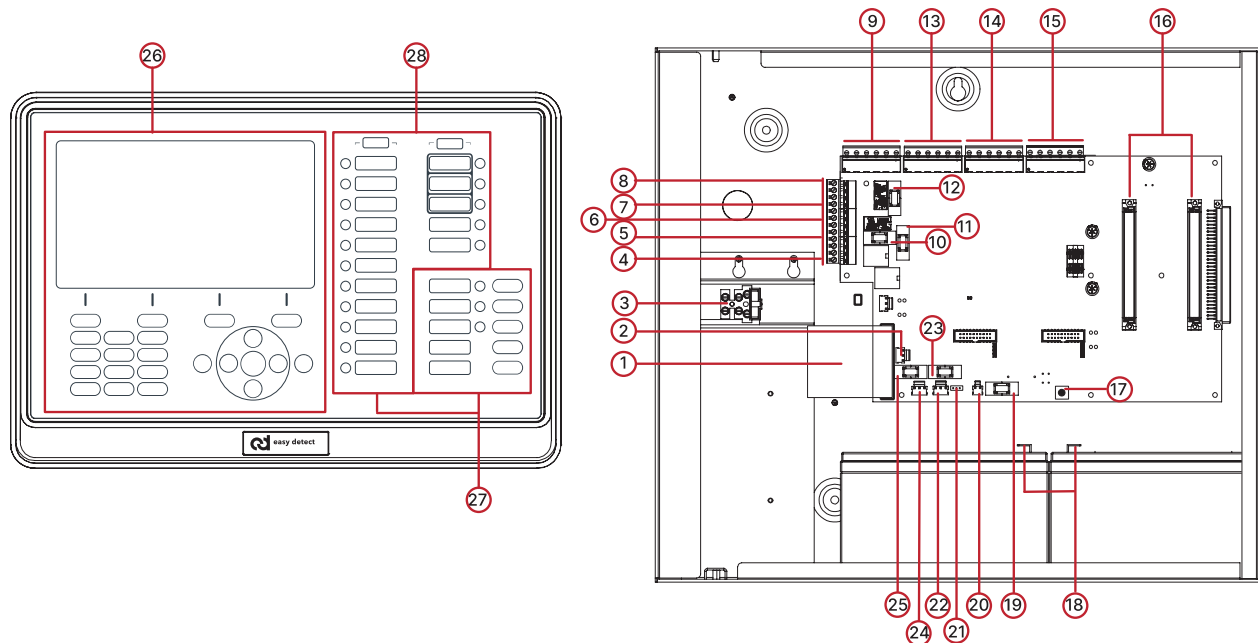


## 1.4 Description of the range.

There are two models in the CAE-400 range of analogue alarm control panels, housed in metal casings and with different loop capacities and battery compartments:

- CAE-401 1 non-expandable analogue loop (2x12 Ah batteries).
- CAE-402 2 non-expandable analogue loops (2x12 Ah batteries).
- CAE-403 3 non-expandable analogue loops (2x12 Ah batteries).
- CAE-404 4 non-expandable analogue loops (2x12 Ah batteries).

Only the terminal block used to connect the loops will vary, depending on loop availability.



**Fig. 2 Components of the CAE-400 alarm control panel**

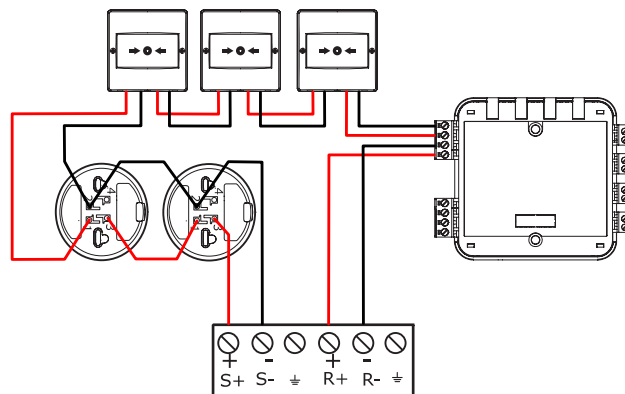
- |  |  |
|--|--|
| 1. CPU flat ribbon connection          | 17. Battery-powered push-button        |
| 2. CPU power supply                    | 18. Quick-release battery connector    |
| 3. Mains power input (230 VAC)         | 19. 5 A battery fuse                   |
| 4. Alarm relay                         | 20. Battery cable input                |
| 5. Fault relay                         | 21. Disables earth leakage monitoring  |
| 6. Sounder output 1                    | 22. Auxiliary power supply input (5 A) |
| 7. Sounder output 2                    | 23. Power supply fuse (5 A)            |
| 8. 24 V auxiliary output               | 24. Power supply input                 |
| 9. Loop 1                              | 25. Auxiliary power supply fuse (5 A)  |
| 10. Sounder fuse 1 (0.5 A)             | 26. Display cover                      |
| 11. Sounder fuse 2 (0.5 A)             | 27. Main control keypad                |
| 12. 24 V auxiliary output fuse (0.5 A) | 28. Main indicators                    |
| 13. Loop 2                             |  |
| 14. Loop 3                             |  |
| 15. Loop 4                             |  |
| 16. Expansion cards                    |  |

Regardless of the number of loops, the entire range shares the following functions:

- Individual connection/disconnection by point, zone or area.
- Test mode for individual detectors by zone or area.
- Sounders on/off.
- Delayed operating mode for sounder activation.
- Alarm confirmation operating mode.
- Monitored mains supply, batteries and outputs.
- Option to connect TRED-400 network cards.

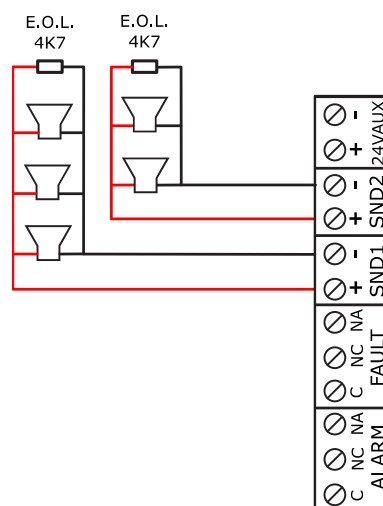
#### Outputs:

- 1) Analogue output and return loop, with capacity for 250 devices. Number of loops depends on the alarm control panel model.



**Fig. 3 Analogue loop wiring**

- 2) 24 V auxiliary output.
- 3) Two monitored sounder outputs, with configurable delay.
- 4) Main alarm and fault relay (voltage-free contacts).



**Fig. 4 CAE-400 alarm control panel output connection terminals**

## 1.5 Compatibility with other equipment.

CAE-400 fire detection and alarm control panels are compatible with Easy Detect's analogue fire detector ranges, manual alarm call points, input and output modules, conventional zone modules and sounders.

## 1.6 Applicable regulations.

The CAE-400 range of analogue alarm control panels has been designed in accordance with the EN54-2 and EN54-4 standards.

EN54-2 has basic requirements and optional requirements. The options with requirements included in the design are:

Option		Paragraph
Indications	Fault signals from points	8.3
	Total loss of power	8.4
Controls	Delays to outputs	7.11
	Disabling of each addressable point	9.5
	Test condition	10
Outputs	Fire alarm device(s)	7.8

## 1.7 Safety precautions and warnings.

### PLEASE READ CAREFULLY BEFORE PROCEEDING

These precautions explain how to use the control and indicating equipment correctly and safely, thereby preventing any harm to yourself or others. This section has been divided into a WARNING section and a CAUTION section according to the likelihood and nature of any potential injury or damage. These warnings and precautions relate to your safety, and help you to minimise the risk of damaging the device. Therefore, read these sections carefully before proceeding with the installation.



#### WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death due to electric shock, short circuits, damage, fire or other hazards.

These precautions include, but are not limited to:

- Do not handle the inside of the alarm control panel when the system is being powered at 230 VAC. It must only be handled by trained personnel.
- Do not attempt to repair the electronic circuit yourself.
- If the equipment is returned to the factory for repair, use its original packaging and do not include the batteries.



#### CAUTION

- Do not install the equipment near sources of heat or strong vibrations, or in places exposed to extreme temperatures (cold/heat).
- Do not install the alarm control panel in the vicinity of other electrical devices that may produce high levels of interference that would impede the proper operation of the alarm control panel.
- Mount the alarm control panel flush and at eye level.
- Do not machine the cable inlets anywhere not designed for this purpose.
- Check that the characteristics of the mains socket match those of the system.
- It is essential to connect the earth connection.
- Disconnect the mains and batteries in the event of a malfunction and request assistance from trained personnel.

## 2 Installation guide.

### 2.1 Installation.

This section of the manual describes the exact steps to be followed to correctly install the CAE-400 range of alarm control panels. The installer must carefully read the entire contents of this manual before starting to install the system. Failure to follow the instructions correctly may result in damage to the equipment.

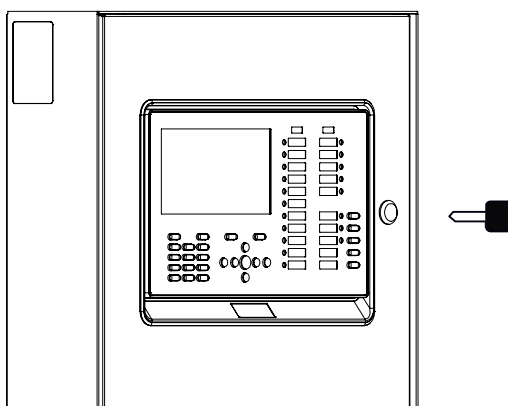
The CAE-400 range of alarm control panels has been developed in accordance with the EN-54-2 and EN-54-4 standards. It is essential that the system in which this alarm control panel is installed has been designed by trained personnel, in accordance with the EN-54-14 standard and the corresponding municipal bylaws.

#### 2.1.1 Tools required.

- Flat-head screwdriver for terminal strips.
- Phillips screwdriver for the front housing screws.
- Wire stripping pliers.
- Multimeter.
- Drill, drill bits, plugs and screws, suitable for the type and thickness of the wall where the alarm control panel is to be mounted.
- Drill bits and/or hole punchers suitable for the conduit or cable inlets to be machined.
- Spirit level.

#### 2.1.2 Opening the alarm control panel's door.

Firstly, you must open the door of the alarm control panel, using the key to the lock.



**Fig. 5 To open the CAE-400 alarm control panel, insert the key in the door's lock**

#### 2.1.3 Location of the alarm control panel.

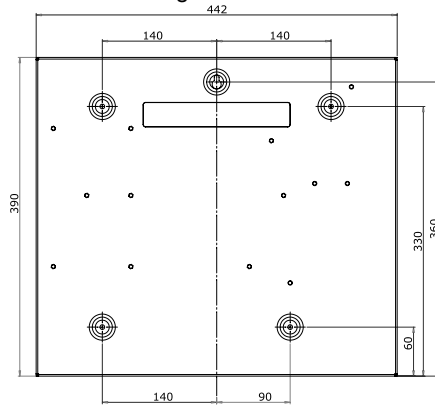
The alarm control panel must be installed in a clean, dry, vibration-free location where the temperature is between 5 and 40°C and the non-condensing relative humidity - in the worst-case scenario - does not exceed 95%, the risk of fire is low and the site is protected by the fire detection system and there is no risk of mechanical damage.

#### 2.1.4 Wall-mounting the alarm control panel.

Prior recommendations:

- Place the alarm control panel at a minimum height of 1.5 m and in an easily accessible place where the light indicators are clearly visible.
- Determine whether the cable entry will be from the back (recessed conduit) or from the top (exposed conduit), in order to prepare the necessary openings.
- Make sure that once it is secured to the wall, the alarm control panel can be opened unimpeded by any obstacle.

- Remember that the weight of the alarm control panel with the batteries inserted is considerable, so you should use strong fasteners.



**Fig. 6 Dimensions for wall-mounting the casing**

Steps to follow:

1. - Place the plastic chassis of the alarm control panel on the wall, make sure it is level (use the central hole at the top to make this adjustment) and mark the position of the 4 screws with a pencil.
2. - Remove the alarm control panel from the wall. Now drill the holes and insert the plugs to secure the alarm control panel.
3. - Place the alarm control panel in the correct position and secure it with suitable screws. You can now start connecting and configuring the alarm control panel.

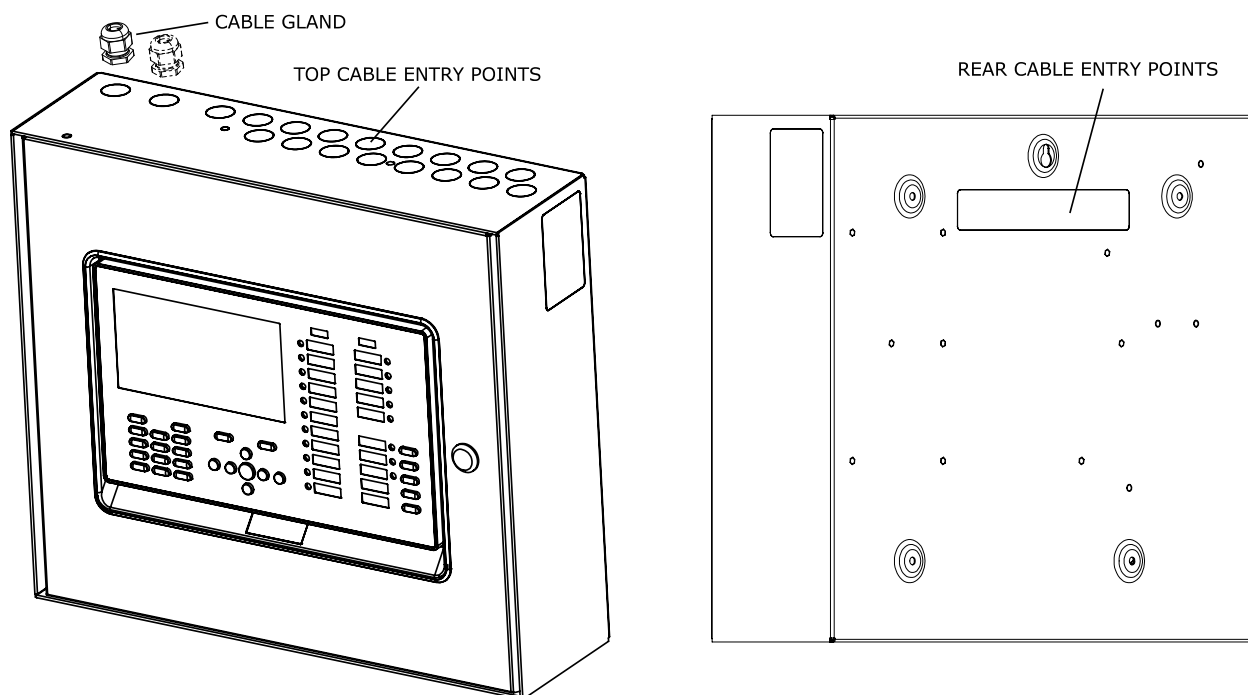


**ATTENTION:** Do not use the alarm control panel as a drill guide.

**REMEMBER:** Before mounting the chassis on the wall, prepare the necessary cable inlets. Do not drill holes in any part of the alarm control panel's casing that is not designed for this purpose and make sure that no iron filings or iron shavings enter the alarm control panel, as this may damage the electronic circuits.

### 2.1.5 Preparing the cable entry points.

The alarm control panel casing has preformed cable inlets that have been machined into the top and at the rear.



**Fig. 7 Areas designated for cable entry at the rear and top.**

Holes must be of a suitable diameter for the conduit or cable being used, and should only be made in the specified areas.

## 2.1.6 Language customisation.

The CAE-400 system makes it easy to customise the language on the front panel.

Take the sheet of cut-out cards that are supplied with the alarm control panel, select the desired language and cut out the respective cards with a pair of scissors.

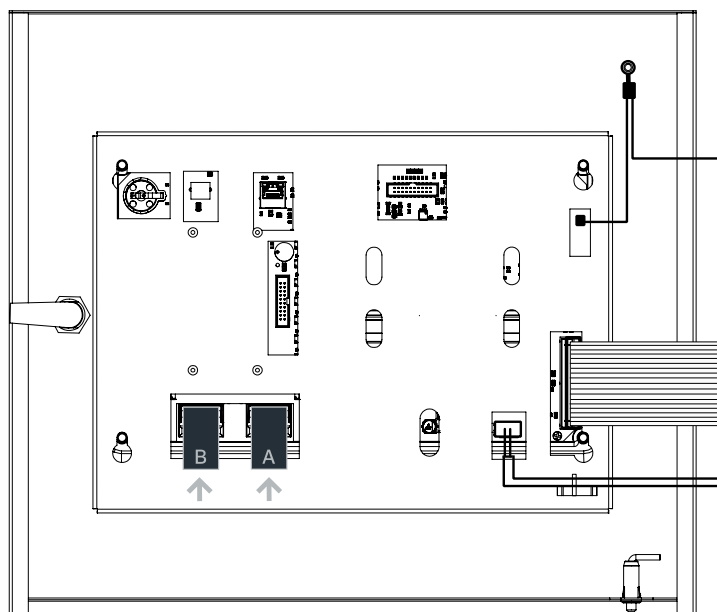
Insert each of them in the corresponding position on the cover according to their letter: (A & B).

INFO	INFO	INFO	INFO	INFO	INFO	INFO
Fallo de alimentación	Power fault	Defaut d'alimentation	Avaria alimentação	Ölück Kaynağı arızası	Avviso alimentazione	Fallida d'alimentació
Fallo del sistema	System fault	Defaut système	Avaria sistema	Sistem arızası	Guasto sistema	Fallida del sistema
Fuera de servicio	Out of service	Hors service	Fora serviço	Devre dışı	Fuori servizio	Fora de servei
Sirenas fallo /	Sounders fault / disabled	Défaut sirènes	Sirenas avaria / desactivado	Siren arızası / devre dışı	Sirenes avaria / disattivazione	Sirenes fallida / anul·lades
Salidas anuladas	Relays disabled	Relais hors service	Relés desactivado	Relayler devre dışı	Relés disattivato	Sortides anul·lades
Fallo de comunicación	Communication fault	Defaut de communication	Erro de comunicação	Hababekleme hatası	Fallito di comunicazione net	Fallida de comunicació
Confirmación transmisión	Transmission confirmation	Transmission activée	Confirmação transmissão	İletişim Onay	Conferma trasmissione	Confirmació transmissió
Fallo detección a tierra	Earth fault	Defaut detection a terre	Falha detecção à terra	Toprak Hatası	Fallito di messa a terra	Fallida detecció terra
Reserva 1	Reserved 1	Reserve 1	Reserva 1	Rezerve 1	Riserva 1	Reserva 1
Reserva 2	Reserved 2	Reserve 2	Reserva 2	Rezerve 2	Riserva 2	Reserva 2
Modo retardo	Delayed mode	Mode retardé	Sirens retardadas	Geçikmeli çıkışma modu	Modo ritardato	Mode retard
A	A	A	A	A	A	A
español (ES)	english (EN)	français (FR)	português (PT)	türkçe (TR)	italiano (IT)	català (CAT)

ESTADO	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS
Servicio	Power	Service	Serviço	Enerji	Servizio	Servei
Alarma	Fire	Alarme	Alarme	Alarm	Alarme	Alarma
Avaria	Fault	Defaut	Avaria	Arıza	Avvisio	Fallida
Desconexión	Disable	Desactiver	Desable	Devre dışı	Disabile	Desconexió
Prueba	Test	Essai	Teste	Test	Test	Test
Activación/silenciar sirenas	Activate/silence sounders	Activer/silencir sirènes	Ativação/silenciar sirenas	Sirenler aktif et / sustur	Attivo/silencio suono sirene	Activa/silenciar sirenes
Silenciar central	Silence sounders	Silence central	Silenciar central	Buzzer sustur	Mettere in mute	Silenciar central
Anular retardo	Cancel delay	Annuller retard	Anular retardo	Geçikme iptal	Annullare ritardo	Anul·lar retard
Ampliar retardo	Expand delay	Élargir retard	Ampliar retardo	Geçikme Uzatma	Estendere ritardo	Ampliar retard
Reset	Reset	Reset	Reset	Reset	Reset	Reset
B	B	B	B	B	B	B
español (ES)	english (EN)	français (FR)	português (PT)	türkçe (TR)	italiano (IT)	català (CAT)

Analogue Central - Control Panel Menu: Ref. 553-300-010



**Fig. 8 Customising the language of the front panel of the CAE-400 alarm control panel**



The language displayed on the screen is selected in the alarm control panel's settings.

## 2.2 Electrical connections and wiring.



### Warnings

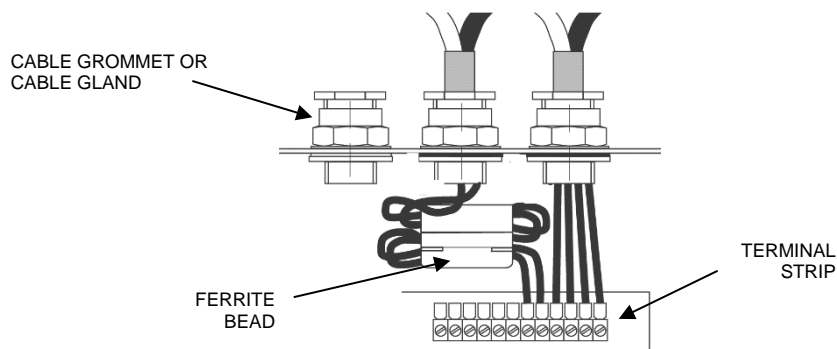
- The alarm control panel must be connected to the mains via an external double-pole circuit breaker.
- The cross-section of the mains cable must be at least 1.5 mm<sup>2</sup> and the mains voltage must be 230 VAC.
- To avoid any crossing of wires and interference, the mains cable must be separated from the cables that connect the analogue loops.

**RECOMMENDATION:** To secure the connections it is recommended to use cable grommets or M20 cable glands.

This secures the cable to the alarm control panel and it is also advisable to use cable ties to keep the cables attached to the alarm control panel.

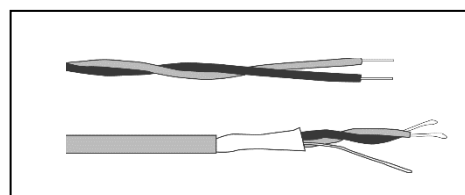
Once the alarm control panel is attached to the wall, you must start connecting the cables. The connectors for the zones, mains supply and additional components are connected to the motherboard via the upper holes. The hole furthest away from the others is for the mains supply.

If the system is exposed to high electrical interference, a **ferrite bead** should be used, placed as close to the connection as possible (see figure 9).



**Fig. 9 Example of a connection, using a cable gland and ferrite bead**

In standard installations it is recommended to use twisted pair cables, in installations where there may be electromagnetic interference, it is advisable to use twisted pair and shielded cables. Connect the shield of the shielded cable to earth and make sure that the installation is properly earthed.



**Fig. 10 Cable types**

### 2.2.1 Alarm control panel power supply.



#### Warnings

- Avoid making connections while the mains power supply is on.
- Disconnect the external double-pole circuit breaker.

For your safety, first connect the mains supply and then the batteries.



**Attention:** Do not connect the alarm control panel to the mains until it has been commissioned.

The alarm control panel has two power supply systems, the mains supply and the batteries. The steps to connect each of them are detailed below.

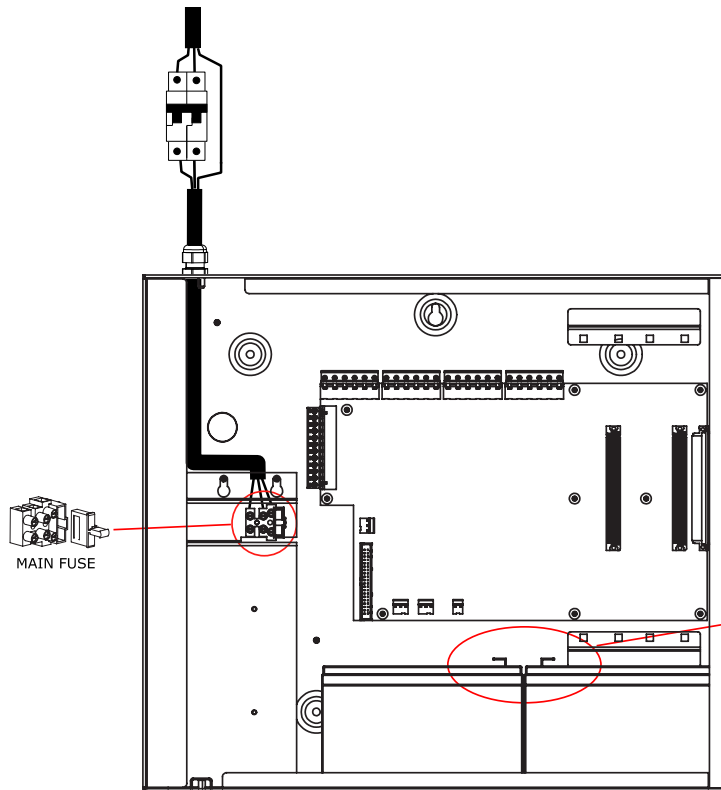
### 2.2.1.1 Mains voltage.



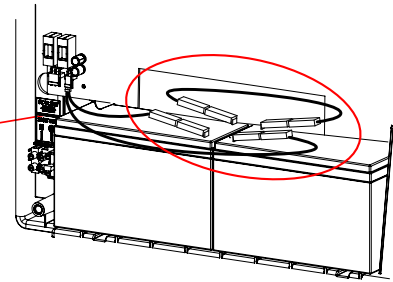
To connect the mains voltage, use the cable entry point on the left-hand side of the casing, using the existing conduit to the connection terminals. See Figure 11.

Keep the wiring isolated from the rest of the system components.

It is advisable to leave the longest earth cable when connecting the mains terminal strip so that it is the last one to be disconnected if it is suddenly pulled out.



**Fig. 11 230 VAC power supply**



**Fig. 12 Connecting the batteries**

**RECOMMENDATION:** To ensure that the mains power cable is properly secured, it is recommended to use cable ties that are fastened to the housing.



**Warning** Do not use the mains fuse to connect and disconnect the alarm control panel from the power supply, use the circuit breaker.

### 2.2.1.2 Batteries.



CAE-400 alarm control panels require two 12 V - 12 Ah batteries, connected in series to obtain 24 V, which is required to ensure its proper operation. Use the battery jumper supplied with the alarm control panel to connect the (+) terminal of one battery to the (-) terminal of the other battery.

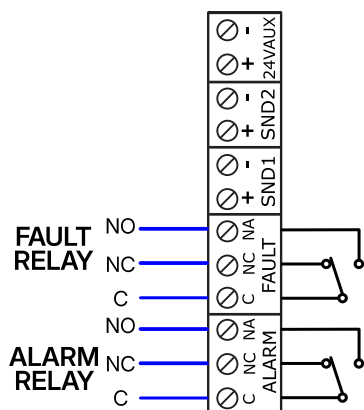
Place the batteries in the space reserved at the bottom of the alarm control panel's casing.



Connect the cables, according to the corresponding colours (red positive, black negative). The battery jumper cable that is supplied with the alarm control panel must be connected between the two batteries and the two cables from the alarm control panel must be connected to each of the batteries. See Figure 12.



### 2.2.2 Main alarm and fault relays.

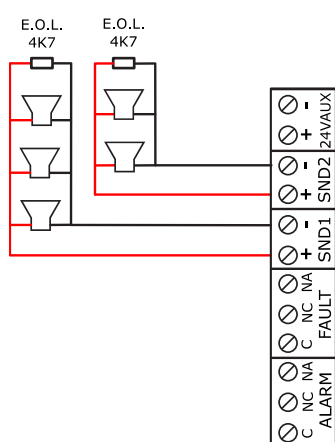


The CAE-400 alarm control panel has two relay outputs to relay alarm and fault states, with voltage-free NO, C and NC contacts.

The fault relay is normally energised.

**Fig. 13 Main alarm and fault relays**

### 2.2.3 Evacuation sounder outputs.



The CAE-400 alarm control panel has 2 sounder outputs marked as SND1 and SND2, which are activated simultaneously.

Each of these outputs can be used to create a monitored sounder circuit, providing 24 V of power with 500 mA maximum consumption per sounder.

Monitoring is performed using a 4K7 end-of-line resistor, placed at the end of the sounder line.

The sounder outputs are activated when the “Activate sounders” key is pressed and will remain activated until the “Mute sounders” key is pressed or the alarm control panel is reset.



In the event of a fault indication, check the condition of the 500 mA F2 SND1 and F3 SND2 fuses.

**Fig. 14 Sounder output wiring**

#### Warnings



- Sounder outputs will only be activated if they were previously in a standby state.
- You must use polarised sounders or install a diode in series for proper line monitoring detection. Install the end-of-line resistor on the last sounder.

### 2.2.4 24 V auxiliary output



The “24 V AUX” output provides 24 V auxiliary power to the external auxiliary circuits required by the system. It is protected by a fuse and the maximum current allowed is 500 mA.

For equipment that needs to be continuously powered, an auxiliary power supply should be used to increase the system’s runtime when running on batteries.





In the event of a fault indication, check the condition of the 500 mA F1 24 V AUX fuse.

**Fig. 15 24 V auxiliary output wiring**

## 2.2.5 Analogue loop.

The alarm control panel has connection terminals for 1 or 4 analogue loops, depending on the model.

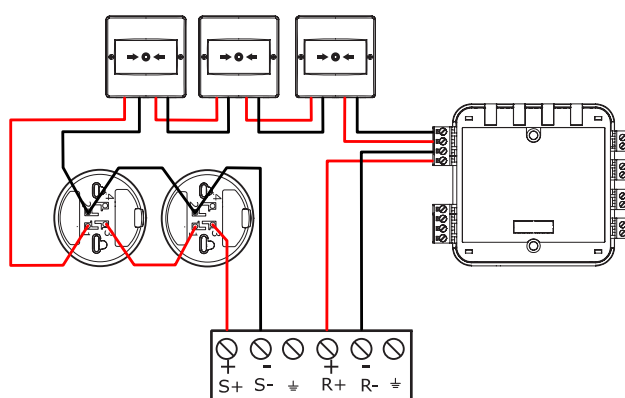
The connection terminals are assigned as follows for each of the alarm control panel's loops:

- **S+** Loop positive output.
- **S-** Loop negative output.
-  Loop earthing output.
- **R+** Loop positive return.
- **R-** Loop negative return.
-  Loop earthing return.

The earthing should only be used when using a shielded cable to connect the mesh.

All equipment that can be connected to the analogue loop has separate, interchangeable input and output connections. The negative is only common for the input and output at the base of the detectors.

The connection is made in a closed loop, with the output of the alarm control panel being connected to the input of the first device, the output of the first device to the input of the second, and so on until returning to the alarm control panel from the output of the final device.



**Fig. 16 Example of analogue loop wiring**

The analogue loop has a capacity of 250 devices and 250 points, although it should be noted that some types of devices have several points, meaning that they occupy several consecutive addresses in the loop.

**IMPORTANT:** When performing the installation, the following must be taken into account:

- The installation is performed using two-core twisted pair or shielded cables with a 1.5 mm<sup>2</sup> cross-section.
- The installation is always performed in a closed loop. Always return to the alarm control panel from the final device.
- No shunting or star connections are permitted.
- All device models are available in versions with and without isolators, which provide added protection against short circuits.
- The polarity of the wiring must be followed, especially when installing equipment with isolators.
- The input and output connections on the devices can be swapped.
- Some types of devices require 24 V auxiliary power, so an independent power line from an auxiliary power supply must be provided.
- See the wiring diagram for each type of device.

- The devices must be configured with an address (1 to 250) before being installed, using the PGE-100 address programmer or the function provided in the alarm control panel.
- Each loop can connect a maximum of 250 devices.
- Each device in the system occupies 1 or more (2, 4 or 8) consecutive addresses in the loop, depending on the number of points it contains.
- Each loop can have a maximum of 250 points.
- There must not be any points with duplicate addresses in the same loop.
- All points must be associated with a zone (the alarm control panel has capacity for 1000 zones) and the zones can optionally be associated with an area (capacity for 250 areas).
- Each point, zone, and area can be assigned a descriptive text to make it easier to locate within the system.
- The alarm control panel can be configured according to the devices connected to the loops, detect the points, and be ready for operation with a default configuration.
- In the default configuration, all points are associated with zone 1 and area 1. This must be subsequently changed to comply with the EN54-14 standard.
- In the default configuration, evacuation sounders and outputs are not automatically activated. The sounders can be activated manually, all at once.
- For automatic actions to be performed, manoeuvres must be defined, consisting of:
  - Cause, with a point, zone or area condition that must be met.
  - Effect, actions on sounders or outputs, which may include delay times.
- The causes can be simple or complex:
  - Simple: point, zone or area in alarm state.
  - Complex:
    - n points in alarm state in a zone.
    - n zones in alarm state in an area.
    - Combinations of points, zones, and areas.
- To access the alarm control panel's controls, an access code is required, which limits the available functions:
  - "8888" User, level 2 access.
  - "9999" Installer, level 3 access.
- The SCE-200 configuration software is available, which allows the alarm control panel to be configured from a PC.

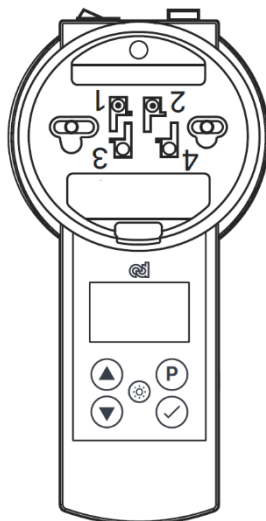
### 2.2.5.1 Address programmer.

All devices in the installation must be assigned an address in the loop. This address, which is between the numbers 1 and 250, must be unique, as duplicate addresses are not allowed.



All devices are supplied programmed with the number 0, so they must be assigned new addresses.

The PGE-100 address programmer allows addresses to be programmed at different types of points.



To assign an address to detectors, place them in the controller socket. For modules, sounders and manual call points, use the cable supplied with the programmer, insert it into the connector at the top.

The cable has two types of connectors:

- 4-pole connector: suitable for all types of modules, manual call points and sounders.
- 7-pole connector: designed for programming ASPBS sounders.

It has 3 operating modes, which are selected with the P key:

#### PROG AUTO

**PROG AUTO**  
Current: 0  
New: 1

This assigns an address to the devices automatically. When you insert a detector, manual call point, sounder or module and press the ✓ key, the address that appears on the display is recorded, automatically creating a new sequential address for the next device that is registered. This ensures that addresses are not duplicated.

#### STATE

**STATUS**  
Value: 24  
22d 6h

This displays the address of the device connected to the programmer and its analogue value.

#### PROG ADDRESS

**PROG ADDRESS**  
Current: 1  
New: 57

This allows you to assign a specific address to the device connected to the programmer.

Using the navigation keys ▲ (up) and ▼ (down), select the desired value and, when the ✓ (confirm) key is pressed, the selected address will be recorded.

If address programming is not available, see section 3.6.3 Changing device addresses.

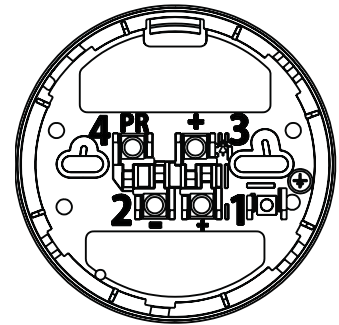
### 2.2.5.2 Analogue detectors.

Analogue detectors are connected at the connection base. The available models are:

- **ZCE-100** Low-profile connection base.
- **ZCE-120** High-profile connection base with 4 exposed conduit inlets.

The connection contacts are assigned to the bases as follows:

1. + Analogue loop output positive.
2. - Analogue loop input and output negative.
3. + Analogue loop input positive.
4. PR output positive for remote action indicator.



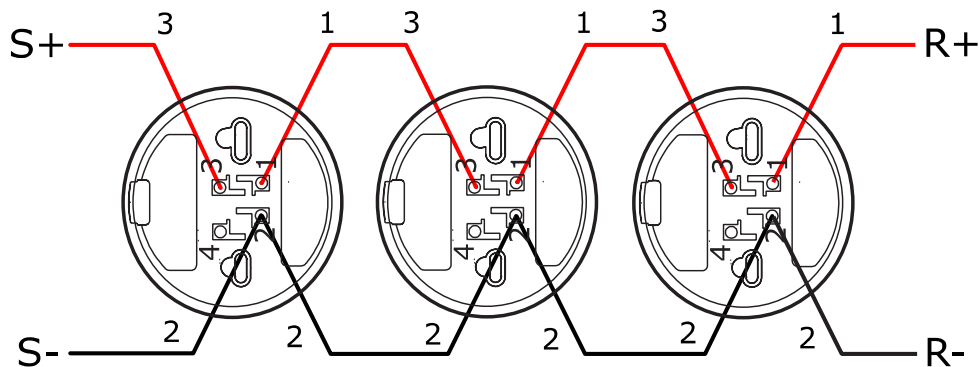
Each detector occupies one address in the analogue loop. Assign them using the PGE-100 address programmer.



The detector must be inserted into the base to provide continuity to the line. Keep the protective cap in place until the system is commissioned.

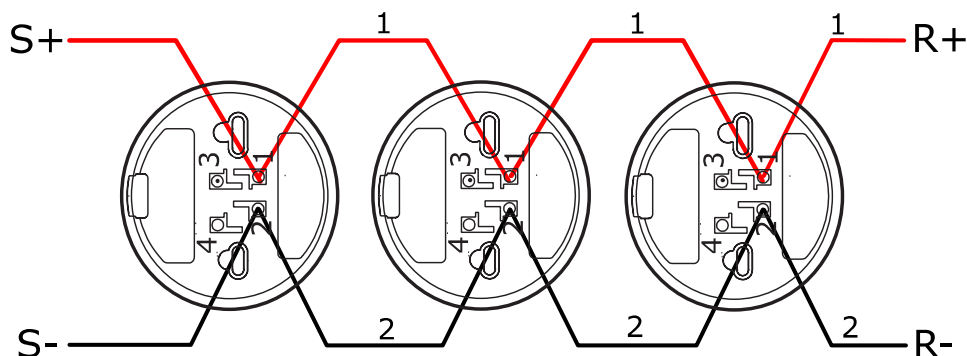
The following range of analogue detectors is available:

	Without isolator	With isolator	Points
➤ Class A1 thermo-velocimetric detector (58°C).	<b>DTE-110-A</b>	<b>DTE-110-AI</b>	1
➤ Class B thermo-velocimetric detector (78°C).	<b>DTE-115-A</b>	<b>DTE-115-AI</b>	1
➤ Analogue optical detector.	<b>DOE-120-A</b>	<b>DOE-120-AI</b>	1
➤ Analogue optical/thermal detector.	<b>DOE-130-A</b>	<b>DOE-130-AI</b>	1



**Fig. 17 Wiring of analogue loop with detectors with isolators**

If detectors without isolators are used, the input and output can be joined at the base so the line is not disconnected if a detector is removed from the base.

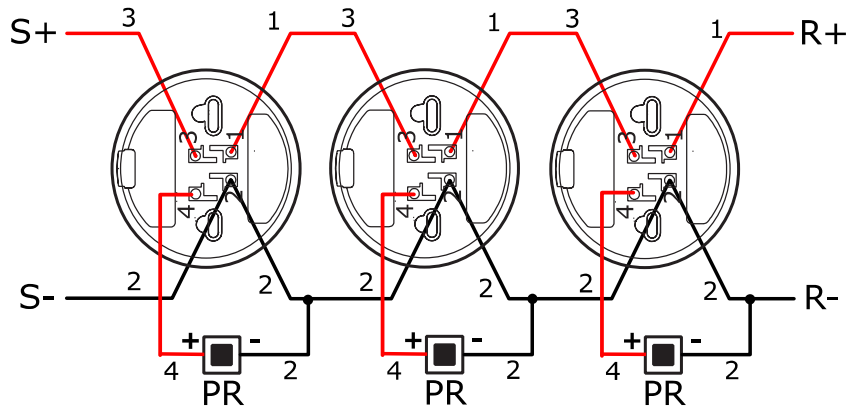


**Fig. 18 Wiring of analogue loop with detectors without isolators**

### 2.2.5.3 Action indicator lights on analogue detectors.

When detectors are installed in enclosed areas or false ceilings, it is advisable to use action indicator lights to inform people on the outside that the detector's alarm has been triggered.

The PIE-100 action indicator light is the model that is used. This must be connected between the PR output and the detection line (-).



**Fig. 19 Wiring of detectors with action indicator lights**

### 2.2.5.4 Analogue manual alarm call points.

Manual alarm call points should be located on escape routes, by each door (inside or outside) that leads to emergency stairs and at each exit to the outside. They can also be located near special hazards. Manual alarm call points must be clearly visible, identifiable, and easy to reach.

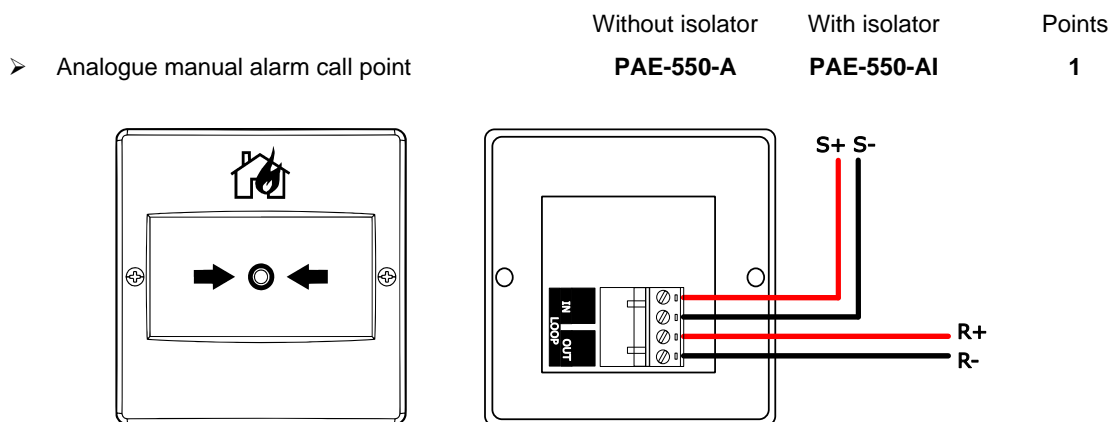
They must be positioned so that no person in the premises has to travel more than 25 meters to reach a manual fire alarm call point. In general, manual call points should be fixed at a height of between 0.8 m and 1.6 m above the ground.

The connection terminals are assigned to the bases as follows:

- IN + Analogue loop input positive.
- IN - Analogue loop input negative.
- OUT + Analogue loop output positive.
- OUT - Analogue loop output negative.

Each manual call point occupies one address in the analogue loop.

The following models of analogue manual call points are available:



**Fig. 20 Wiring of an analogue manual alarm call point**

The manual call point must be mounted with the **MSE-550** surface base or the **MEE-550** flush-mounting frame.

### 2.2.5.5 Analogue sounders.

The fire alarm must have a minimum sound level of 65 dB(A), or 5 dB(A) above any other noise that is likely to continue for more than 30 seconds, whichever is greater. If the alarm is intended to wake people who are sleeping, the minimum sound level at the head of the bed must be 75 dB(A). These minimum levels must be achieved at any point where the audible alarm needs to be heard.

Visual fire alarm devices should only be used to complement audible devices; they should not be used alone. Any visual fire alarm must be clearly visible and distinguishable from other visual signals used on the premises.



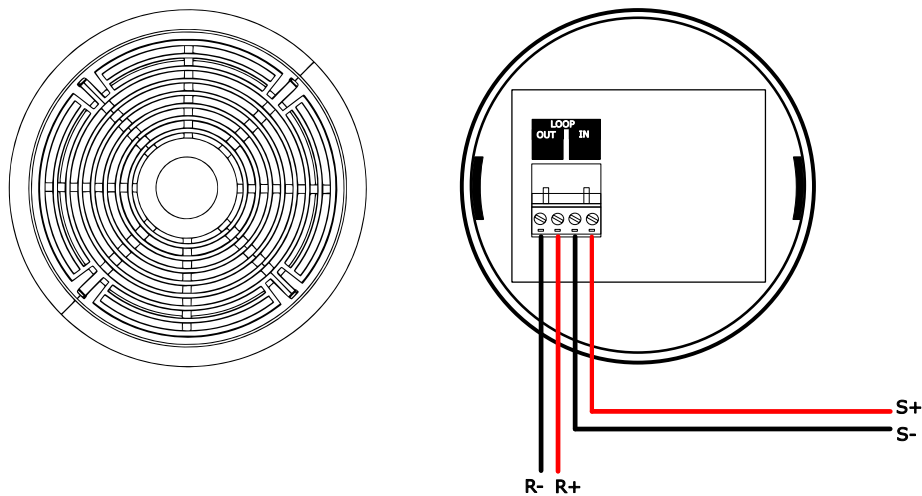
Analogue sounders occupy one address of the analogue loop and are distributed throughout the installation as required.

The connection terminals are assigned to the sounders as follows:

- IN +      Analogue loop input positive.
- IN -      Analogue loop input negative.
- OUT +    Analogue loop output positive.
- OUT -    Analogue loop output negative.

The following models of analogue sounders are available:

	With isolator	Without isolator	Points
➤ Analogue sounder	<b>SAE-560-AI</b>	<b>SAE-560-A</b>	<b>1</b>
➤ Analogue sounder with flash	<b>SFE-565-AI</b>	<b>SFE-565-A</b>	<b>1</b>



**Fig. 21 Wiring of an analogue sounder**

The analogue sounders have a total of 32 different tones and 3 volume levels, which are selected in the alarm control panel's settings.

### 2.2.5.6 Analogue input modules.



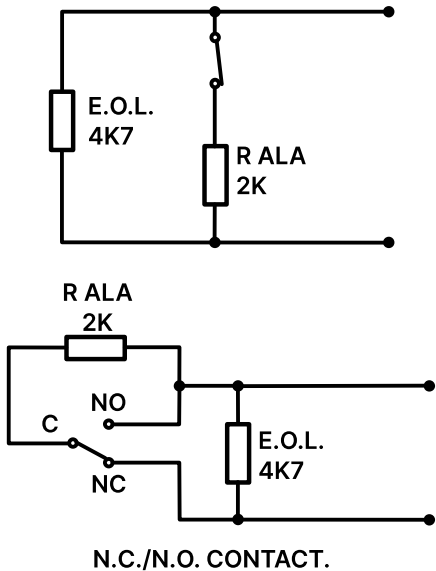
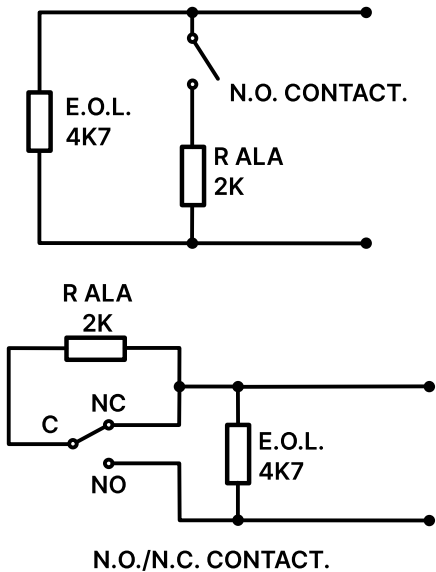
The analogue input modules allow 1, 2 or 4 voltage-free NO or NC contact signals to be received, with direct or supervised connections.

The signals received can be interpreted individually as a fire alarm or a technical alarm.

Installed on a DIN rail or flat surface with the option of fitting a ONE-BOX or SIX-BOX enclosure.

A 4K7 end-of-line resistor and 2K load resistor are used for monitoring.

The standby operating mode of the inputs is configured using selectors 1 and 2, as per the table below:

2	1	Standby operating mode	Standby wiring diagram
ON	ON	Normally closed	
ON	OFF	Normally open	
OFF	ON	Normally closed & monitored. <ul style="list-style-type: none"> <li>4K7 EOL res.</li> <li>2K alarm</li> </ul>	
OFF	OFF	Normally open & monitored. <ul style="list-style-type: none"> <li>4K7 EOL res.</li> <li>2K alarm</li> </ul>	



Selectors 3 to 8 are not used.

The configuration is common to all module inputs. No other operation is permitted for any of them.





Input modules occupy one address of the analogue loop for each of their available inputs, even if they are not in use.

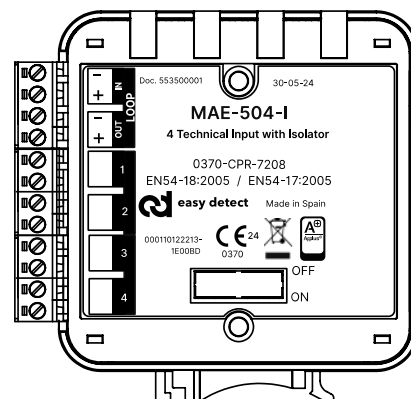
The connection terminals are assigned to the module as follows (available terminals depend on model):

#### LOOP

- IN - Analogue loop input negative.
- IN + Analogue loop input positive.
- OUT - Analogue loop output negative.
- OUT + Analogue loop output positive.

#### INPUTS

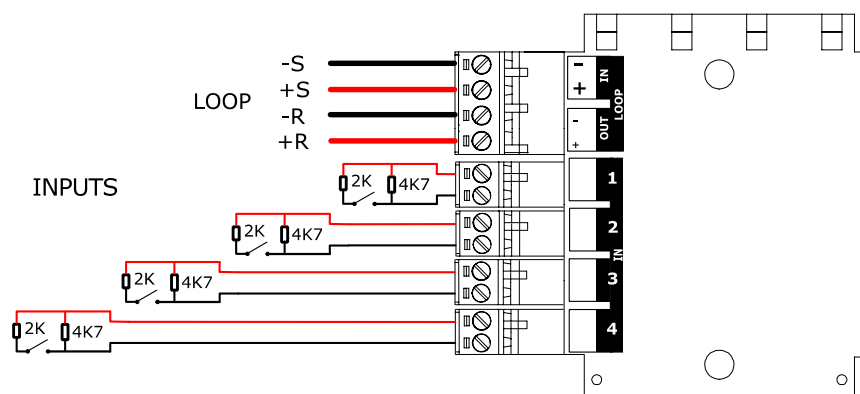
- IN 1 Input positive 1
- IN1 Input negative 1
- IN 2 Input positive 2
- IN 2 Input negative 2
- IN 3 Input positive 3
- IN 3 Input negative 3
- IN 4 Input positive 4
- IN 4 Input negative 4



The following models of input modules are available:

	Without isolator	With isolator	Points
➤ 1-input analogue module	<b>MAE-501</b>	<b>MAE-501-I</b>	<b>1</b>
➤ 2-input analogue module	<b>MAE-502</b>	<b>MAE-502-I</b>	<b>2</b>
➤ 4-input analogue module	<b>MAE-504</b>	<b>MAE-504-I</b>	<b>4</b>

It has indicator lights for each of the inputs, which light up red to show that they have been activated or indicate a fault state during monitoring.



**Fig. 22 Wiring of an analogue input module**

### 2.2.5.7 Analogue output modules.

The analogue output modules provide C, NO and NC relay contacts, with activation controlled by the alarm control panel according to the programmed maneuvers.

Installed on a DIN rail or flat surface with the option of fitting a ONE-BOX or SIX-BOX enclosure.



Output modules occupy one address of the analogue loop for each of their available, even if they are not in use.

The contacts of each relay support maneuvers with a maximum current of 1 A and a voltage of 30 VDC.

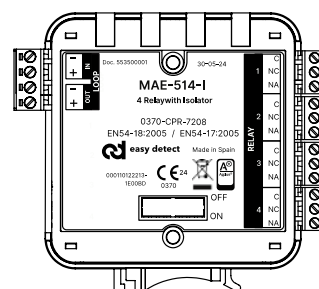
The connection terminals are assigned to the module as follows (available terminals depend on model):

#### LOOP

- IN - Analogue loop input negative.
- IN + Analogue loop input positive.
- OUT - Analogue loop output negative.
- OUT + Analogue loop output positive.

#### RELAY OUTPUTS

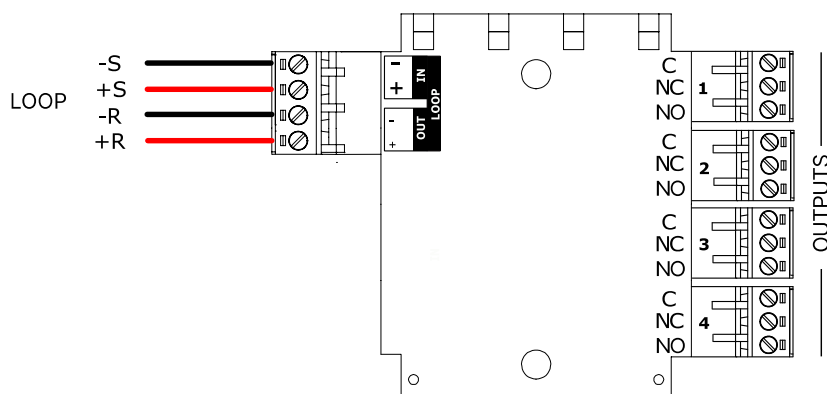
- OUT 1 C Relay common contact output 1
- OUT 1 NC Relay NC contact output 1
- OUT 1 NO Relay NO contact output 1
- OUT 2 C Relay common contact output 2
- OUT 2 NC Relay NC contact output 2
- OUT 2 NO Relay NO contact output 2
- OUT 3 C Relay common contact output 3
- OUT 3 NC Relay NC contact output 3
- OUT 3 NO Relay NO contact output 3
- OUT 4 C Relay common contact output 4
- OUT 4 NC Relay NC contact output 4
- OUT 4 NO Relay NO contact output 4



The following models of output modules are available:

	Without isolator	With isolator	Points
➤ 1-output analogue module	<b>MAE-511</b>	<b>MAE-511-I</b>	<b>1</b>
➤ 2-outputs analogue module	<b>MAE-512</b>	<b>MAE-512-I</b>	<b>2</b>
➤ 4-outputs analogue module	<b>MAE-514</b>	<b>MAE-514-I</b>	<b>4</b>

It has indicator lights for each of the outputs, which light up red to show that they have been activated.



**Fig. 23 Wiring of an analogue output module**

### 2.2.5.8 Input and output analogue modules.



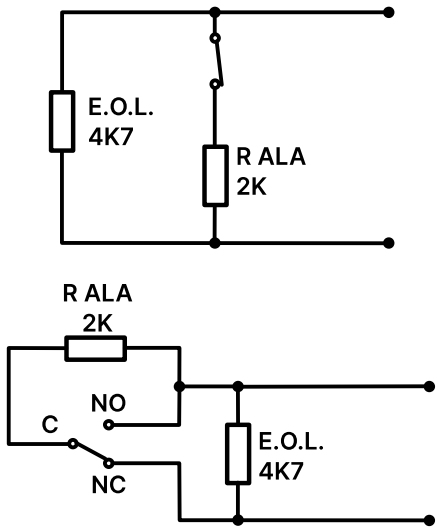
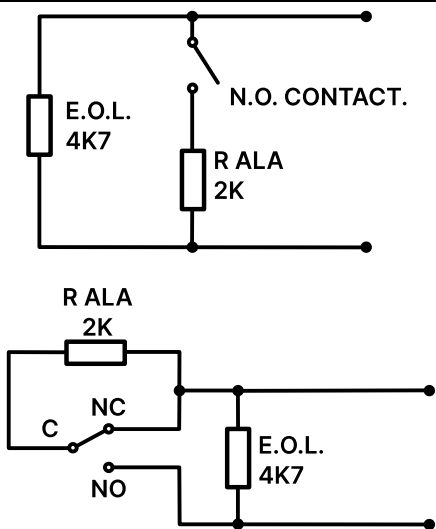
The analogue input and output modules allow 1, 2 or 4 voltage-free NO or NC contact signals to be received, with direct or supervised connections, and provide C, NO and NC relay contacts, with activation controlled by the alarm control panel according to the programmed maneuvers.

The signals received can be interpreted individually as a fire alarm or a technical alarm.

Installed on a DIN rail or flat surface with the option of fitting a ONE-BOX or SIX-BOX enclosure.

A 4K7 end-of-line resistor and 2K load resistor are used for monitoring the inputs.

The standby operating mode of the inputs is configured using selectors 1 and 2, as per the table below:

2	1	Standby operating mode	Standby wiring diagram
ON	ON	Normally closed	
ON	OFF	Normally open	
OFF	ON	Normally closed & monitored. <ul style="list-style-type: none"> <li>4K7 EOL res.</li> <li>2K alarm</li> </ul>	
OFF	OFF	Normally open & monitored. <ul style="list-style-type: none"> <li>4K7 EOL res.</li> <li>2K alarm</li> </ul>	



Selectors 3 to 8 are not used. The configuration is common to all module inputs. No other operation is permitted for any of them.



Input modules occupy one address of the analogue loop for each of their available inputs and outputs, even if they are not in use.

The contacts of each relay support maneuvers with a maximum current of 1 A and a voltage of 30 VDC.

The connection terminals are assigned to the module as follows (available terminals depend on model):

#### LOOP

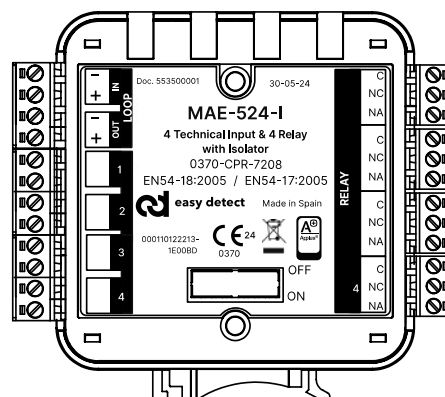
- IN - Analogue loop input negative.
- IN + Analogue loop input positive.
- OUT - Analogue loop output negative.
- OUT + Analogue loop output positive.

#### INPUTS

- IN 1 Input positive 1
- IN 1 Input negative 1
- IN 2 Input positive 2
- IN 2 Input negative 2
- IN 3 Input positive 3
- IN 3 Input negative 3
- IN 4 Input positive 4
- IN 4 Input negative 4

#### RELAY OUTPUTS

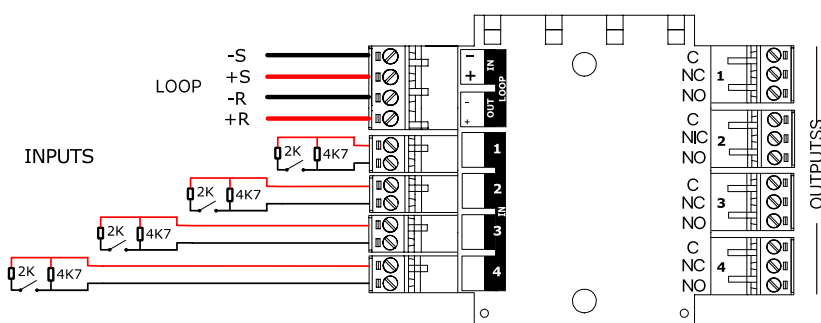
- OUT 1 C Relay common contact output 1
- OUT 1 NC Relay NC contact output 1
- OUT 1 NO Relay NO contact output 1
- OUT 2 C Relay common contact output 2
- OUT 2 NC Relay NC contact output 2
- OUT 2 NO Relay NO contact output 2
- OUT 3 C Relay common contact output 3
- OUT 3 NC Relay NC contact output 3
- OUT 3 NO Relay NO contact output 3
- OUT 4 C Relay common contact output 4
- OUT 4 NC Relay NC contact output 4
- OUT 4 NO Relay NO contact output 4



The following models of input and output modules are available:

	Without isolator	With isolator	Points
➤ 1-input and 1-output analogue module	<b>MAE-521</b>	<b>MAE-521-I</b>	<b>2</b>
➤ 2-input and 2-output analogue module	<b>MAE-522</b>	<b>MAE-522-I</b>	<b>4</b>
➤ 4-input and 4-output analogue module	<b>MAE-524</b>	<b>MAE-524-I</b>	<b>8</b>

It has indicator lights for each of the inputs and outputs, which light up red to show that they have been activated or indicate a fault state during monitoring.



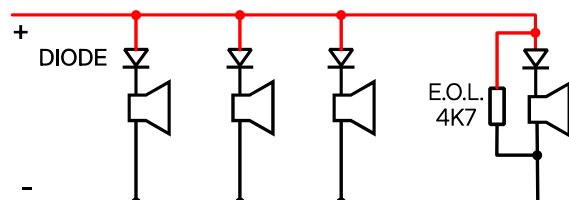
**Fig. 24 Wiring of an analogue input and output module**

### 2.2.5.9 24 V monitored output modules.

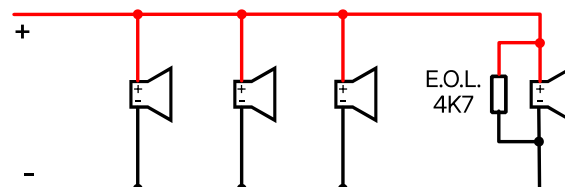
The analogue monitored output modules provide 24 V monitored voltage outputs, with activation controlled by the alarm control panel according to the programmed maneuvers.

They allow conventional evacuation sounder zones or any type of maneuver powered at 24 VDC that requires monitoring to be connected. Line monitoring is performed with a 4K7 end-of-line resistor, and the sounders or the maneuver to be performed must be polarised, or a 1N4001 diode or similar must be added in series.

The maximum current per output is 1 amp.



**Fig. 25 Wiring of non-polarised sounders**



**Fig. 26 Wiring of polarised sounders**



This module requires a 24 V auxiliary power supply, which must be provided from a power supply unit via a line that is separate from the analogue loop.

Installed on a DIN rail or flat surface with the option of fitting a ONE-BOX or SIX-BOX enclosure.



24 V monitored output modules occupy one address of the analogue loop for each output available, even if they are not in use.

The connection terminals are assigned to the module as follows (available terminals depend on model):

#### LOOP

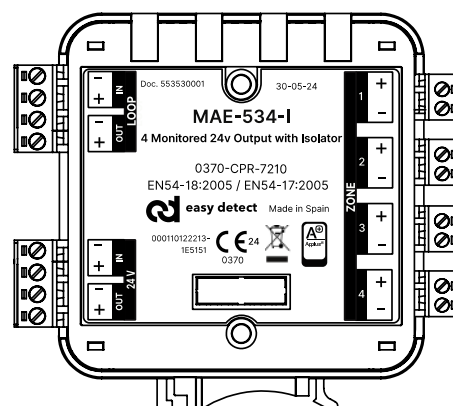
- IN - Analogue loop input negative.
- IN + Analogue loop input positive.
- OUT - Analogue loop output negative.
- OUT + Analogue loop output positive.

#### AUXILIARY POWER SUPPLY

- IN - 24 V input negative
- IN + 24 V input positive
- OUT - 24 V output negative
- OUT + 24 V output positive

#### 24 V MONITORED OUTPUTS

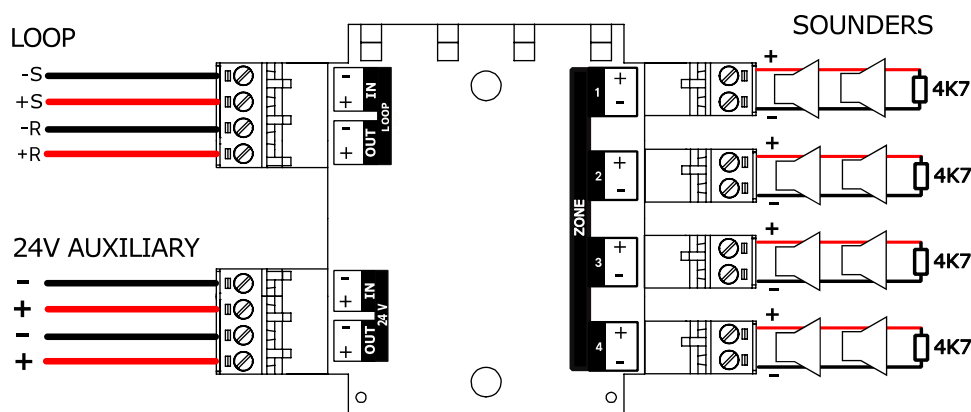
- ZONE 1 + Zone 1 output positive
- ZONE 1 - Zone 1 output negative
- ZONE 2 + Zone 2 output positive
- ZONE 2 - Zone 2 output negative
- ZONE 3 + Zone 3 output positive
- ZONE 3 - Zone 3 output negative
- ZONE 4 + Zone 4 output positive
- ZONE 4 - Zone 4 output negative



The following models of output modules are available:

	Without isolator	With isolator	Points
➤ 1-output monitored analogue modules	<b>MAE-531</b>	<b>MAE-531-I</b>	<b>2</b>
➤ 2-output monitored analogue modules	<b>MAE-532</b>	<b>MAE-532-I</b>	<b>4</b>
➤ 4-output monitored analogue modules	<b>MAE-534</b>	<b>MAE-534-I</b>	<b>8</b>

It has indicator lights for each of the outputs, which light up red to show that they have been activated or indicate a fault state during monitoring or a lack of auxiliary power.



**Fig. 27 Wiring of a monitored analogue output module**

#### 2.2.5.10 Analogue module for conventional zones.

Conventional analogue zone modules provide detection loops for connecting conventional detectors and manual call points.



This module requires a 24 V auxiliary power supply, which must be provided from a power supply unit via a line that is separate from the analogue loop.

Line monitoring is performed with a 4K7 end-of-line resistor.

Installed on a DIN rail or flat surface with the option of fitting a ONE-BOX or SIX-BOX enclosure.



Conventional zone modules occupy one address of the analogue loop for each of their available zones, even if they are not in use.

The connection terminals are assigned to the module as follows (available terminals depend on model):

##### LOOP

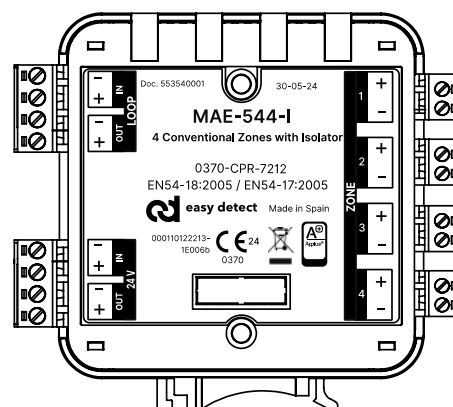
- IN - Analogue loop input negative.
- IN + Analogue loop input positive.
- OUT - Analogue loop output negative.
- OUT + Analogue loop output positive.

##### AUXILIARY POWER SUPPLY

- IN - 24 V input negative
- IN + 24 V input positive
- OUT - 24 V output negative
- OUT + 24 V output positive

##### CONVENTIONAL DETECTION ZONES

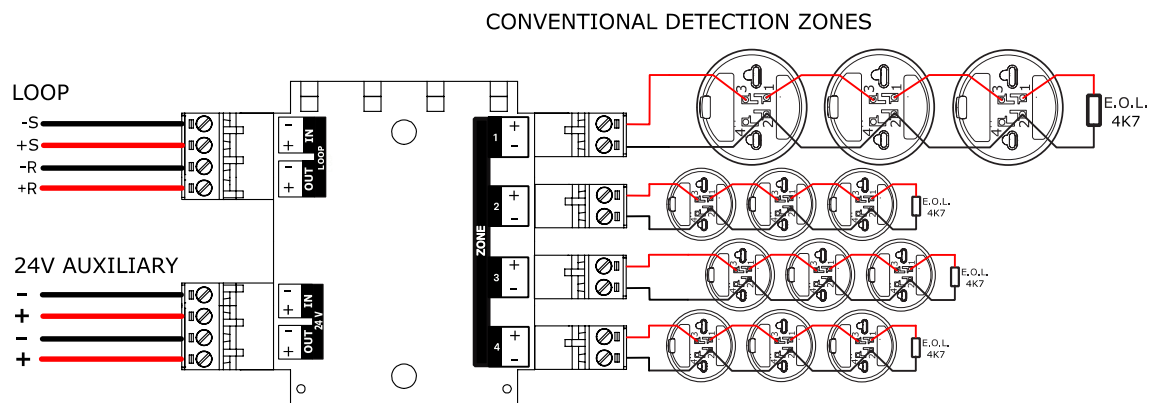
- ZONE 1 + Zone 1 output positive
- ZONE 1 - Zone 1 output negative
- ZONE 2 + Zone 2 output positive
- ZONE 2 - Zone 2 output negative
- ZONE 3 + Zone 3 output positive
- ZONE 3 - Zone 3 output negative
- ZONE 4 + Zone 4 output positive
- ZONE 4 - Zone 4 output negative



The following models of output modules are available:

	Without isolator	With isolator	Points
➤ Analogue module for 1 conventional zone	<b>MAE-541</b>	<b>MAE-541-I</b>	<b>1</b>
➤ Analogue module for 2 conventional zones	<b>MAE-542</b>	<b>MAE-542-I</b>	<b>2</b>
➤ Analogue module for 4 conventional zones	<b>MAE-544</b>	<b>MAE-544-I</b>	<b>4</b>

It has indicator lights for each of the outputs, which light up red to show that they have been activated or indicate a fault state during monitoring or a lack of auxiliary power.

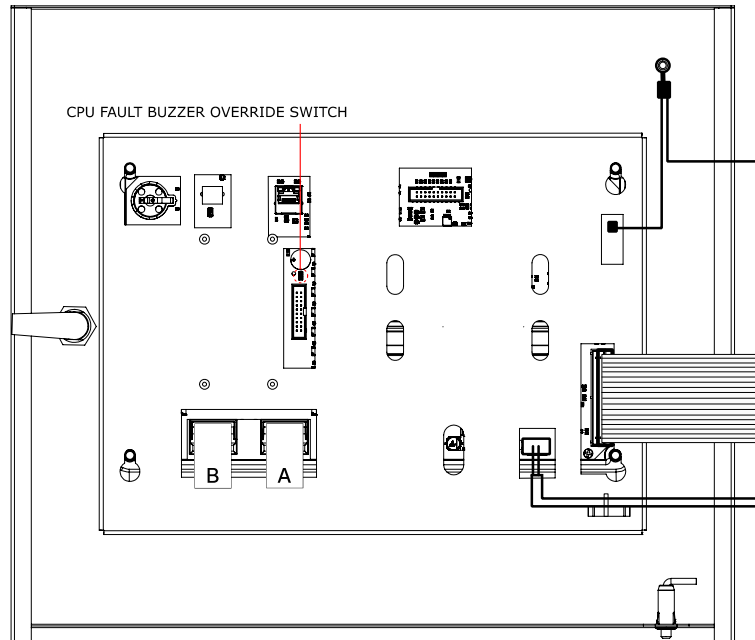


**Fig. 28 Wiring of an analogue module for conventional zones**


## 2.3 Configuration options.

### 2.3.1 Overriding the buzzer for system malfunctions.

The alarm control panel has a switch on the CPU, located on the alarm control panel's door, which allows you to override the buzzer in the event of a "System malfunction" if it is left in the open (off) position. The indicator light and fault relay light remain on.

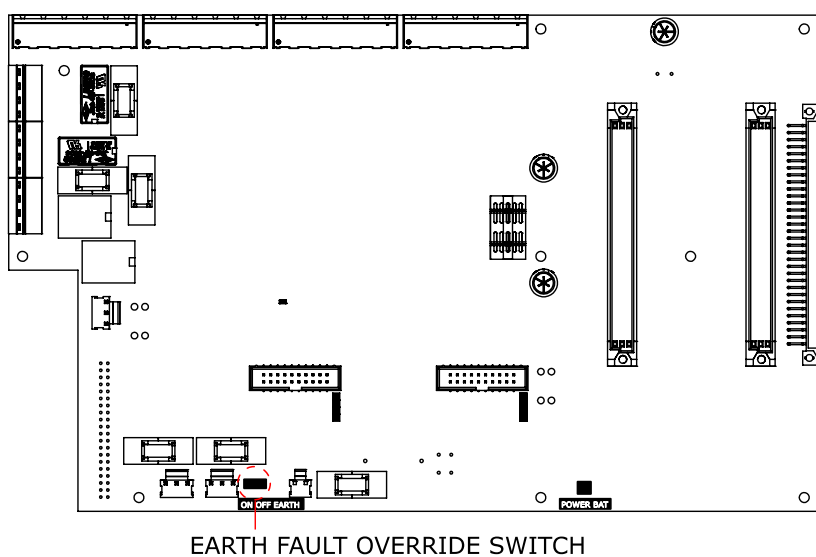


**Fig. 29 Location of the buzzer override switch for system malfunctions**


 Using this option does not comply with the EN 54-2 standard.

### 2.3.2 Overriding earth fault detection.

The alarm control panel has a switch that allows you to override earth fault detection if it is set to the "OFF" position. It may sometimes be necessary to disable detection if there is a component connected to the alarm control panel that is causing this earth leakage (for example, a connection to a computer's serial or USB port).



**Fig. 30 Location of the earth fault override switch**

 Using this option does not comply with the EN 54-2 standard.



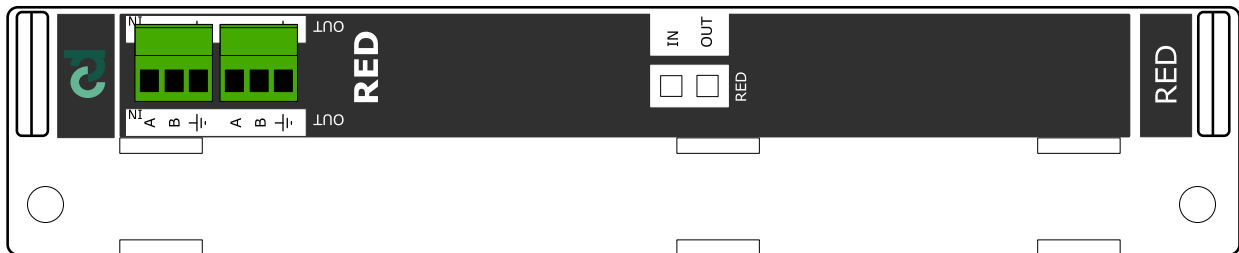
## 2.4 Function expansion cards.

The CAE-400 alarm control panel has 2 expansion card connectors.

The cards are installed on the right side of the alarm control panel BUS by inserting them into the PCB connectors.

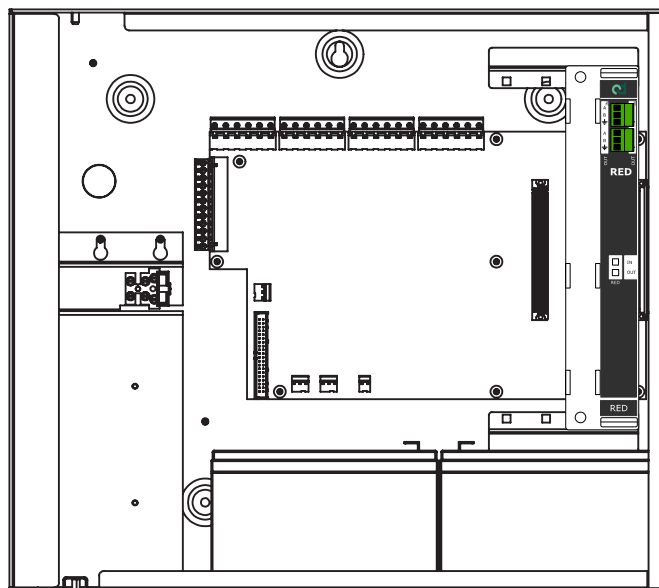
### 2.4.1 TRED-400 network card.

A TRED-400 network card can be added to the CAE-400 alarm control panel, allowing it to connect to a redundant network of up to 64 nodes via an RS-485 connection.



It has an input (IN) and output (OUT) connection terminal for point-to-point network connections (daisy chain) or a redundant closed ring.

The card is inserted into any of the BUS connectors and secured with the supplied screws.



**Fig. 31 Location of the TRED-400 network card**

## 3 Commissioning.

### 3.1 System verification



**WARNING:**

Before supplying mains power to the alarm control panel, check all of the following points:

- Check that the alarm control panel has been installed correctly (see section 2.1.4).
- Make sure that there are no breaks or short circuits in the analogue loops, that all devices in the loop have been coded with a unique number, and that the output and return are connected (see section 2.2.5).
- If used, check the motherboard output connections and the various outputs available:
  - 24 V aux. output (see section 2.2.4).
  - main relays (see section 2.2.2).
- Ensure that the sounder lines are connected in the correct polarity and have 4K7 end-of-line resistors (see section 2.2.3).
- Verify that the mains voltage is 230 VAC using a voltmeter. Also check that the voltage of the batteries is above 24 V.

### 3.2 Power supply to the system.

**REMEMBER:** The alarm control panel's mains supply input must be protected by a 10 A external circuit breaker.

Once all connections and installations have been checked, the correct order in which to connect the system is as follows:

1. Connect the mains power supply (see section 2.2.1.1).
2. Connect the batteries (see section 2.2.1.2).

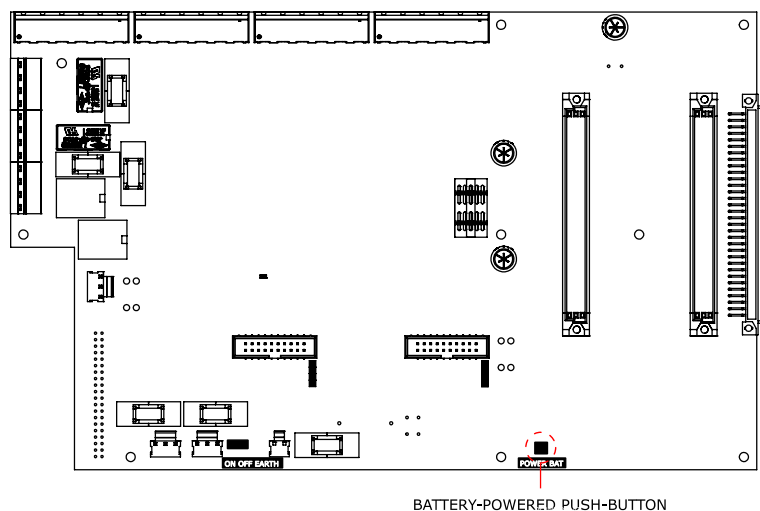
While doing this, all indicator lights should be off except the green service light and the screen should show that the system is on standby.

If any condition other than the above is detected, investigate the source of the problem in the system and correct the fault before proceeding (see section 8 Troubleshooting guide).

#### 3.2.1 Battery power only.



If it is not possible to obtain mains power and only battery power is available when starting up the system and carrying out operation tests, press the "**Battery-powered push-button**" button to start the alarm control panel.

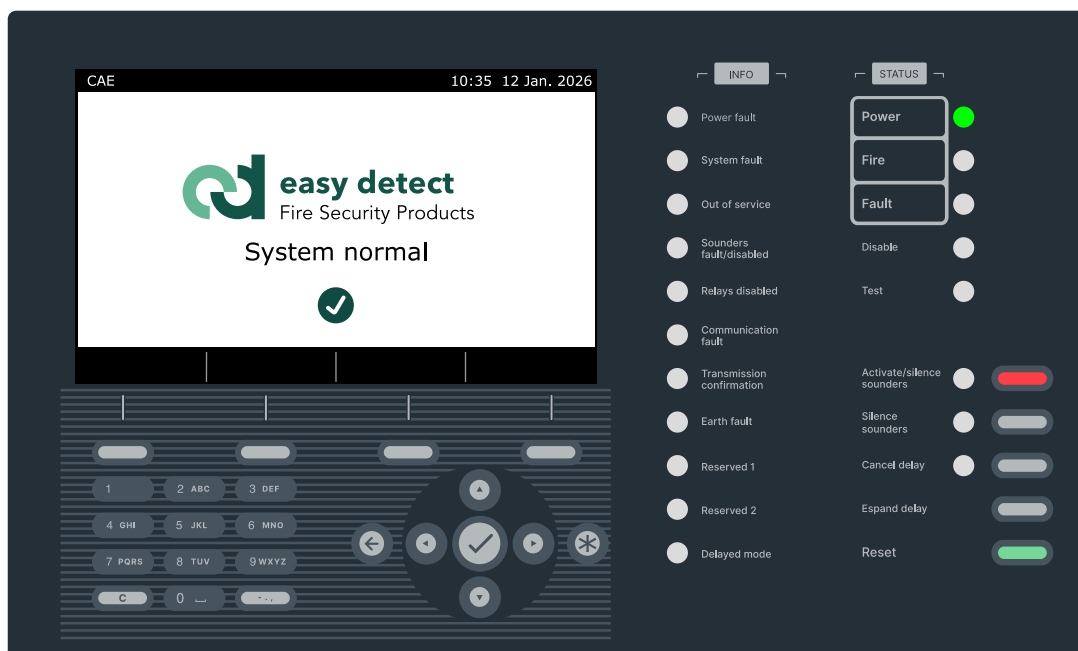


**Fig. 32 Battery-powered push-button**

The corresponding Power Failure message will be displayed on the screen and the corresponding audible and light alerts will be activated.

### 3.3 Basic operation of the alarm control panel.

The following keys are used to operate the alarm control panel in order to start the system:

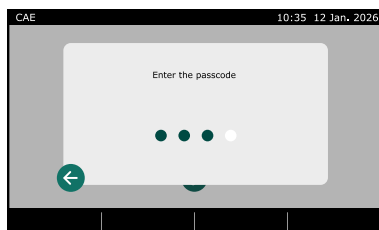


- **Activate/silence sounders** Activates or resets the sounder outputs and the sounders connected in analogue loops.
- **Silence sounders** Mutes the local audible alert (buzzer).
- **Cancel delay** Only when delayed mode is activated.
- **Extend delay** Only when delayed mode is activated.
- **Reset** Resets the system.
- **Numeric keypad** To enter numerical values or select a function from the menu.
- **←** To go back in the menus.
- **◀, ▶, ▲ and ▼** Cursor keys to navigate through menus and screens.
- **✓** To accept the selected menu value or function.
- **\*** Function key, available when the option appears on the screen.
- **Screen function keys** The function of each key is shown on the bottom line of the screen, above each key.

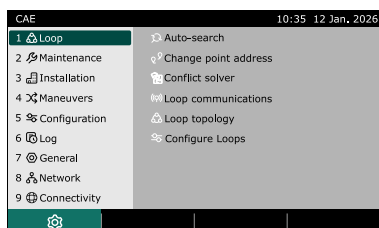
To access certain functions, it is necessary to enter the installer access code ("9999"), which provides level 3 access to the alarm control panel.

### 3.4 Accessing the installer menu.

Follow these steps to access the main menu.



1. Press the ✓ key.



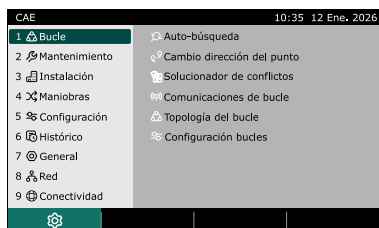
2. Enter the installer access code "9999" and the installer menu will be displayed.

### 3.5 Changing the language of the alarm control panel.

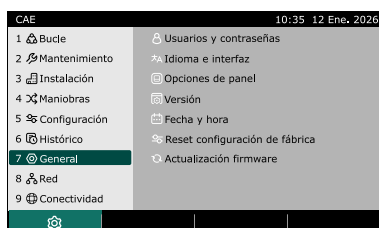


When restoring factory settings, the alarm control panel language may default to English or Spanish.

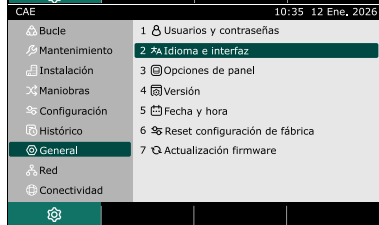
If the language you want is not selected on the alarm control panel, you can change it by following the steps below.



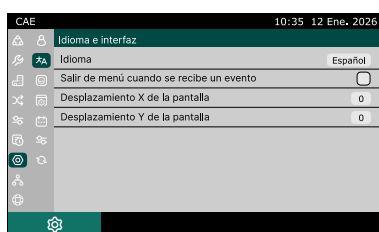
1. Enter the installer menu.



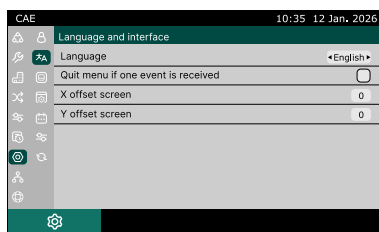
2. Select **7 General** on the menu by either pressing the number 7 or using the ▲ and ▼ keys, and press ✓ to confirm.



3. Select **2 Language and interface** from the submenu, by either pressing the number 2 or using the ▲ and ▼ keys, and press ✓ to confirm.



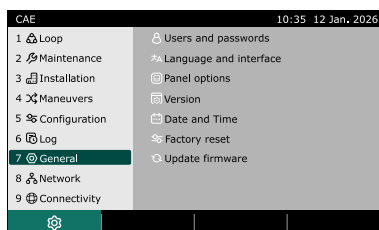
4. The cursor will blink over the selected language. Press ✓ to change it.



5. Press the ◀ and ▶ keys to switch between “*English*”, “*Español*”, “*Français*”, “*Català*”, “*Srpski*”, “*Türkçe*” and “*Italiano*”.

6. Press ✓ to confirm.

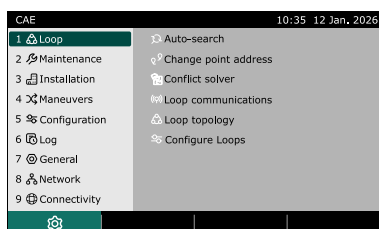
7. Menus and alerts will now appear in the selected language.



8. Press the ◀ key until you return to the main menu.

### 3.6 Starting up analogue loops.

To start up the analogue loops, follow the steps below.

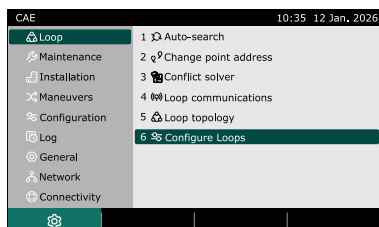


1. Enter the installer menu.

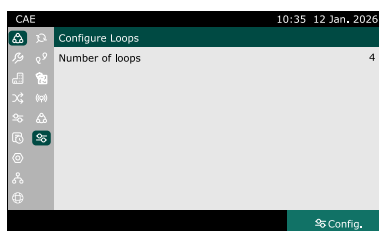
2. Select **1 Loop** on the menu by either pressing the number 1 or using the ▲ and ▼ keys, and press ✓ to confirm.

#### 3.6.1 Loop configuration

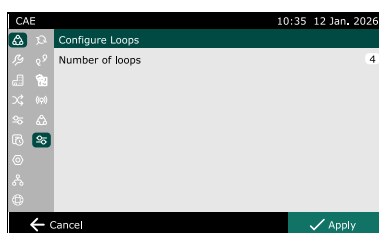
CAE-400 alarm control panels have between 1 and 4 analogue loops, depending on the model. You can select the number of loops to be used by performing the following process:



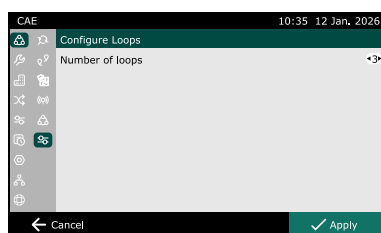
1. Select **6 Loop configuration from the submenu**, by either pressing the number 6 or using the ▲ and ▼ keys, and press ✓ to confirm.



2. The screen will display the number of loops that are configured.

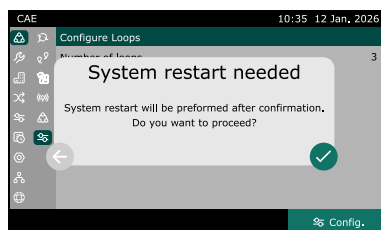


3. Press the "Config" function key to edit the value. The number of loops will blink.



4. Press the number (1 or 2) or the ◀ and ▶ keys to change the value.

5. Press "Apply" to save the value.



6. The message "System reset required" will be displayed. Press ✓ to accept.

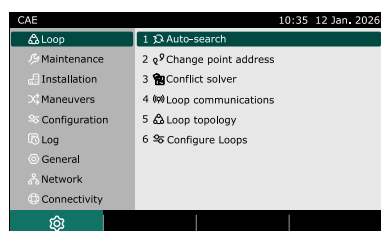
7. The alarm control panel will restart with the selected number of loops enabled.

The number of enabled loops will be reflected in different menu options.

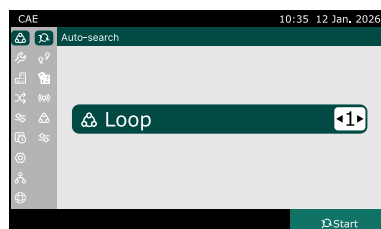
### 3.6.2 Point auto-search.

The alarm control panel can perform automatic searches for the points of the analogue devices connected in a loop, and be configured to work with the points that are found.

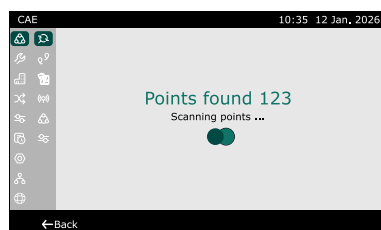
The process is as follows:



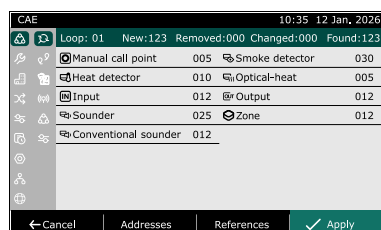
1. Select **1 Auto-search** by either pressing the number 1 or using the ▲ and ▼ keys, and press ✓ to confirm.



2. Select the loop number and press "Start".



3. The number of points that have been found will be briefly displayed on the screen.



4. Next, a summary of the points that have been modified since the last saved configuration is shown, indicating:

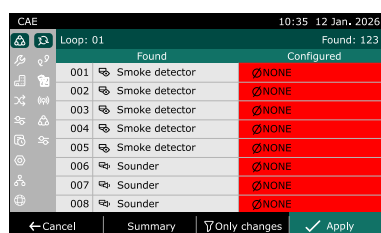
- New
- Removed
- Different
- Total

And also a summary of the points, sorted by type.



The alarm control panel may have been previously configured with the SCE-200 configuration software with the points of the devices that are going to be installed, or it may already have information from having carried out this process previously.

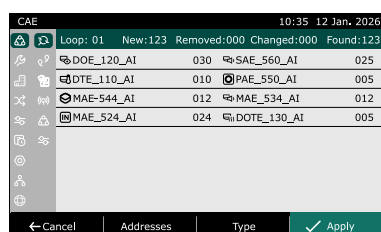




5. Pressing the "Addresses" function key displays a list of points that were found, sorted by their address number in the "Found" column.

The "Configured" column shows the configured points (if any), with any differences shown in red.

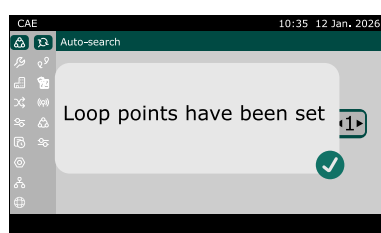
You can apply a filter to only show the changes.



6. By clicking on "Summary", the summary of points is displayed again, and by clicking on "References", the types of devices to which the points belong are displayed, sorted by references.



*Auto-search does not recognise devices that have not been coded and have the factory default number 0. If fewer computers are listed than are installed, try performing a loop topology analysis to see if it recognises them.*



7. Press "Apply" to save the new configuration with the points found, or "Cancel" to exit without saving them.



The Auto-search process must be performed when all of the system's points and devices are operational and have been correctly recognised, as it overwrites the configuration that was previously saved.

Auto-search must be performed for all of the alarm control panel's loops with connected devices.



The system will now be operational, with the alarm control panel configured as follows by default:

- All points of the system will be associated with zone 1 and area 1. Depending on the number of loops, points installed, and the dimensions of the building being protected, it may not comply with the EN54-14 standard regarding the size of a zone.
- No descriptive texts have been defined for the points, zones, and areas, so points will only be identified by their loop number and address in the loop.
- When a location enters an alarm state, this will be indicated by:
  - An on-screen notification.
  - Activation of the local audible alert (buzzer).
  - Activation of the main alarm indicator.
  - Activation of the main alarm relay.
- The audible alarm can be muted from Access level 1 (any user with access to the alarm control panel).
- There are no defined maneuvers that will be performed automatically when a point goes into an alarm state.
  - No causes or conditions to be met have been defined.
  - No effects on outputs and sounders have been defined.
- Evacuation sounders will not be automatically activated, they must be manually activated and muted by a user with Level 2 (access code "8888") or Level 3 (access code "9999") access privileges by pressing the Activate/silence sounders key.
- When the sounders are activated, the 2 conventional sounder zone outputs and all analogue sounders and outputs configured as sounders (24 V monitored output modules) will be activated.

Although the alarm control panel can now be considered operational, the configuration still needs to be adapted to meet the requirements of the Emergency Plan for the building being protected. This can be done from:

- On the alarm control panel itself, from the installer menu, by changing all of the settings.
- From a PC, using the SCE-200 configuration software, with the configuration being uploaded via the USB or Ethernet port, which is far simpler and more intuitive.



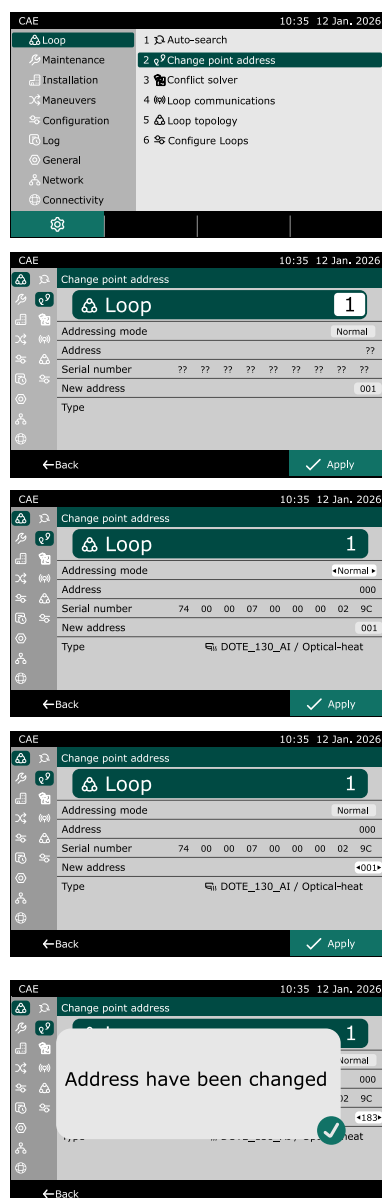
### 3.6.3 Changing the addresses of devices.

Devices should be programmed with the PGE-100 address programmer, but it is possible to assign or change the address from the alarm control panel.



*Normal mode only works if there is a single device connected. If it is necessary to change the address of a device that is in a loop with other connected devices, see 3.6.3.1 Changing an address by serial number, or 3.6.4 Duplicate address conflict solver.*

The process is as follows:



1. Select **2 Change point address** by either pressing the number 2 or using the ▲ and ▼ keys, and press ✓ to confirm.

2. Select the loop number and press "Start".

If no device is connected, or there is more than one, no information is displayed.

3. When a device is connected, it displays its information.

- Configured address
- Serial number
- Type

4. Press ▼ to keep addressing in Normal mode.

5. Press ▼ to move the cursor down to New address, and press ✓.

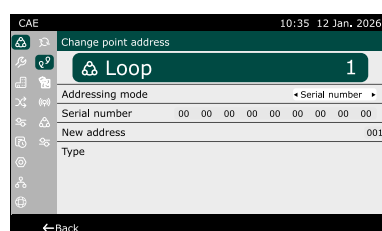
6. Change the value of the New address.

7. Press "Apply" to set the new address on the device.

8. A confirmation message is displayed, followed by updated information about the connected device.

#### 3.6.3.1 Changing an address by serial number.

It is possible to change the address of a device that is connected in a loop with other devices, by using serial number addressing mode.



The procedure is similar to that described for normal mode, but with the addressing mode being changed to "Serial number".

You must know the serial number of the device that is being modified, which is unique to each device and is printed on a sticker on the device itself.

Enter the serial number and then the new address.

### 3.6.4 Duplicate address conflict solver.

If there are two or more points with the same address when performing an Auto-search, the device summary list will show fewer points than are installed, and the number of addresses that have 2 or more points assigned to them will be shown as "Double address".

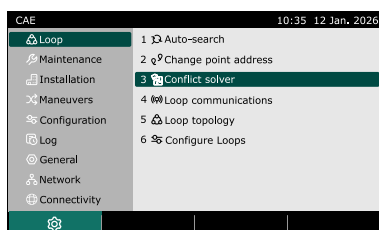
CAE 10:35 12 Jan, 2026			
Loop: 01 New:122 Removed:000 Changed:000 Found:122			
	Manual call point	005	Smoke detector 029
	Heat detector	010	Optical-heat 004
	Input	012	Output 012
	Sounder	025	Zone 012
	Conventional sounder	012	Double address 001
<div> <div>← Cancel</div> <div>Addresses</div> <div>References</div> <div>✓ Apply</div> </div>			

CAE		10:35 12 Jan, 2026	
Loop: 01		Found: 122	
Found		Configured	
001	Double adress	ØNONE	
002	Smoke detector	ØNONE	
003	Smoke detector	ØNONE	
004	Smoke detector	ØNONE	
005	Smoke detector	ØNONE	
006	Sounder	ØNONE	
007	Sounder	ØNONE	
008	Sounder	ØNONE	
← Cancel		Summary	
Only changes		✓ Apply	

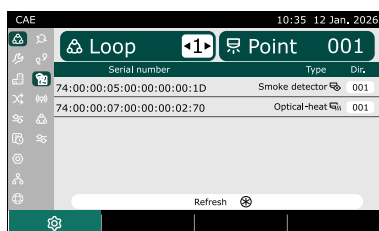


When applying the detected loop configuration, those points will be ignored. No points will be assigned to that address, so the alarm control panel will not report a fault. It is the installer's responsibility to check that the devices that have been recognised are the ones that have been installed.

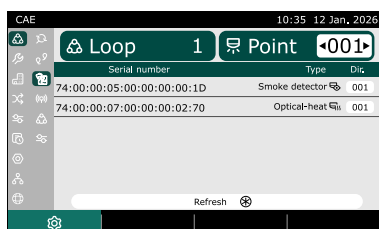
To resolve this problem, the following process must be performed:



1. Select **3 Conflict solver** on the menu by either pressing the number 3 or using the ▲ and ▼ keys, and press ✓ to confirm.



2. Wait or press \* to refresh the information for equipment with duplicate addresses.

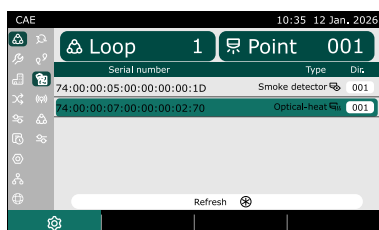


3. Select the loop number and the device number.

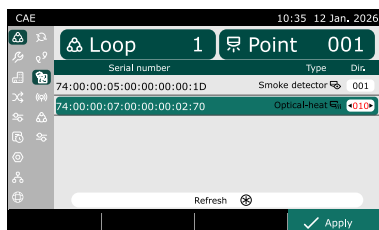
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.

4. Information about the devices assigned to that address will be displayed, showing:

- Serial number
- Type
- Current address

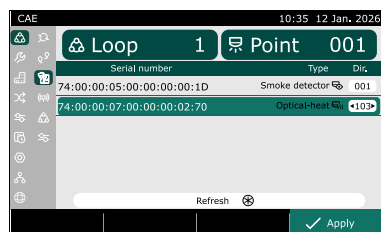


5. Press the ▼ and ▲ keys to select the point whose address is being changed.

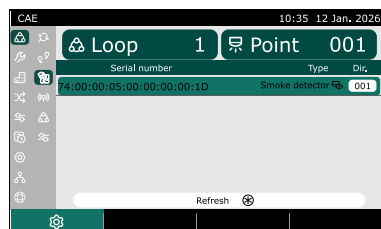


6. Press ✓ to change the address.

7. If the specified address is occupied by another point, it will turn red.



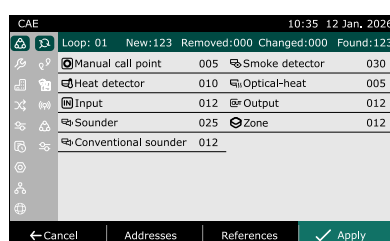
8. Press “Apply” to save the settings to your computer.



9. The information will be updated and only one device will be shown.

10. Press the ← key to exit and repeat the Auto-search process.

There should no longer be any address conflicts, and both devices will appear as newly found points when performing an Auto-search.



Loop: 01		Found: 123	Configured: 123
Found	Configured		
001 Smoke detector	☐ NONE		
002 Smoke detector	☐ Smoke detector		
003 Smoke detector	☐ Smoke detector		
004 Smoke detector	☐ Smoke detector		
005 Smoke detector	☐ Smoke detector		
006 Sounder	☐ Sounder		
007 Sounder	☐ Sounder		
008 Sounder	☐ Sounder		

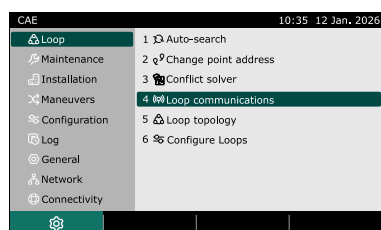
Loop: 01		Found: 123	Configured: 123
Found	Configured		
001 Smoke detector	☐ NONE		
103 Optical-Heat	☐ NONE		

11. Press “Apply” to save the new settings.

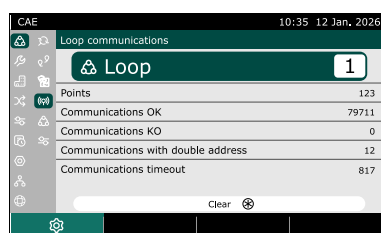
### 3.6.5 Loop communication statistics.

This allows you to view the loop's communication statistics between the alarm control panel and the devices.

Follow the steps below to view them:



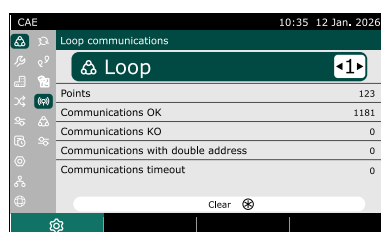
1. Select **4 Loop communications** by either pressing the number 4 or using the ▲ and ▼ keys, and press ✓ to confirm.



2. Select the loop number. The following information is displayed:

- Configured devices
- Successful communications
- Failed communications
- Communications with duplicate devices
- Communication timeouts

The information is updated regularly.



3. Pressing the \* key resets the statistics.

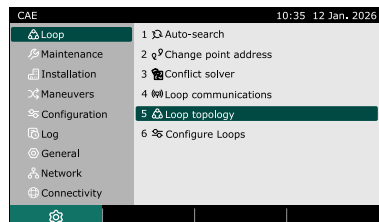
### 3.6.6 Loop topology.

This function allows you to know the physical position in which the devices are connected in the loop, from the output to the return, in both directions, and also to identify any device coding and operating or wiring faults in the system.

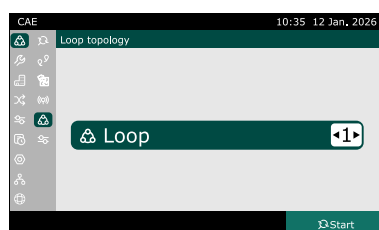


This function only shows the installation topology correctly if all devices connected to the loop have an isolator. It identifies all installed devices, regardless of the address number assigned to them, even if there are duplicate addresses.

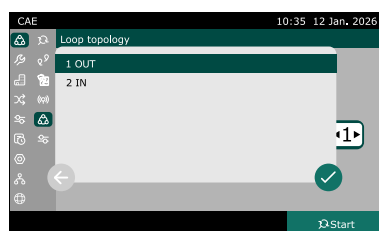
The procedure is as follows:



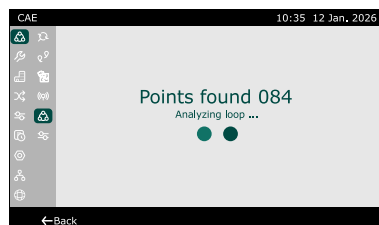
1. Select **5 Loop topology** by either pressing the number 5 or using the ▲ and ▼ keys, and press ✓ to confirm.



2. Select the number of the loop you want to check.

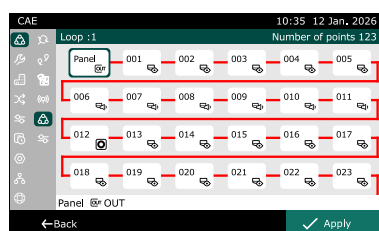


3. Select where the analysis will be performed from:
  - 1 Output
  - 2 Input (return)

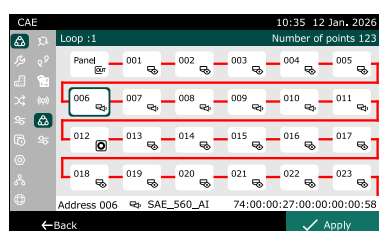


4. Press "Start" to begin the analysis.

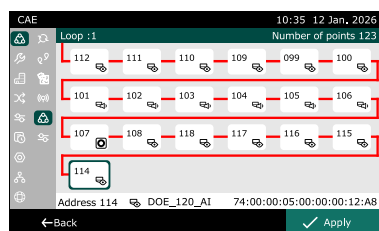
5. The alarm control panel communicates with the devices, which close the isolator as they are found, providing continuity to the line.



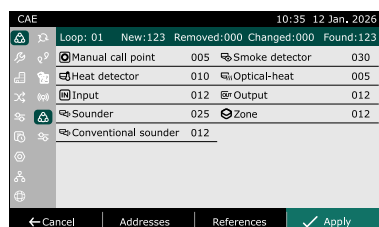
6. When finished, it displays the single-line wiring diagram, showing:
  1. The number of devices found.
  2. The number configured on each device.
  3. The graphical symbol for the device type.



7. You can move the cursor over the devices, with the following information being displayed on the bottom line of the screen for each device:
  - Device address.
  - Product reference number.
  - Serial number

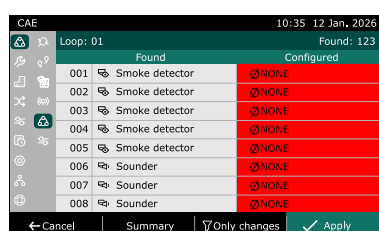


8. After checking that the recognised devices match the ones that have been installed, press "Apply" to save the configuration.



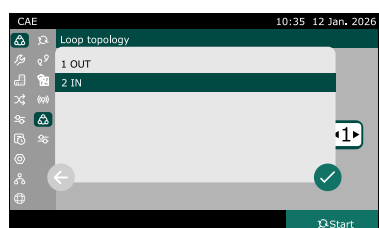
9. A summary of the devices found is shown, sorted by type. The following information about the devices is displayed:

- New
- Removed
- Different
- Total

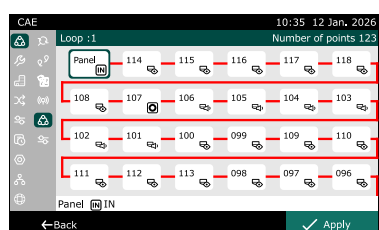


10. The summary displayed can also be sorted by address and can be filtered to only show changes. It can also be sorted by reference number.

11. Press "Apply" to save the new configuration and exit



12. Next, perform the analysis in reverse.



13. The same number of devices should be found, placed in the reverse order.

14. Press "Apply" to save the configuration and or "Back" to exit.

If the same devices are not found in both topological analyses, this may be due to:

- Faulty wiring connection.
  - Open line.
  - Short-circuited line.
- Faulty device connection.
  - Polarity change.
  - Connection to the wrong terminals.
- Device malfunction.

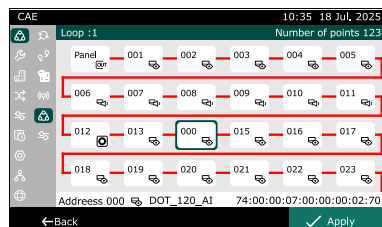


After performing the topological analysis, an Auto-search should be performed on all channels, and the configuration should be saved with the points that are found, as each time the configuration is saved, the existing configuration is overwritten.

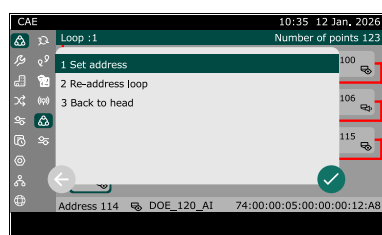
### 3.6.6.1 Changing the address of one device.

It is possible to change the address number of a device within the loop from the loop topology screen. This is very useful when you have devices with duplicate addresses, or devices that have not been coded and have the factory default address 0.

The process is as follows:

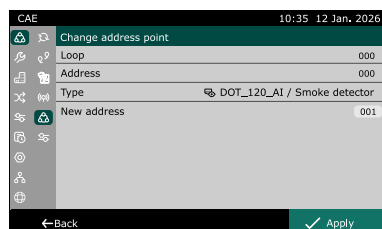


1. Hover the cursor over the device whose address you want to change.



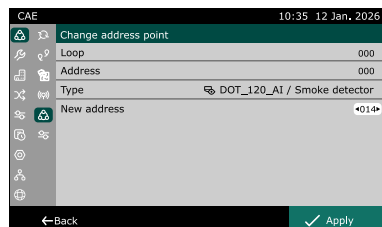
2. Press the \* key and the following menu will be displayed.

3. Select option 1 **Set address**.

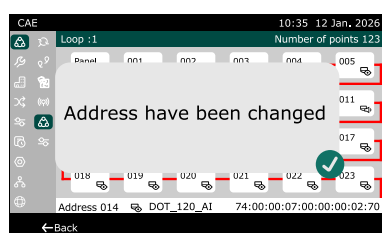


4. The following information about the device is displayed:

- Loop
- Address
- Type
- New address



5. Change the field by entering the new address you want to use.



6. Press "Apply" and the device's address will be changed.

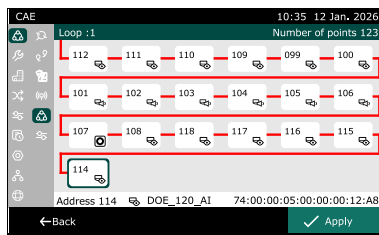
### 3.6.6.2 Reassigning loop addresses.

This allows you to change the addresses of all devices in the channel, assigning consecutive addresses starting from address 1 as you find them, taking into account the number of points on each device to avoid duplicate addresses.

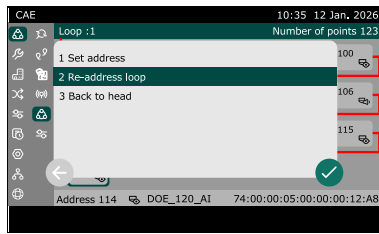


Use this function carefully and only if changing the addresses of the devices will not result in changes to programmed maneuvers or deviate from the system's documentation.

This function can be performed by placing the cursor over the panel or over any of the loop devices.

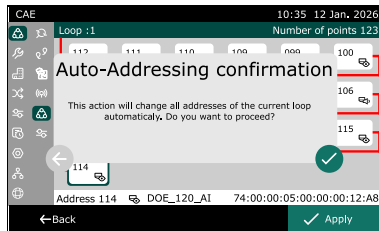


1. In this example we see that the device addresses are not consecutive. Place the cursor over one of them.



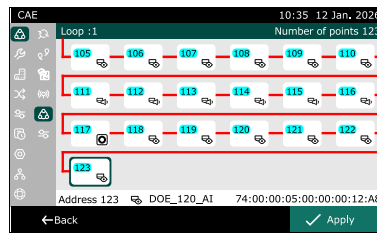
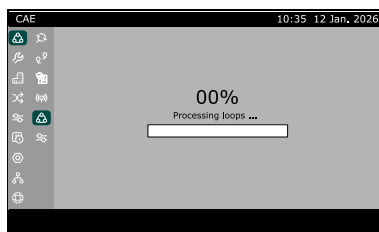
2. Press the \* key and the following menu will be displayed.

3. Select option 2 **Re-address loop**.

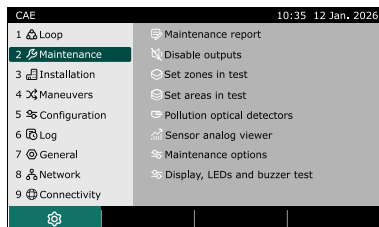


4. You will be asked to confirm before it starts changing the addresses of the devices. Press ✓ to continue.

5. When the process is complete, the devices whose addresses have been changed will be marked in blue.



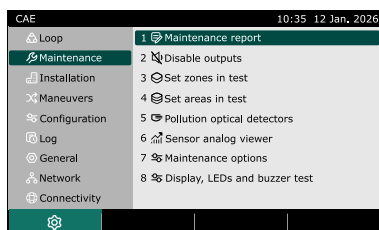
### 3.7 Maintenance.



This allows you to perform maintenance functions on the system.

Select **2 Maintenance** on the menu by either pressing the number 2 or using the ▲ and ▼ keys, and press ✓ to confirm.

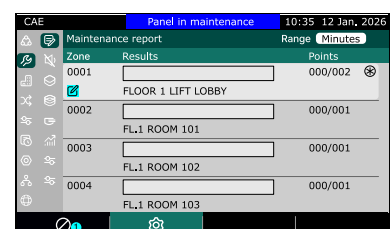
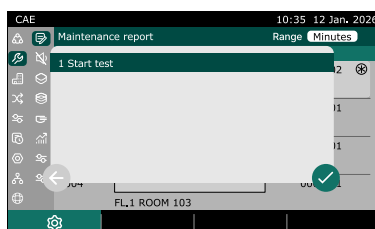
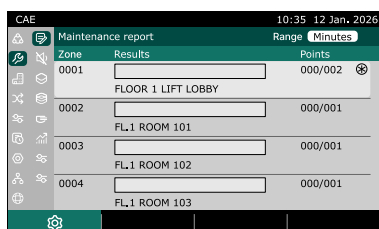
#### 3.7.1 Maintenance report.

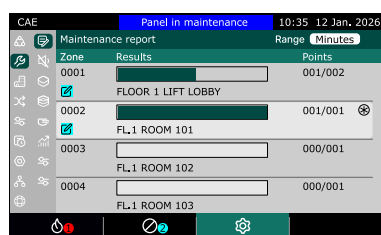


This displays a maintenance report on analogue detector activation tests.

It displays information about the zones, showing the number of devices tested and the number of devices in the zone, as well as a progress bar for each zone.

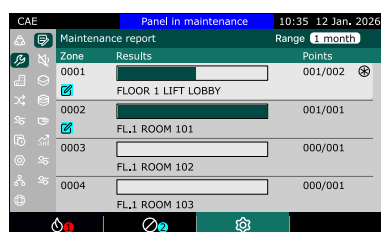
Press the \* key to start testing a zone.





The top of the screen shows that the panel is undergoing maintenance.

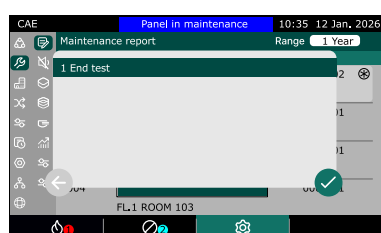
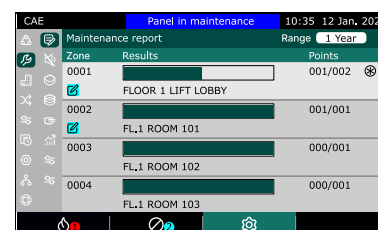
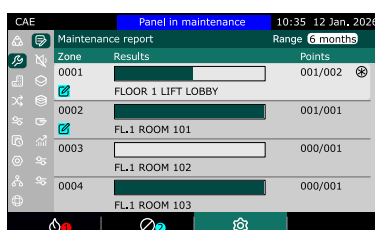
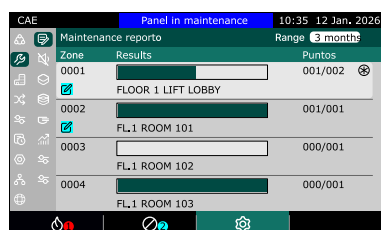
Several zones can be placed in maintenance mode at the same time, which are marked with a blue icon, while the progress bar and counter are updated as the detectors are activated.



The maintenance report period can show the operations performed in:

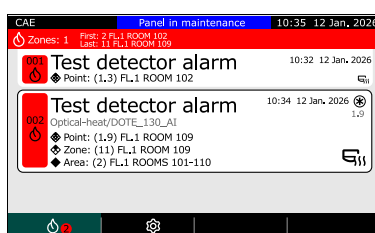
- Minutes (during this work session)
- 1 month
- 3 months
- 6 months
- 1 year
- 2 years

Press ◀ and ▶ to change the display range.

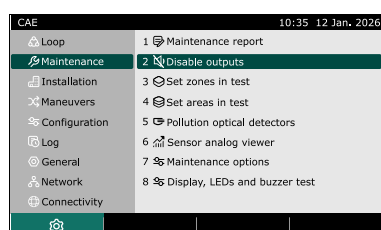


Press the \* key to finish testing the zone.

When the detectors are activated, events are generated on the alarm control panel's screen until they are cleared by pressing the Reset key.

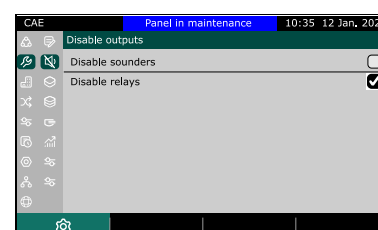
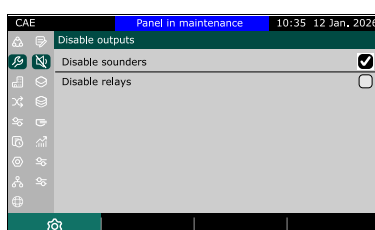
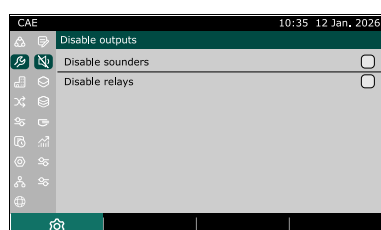


### 3.7.2 Disable outputs.



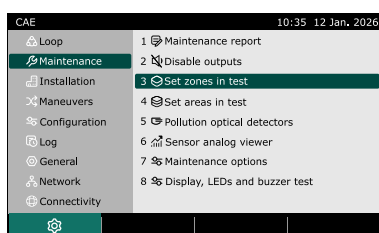
The alarm control panel allows you to disable outputs and sounders to prevent them from being activated automatically.

To do this, check the box for the item you wish to disable, and the top of the screen will show that the panel is undergoing maintenance.



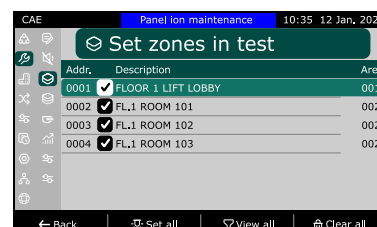
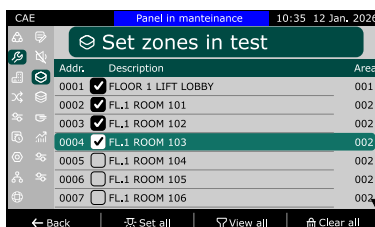
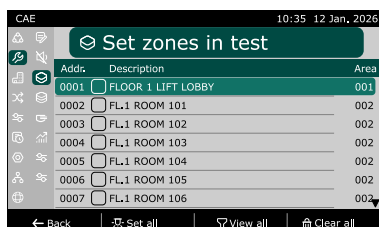


### 3.7.3 Set zones in test mode.

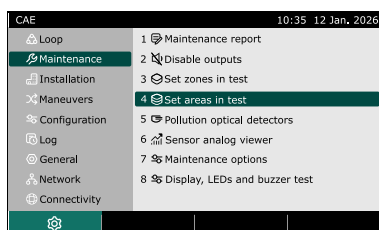


This allows you to put zones in test mode to activate detectors.

It displays a list where you can select zones individually, or all of them at once. It also has a filter to show all, or only the ones that are in test mode.

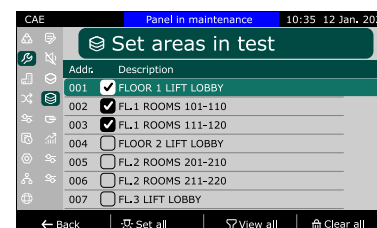
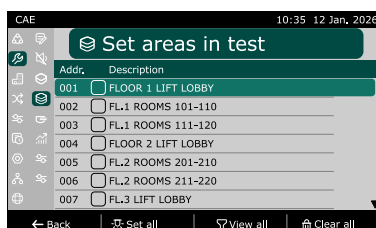


### 3.7.4 Set areas in test mode.

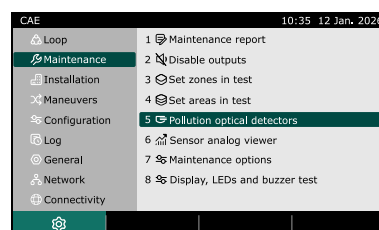


This allows you to put areas in test mode to activate the detectors in the zones associated with each area.

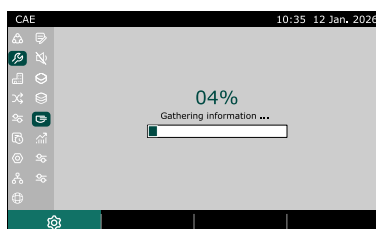
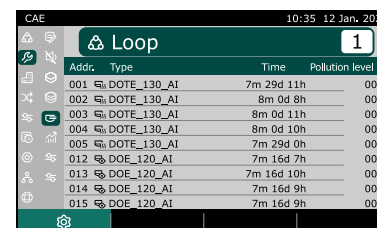
It displays a list where you can select areas individually, or all of them at once. It also has a filter to show all, or only the ones that are in test mode.



### 3.7.5 Pollution optical detectors.



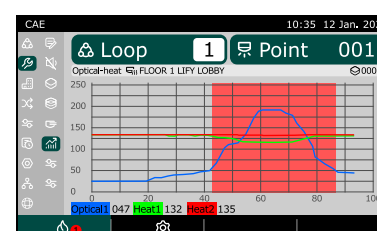
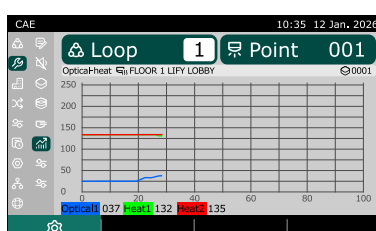
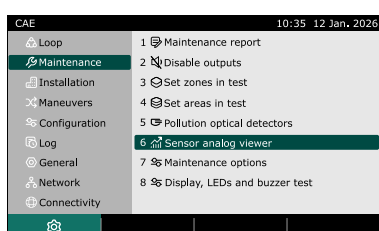
This displays a report on the detectors installed in each loop, showing the address, type of detector, operating time and level of pollution.

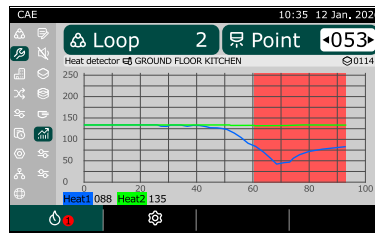
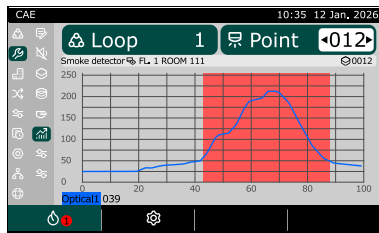



Addr.	Type	Time	Pollution level %
001	DOE_130_AI	7m 29d 11h	000
002	DOE_130_AI	8m 0d 8h	003
003	DOE_130_AI	8m 0d 11h	001
004	DOE_130_AI	8m 0d 10h	001
005	DOE_120_AI	7m 29d 0h	000
012	DOE_120_AI	7m 16d 7h	000
013	DOE_120_AI	7m 16d 10h	000
014	DOE_120_AI	7m 16d 9h	000
015	DOE_120_AI	7m 16d 9h	001

### 3.7.6 Sensor analog viewer.

This displays a real-time graph of the analogue measurements from the detectors and when they are in an alarm state.

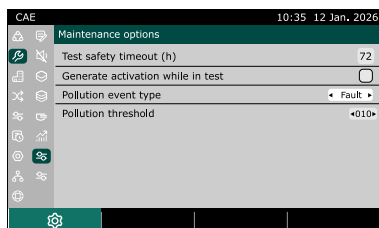
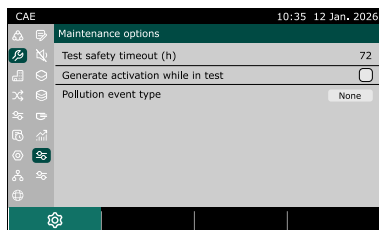
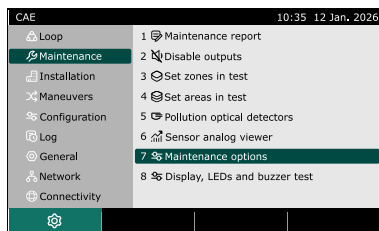




Select the loop and point to be viewed.

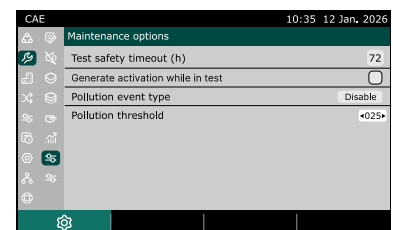
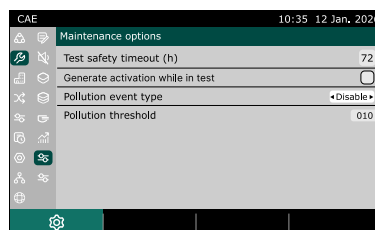
The number of measurements displayed depends on the type of analog detector.

### 3.7.7 Maintenance options.

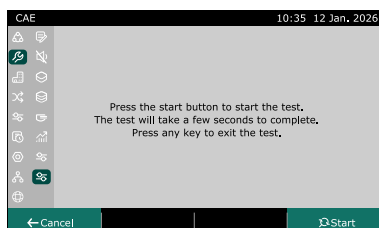
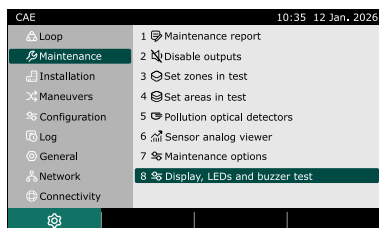


This allows you to configure certain operating options.

- **Test safety timeout.** The number of hours after which test mode will automatically end.
- **Generate activations while in test mode.** If this option is selected, activating a detector will run its programmed maneuvers.
- **Pollution event type.** Type of event that will be generated when a detector exceeds the permitted dirt level. This may be:
  - None
  - Fault
  - Technical
  - Informative (Info)
  - Disable
  - Fault / Disable
- **Pollution threshold.** Highest value that the optical sensor can reach to generate an event.

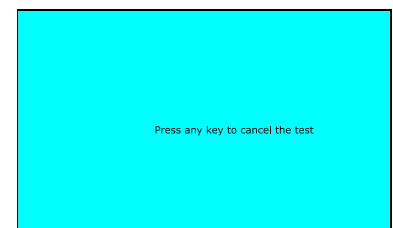
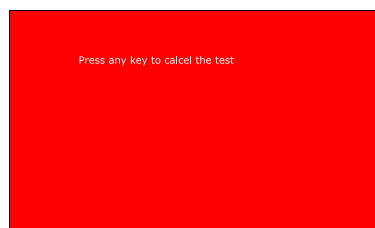


### 3.7.8 Display, LED and buzzer test.



This tests the operation of the screen, indicator lights and buzzers.

Follow the on-screen instructions to begin. Screens will be displayed in different colours to check that they are being displayed/sounding correctly.



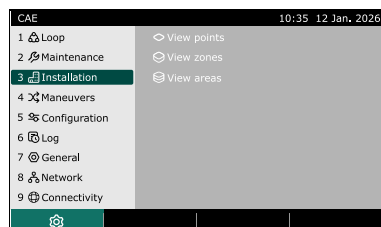
### 3.8 Configuring the system.

To ensure the proper operation of the system and comply with the EN54-14 standard, each point must be assigned to its corresponding zone.

This menu allows you to configure points (devices), zones, and areas.

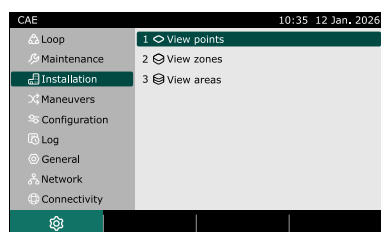


They can also be configured in a much simpler and more user-friendly way using the SCE-200 configuration software.

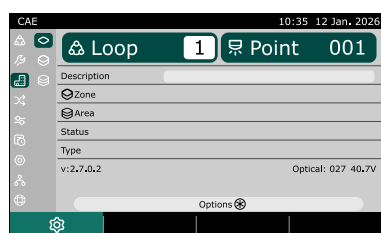


Open the installer menu and select 3 **Installation** by either pressing the number 3 or using the ▲ and ▼ keys, and press ✓ to confirm.

#### 3.8.1 Points. Descriptive text and zone assignment.



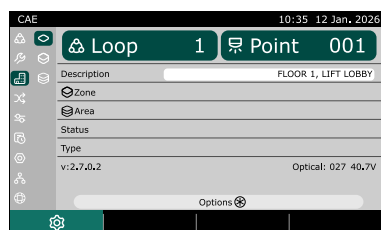
1. Select option 1 **View points**.



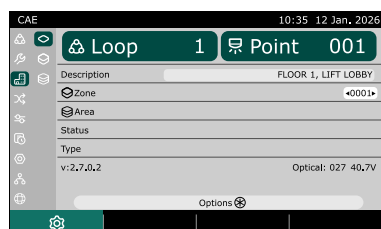
2. The information about the first point of Loop 1 is displayed.

3. Select the loop number and the point number.

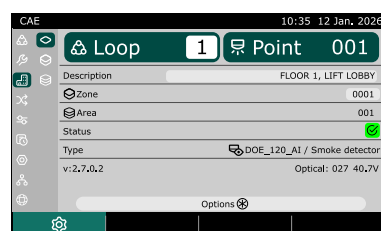
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



4. Select the "Description" field and enter the characters by pressing the number keys until you reach the character you want to enter.

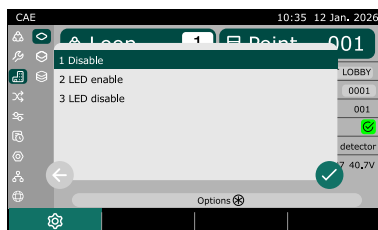


5. Select the "Zone" field and change it, assigning it the desired zone (1 ...1000).

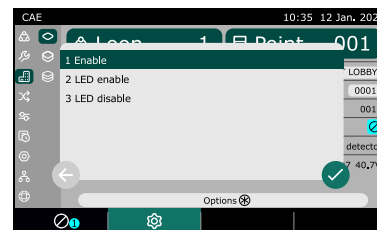
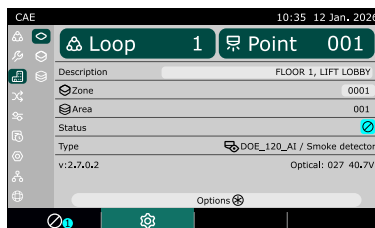


6. Pressing the \* key opens the options menu, which will vary depending with each type of device.

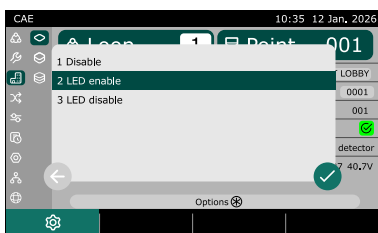
### 3.8.1.1 Disable / enable point.



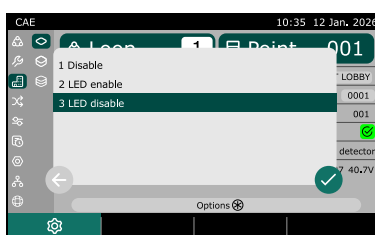
This allows the point to be set to disabled mode (offline), so that the alarm control panel ignores any status changes that may occur.



### 3.8.1.2 Disable / enable LED.

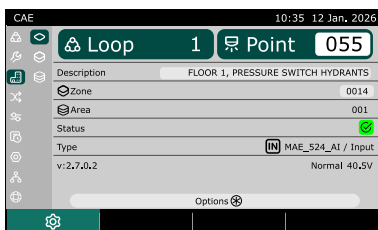



This allows you to enable and disable the status LED of the point, so that you can identify it in the system.



In analogue detectors, it is also used to test the operation of action indicator lights.

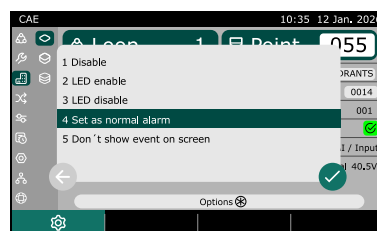
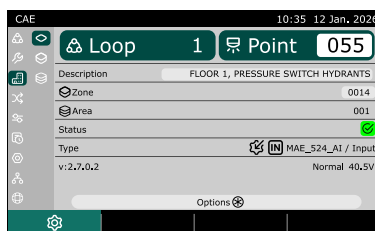
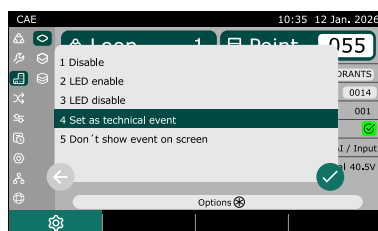
### 3.8.1.3 Input. Configure as technical event / normal alarm.



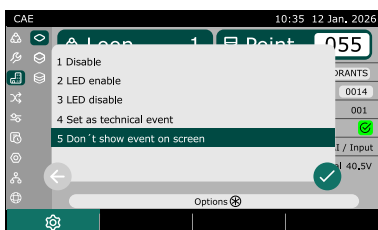
 This option is only available for input points.


It allows you to configure the input to generate an alarm event or a technical event when it is activated.

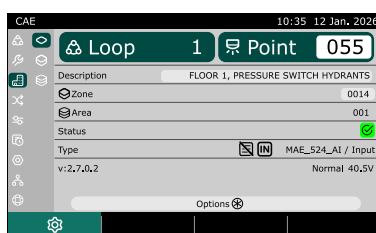
By default, all inputs are configured as normal alarms.



### 3.8.1.4 Technical event. Do not display event on screen.



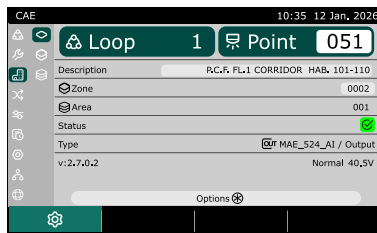
 This option is only available for input points that are configured as technical events.




When this option is enabled, the technical event is not displayed on the screen, either when it is activated or when it is reset.

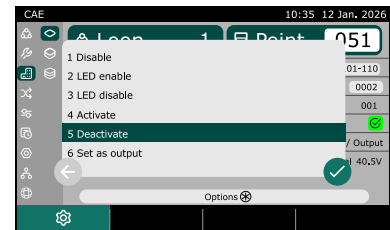
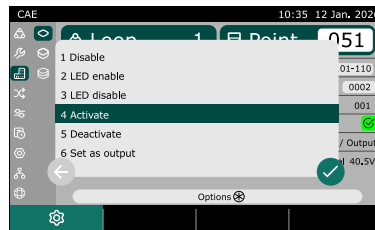
By default, all technical events are set to be displayed on the screen.

### 3.8.1.5 Activate / deactivate sounders and outputs.

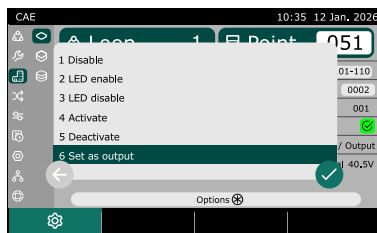



 This option is only available for sounder or output points.

It allows you to activate and deactivate sounder and output points to test their operation individually.

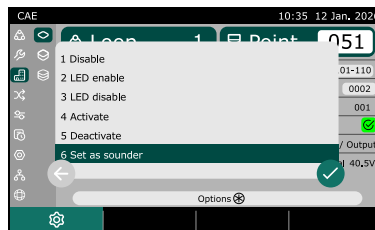


### 3.8.1.6 Configure as output / sounder.



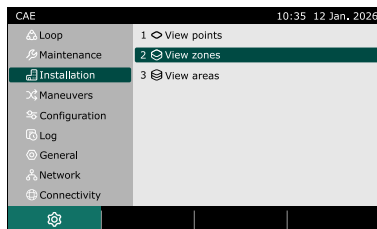
 This option is only available for sounder or output points.

If a point is configured as a sounder, press the "Activate / reset sounders" key to manually activate and reset it.



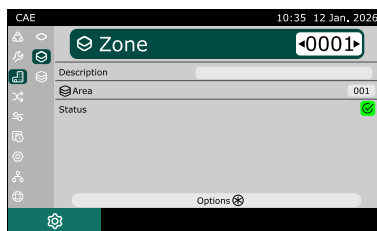
If a point is configured as an output, once activated automatically, it will remain active until the "Reset" key is pressed.

## 3.8.2 Zones. Descriptive text and area assignment.









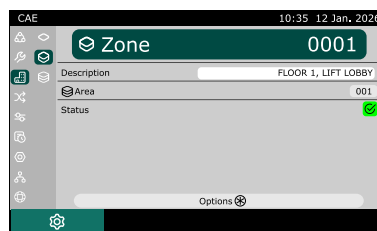
1. Select option 2 **View zones**.

2. The information about the first zone is displayed.

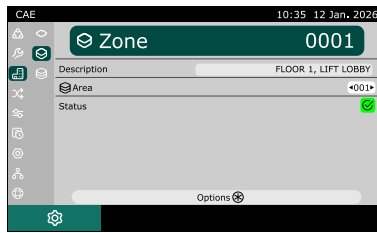


3. Select the zone number.

- press  to modify the selected field.
- press  and  to change the value or press the number.
- press  to confirm the value.
- press  and  to toggle between fields.



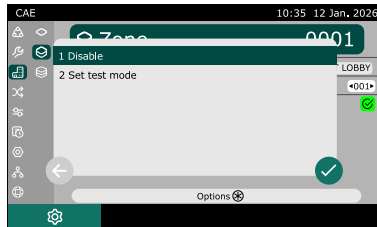
4. Select the "Description" field and enter the characters by pressing the number keys until you reach the character you want to enter.



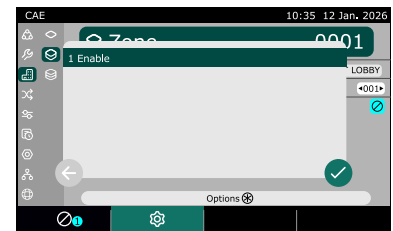
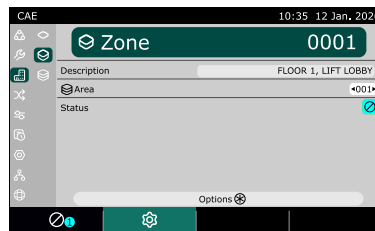
5. Select the "Area" field and change it, assigning it the desired area (1 ...100).

6. Pressing the \* key opens the options menu.

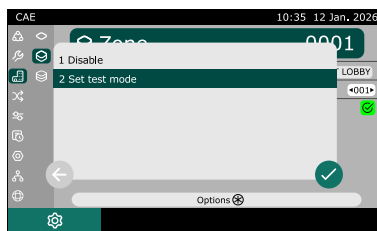
### 3.8.2.1 Disable / enable zone.



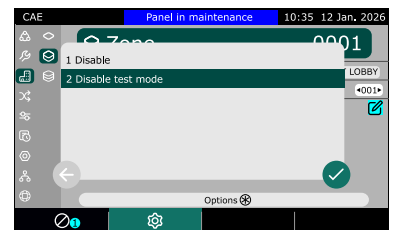
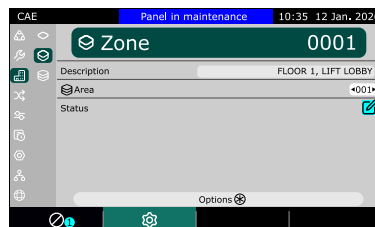
This allows the zone to be set to disabled mode (offline), so that the alarm control panel ignores any status changes that may occur in all of the points associated with the zone.



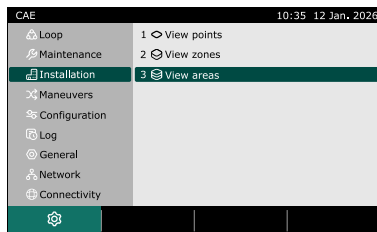
### 3.8.2.2 Activate / deactivate test mode.



This allows the zone to be put into test mode, so that the analogue detectors in the zone can be tested and the programmed automatic maneuvers can be performed.

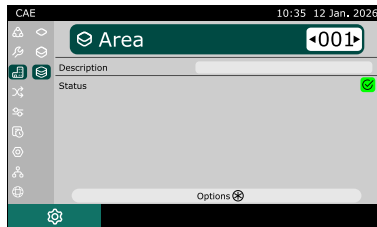


### 3.8.3 Areas. Descriptive text.



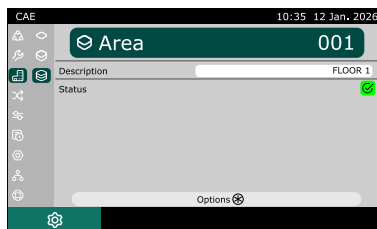
1. Select option 3 **View areas**.

2. The information about the first area is displayed.



3. Select the area number.

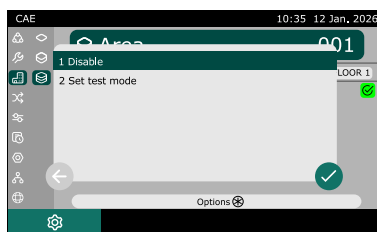
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



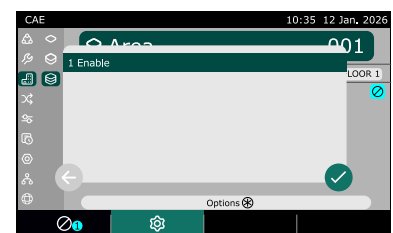
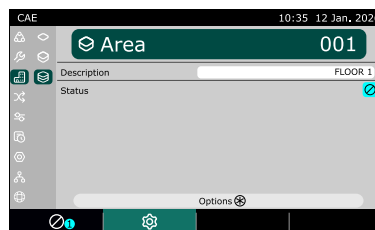
4. Select the "Description" field and enter the characters by pressing the number keys until you reach the character you want to enter.

5. Pressing the \* key opens the options menu.

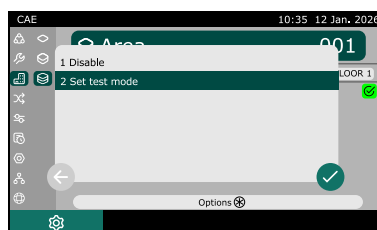
#### 3.8.3.1 Disable / enable areas.



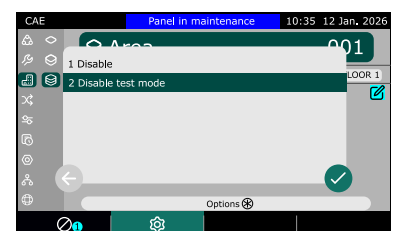
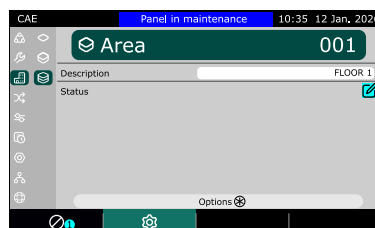
This allows the area to be set to disabled mode (offline), so that the alarm control panel ignores any status changes that may occur in all of the zones and points associated with the zone.



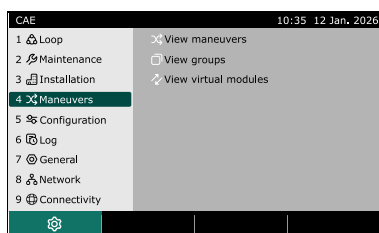
#### 3.8.3.2 Activate / deactivate test mode.



This allows the area to be put into test mode, so that the analogue detectors in all the zones associated with the area can be tested without running the programmed automatic maneuvers.



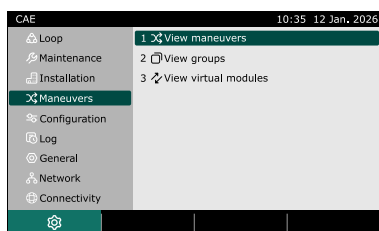
### 3.9 Maneuvers.



This allows you to define automatic sounder and output activation maneuvers, which will be carried out when a certain condition is met.

It also allows you to define groups and virtual inputs and outputs, to make it easier to define and perform maneuvers.

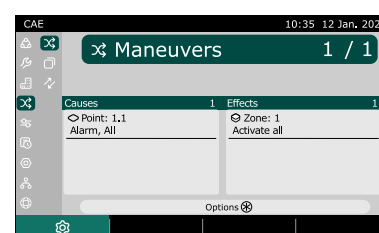
#### 3.9.1 View maneuvers.



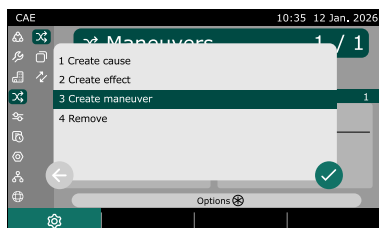
This allows you to view, create, and delete set maneuvers.

No maneuvers are defined by default. Press the \* key to open the options menu.

If there are defined maneuvers, the causes and effects are shown.

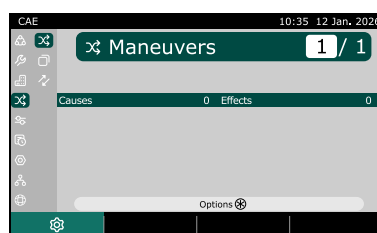
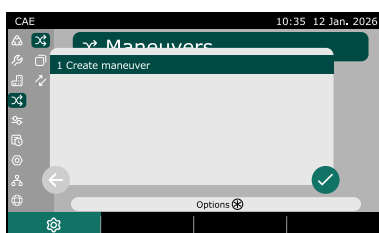


##### 3.9.1.1 Create maneuver.



By default, a maneuver is created that activates all sirens and outputs, in compliance with the EN54-2 standard. This maneuver must be modified to meet the requirements of the installation.

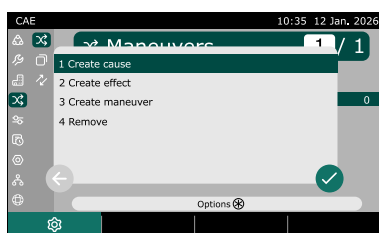
If there are no defined maneuvers, only the option to create maneuvers is displayed.



When creating a maneuver, the causes and effects are empty.

Press \* to access the options menu.

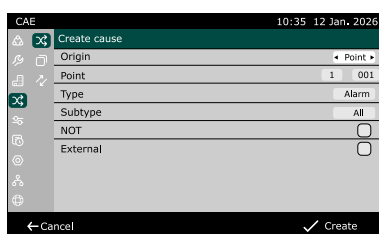
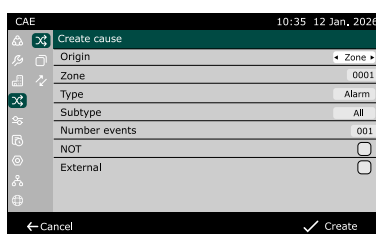
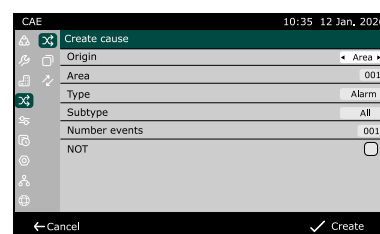
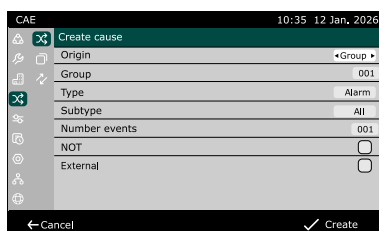
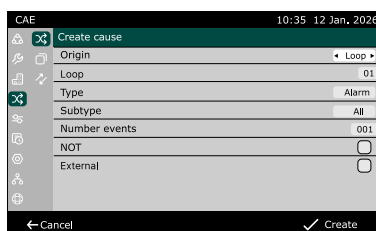
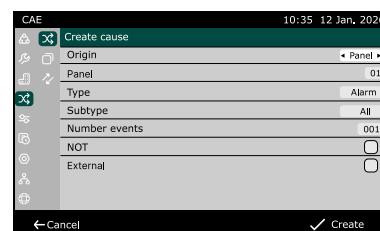
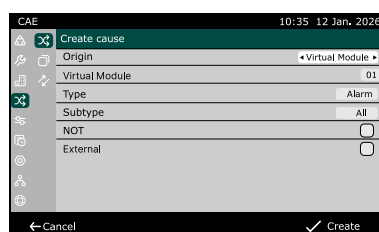
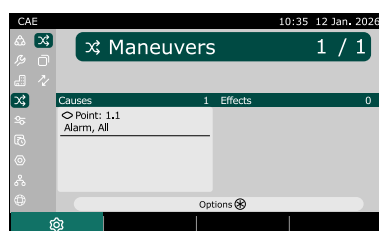
##### 3.9.1.2 Create cause.



Causes are the conditions that must be met for a maneuver to be performed. They consist of:

- **Origin.** This may be:
  - **Point** loop and point number
  - **Zone** zone number (1...1000)
  - **Area** area number (1...250)
  - **Group** group number (1...250)
  - **Loop** loop number (1...2) depending on alarm control panel model
  - **Panel** panel number
  - **Virtual module** virtual module number (1...250)



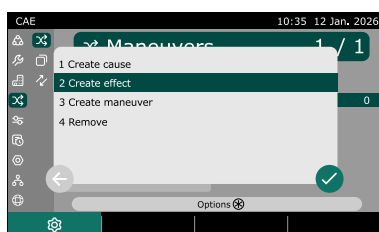
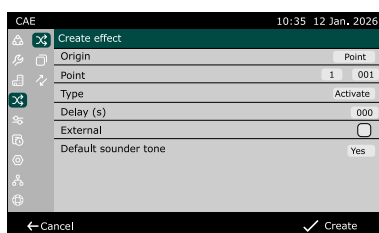









- **Type and subtype.** Depending on the source, this may be:
  - Alarm.
    - All / Manual Call Point / Optical or thermal sensor / Optical sensor / Thermal sensor / Pre-alarm.
    - Number of events.
  - Device fault.
    - All / Power supply.
  - Technical.
    - Activation / Deactivation.
  - Reboot.
  - Key.
- **NOT.** inverted logic of the subtype.
- **External.** Belonging to another alarm control panel connected to the network.

Press “Create” to add it.

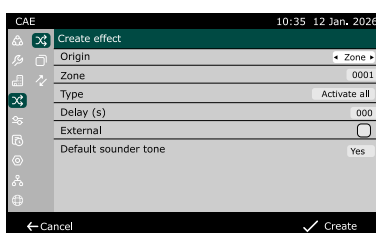
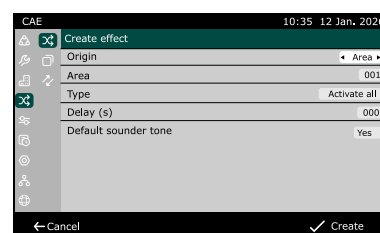
Several causes can be defined for a single maneuver and AND / OR logic can be used.

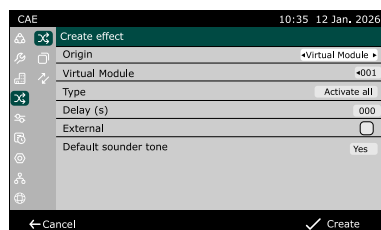
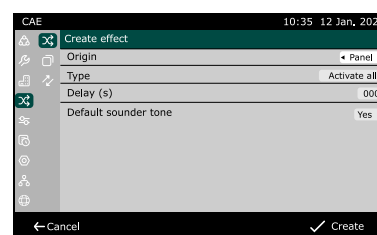
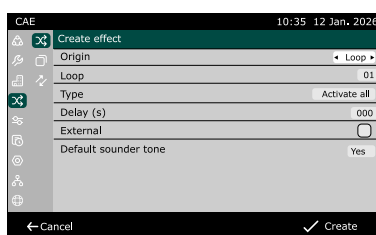
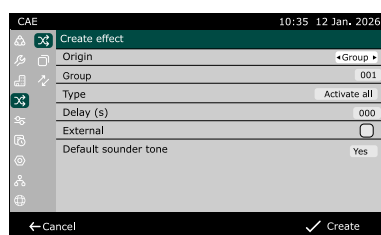
### 3.9.1.3 Create effect.

Effects are actions (activation and reset) on outputs and sounders, but also on virtual modules and devices. They consist of:

- **Origin.** This may be:
  - Point loop and point number
  - Zone zone number (1...1000)
  - Area area number (1...250)
  - Group group number (1...250)
  - Loop loop number (1...2) depending on alarm control panel
  - model
  - Panel panel number
  - Virtual relay virtual module number (1...250)

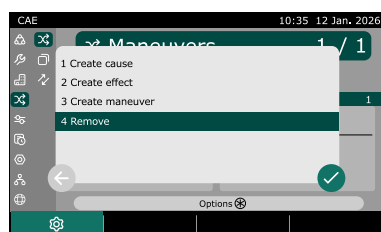





- **Type.** Depending on the source, this may be:
  - Activate / Activate all / Activate sounders / Activate relays
  - Deactivate / Deactivate all / Deactivate sounders / Deactivate relays
  - Enable
  - Disable
  - Reboot
- **Delay (s).** Delay time before the action is performed.
- **External.** Belonging to another alarm control panel connected to the network.
- **Default sounder tone.** This allows you to select a different tone, volume, and flash frequency. Only for certain analogue sounder models.
  - Tone 1...32
  - Volume normal / high / off / low
  - Flash slow / fast / off

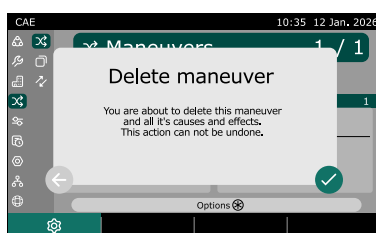
Several effects can be defined for a single maneuver.

### 3.9.1.4 Remove.

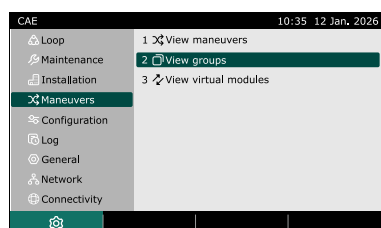


Allows you to delete a previously defined maneuver.

Deleting the maneuver deletes all defined causes and effects, and this action cannot be undone.

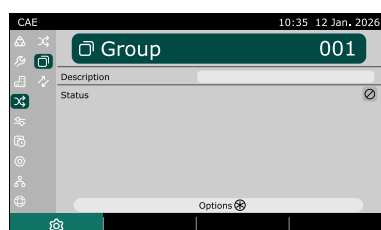


### 3.9.2 View groups.



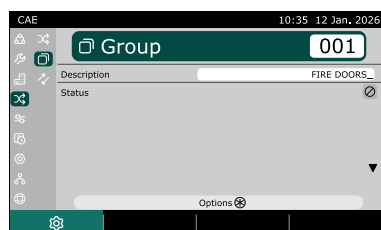
This allows you to view, create, and delete defined groups.

A group is a set of associated input or output points - not zones or areas - which makes it easier to configure maneuvers.



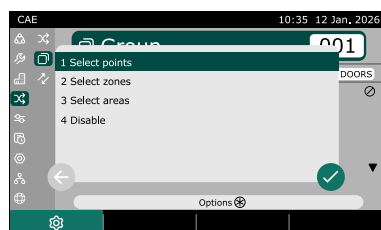
Press the \* key to open the options menu.

### 3.9.2.1 Adding points, zones, or areas to a group.



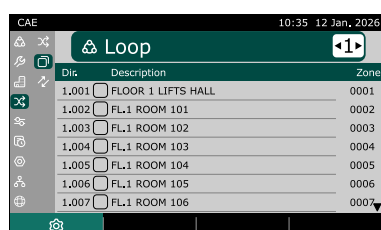
Select the group number. By default, it will not have any elements assigned to it.

The description text for the group can be edited to make it easier to find later.



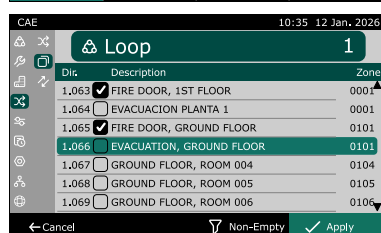
Press \* to access the options menu.

A group can be composed of points, zones, or areas, but only one of these types, and they cannot be mixed.



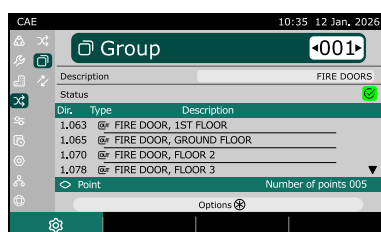
When you select the desired type, the window for adding the corresponding points is displayed.

In the case of points, select the loop number, and then the points to be associated with the group, checking the box.



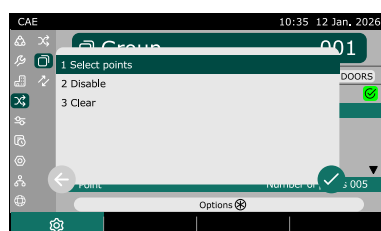
You can apply filters to locate points more easily.

Press Apply to save the assignment of the selected points.



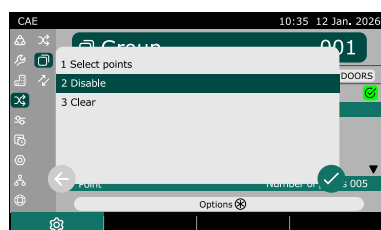
Once items have been assigned to the group, pressing the \* key displays a new menu with the following options:

### 3.9.2.2 Select points, zones, or areas.

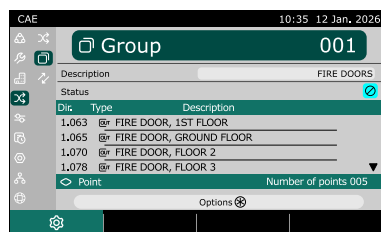


Allows you to edit the points associated with the Group.

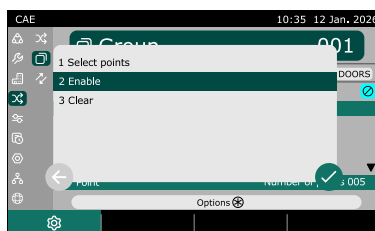
### 3.9.2.3 Deshabilitar / Habilitar.



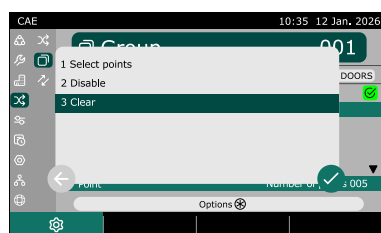
When a group is disabled, it is not taken into account for causes or effects, but the associated elements (points, zones, or areas) remain enabled



A disabled group can be re-enabled, maintaining the association of elements, to be taken into account in the definitions of causes and effects.

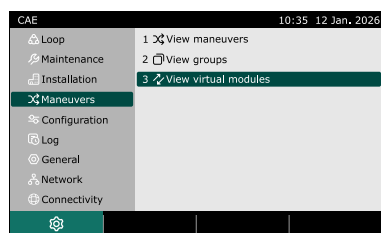


### 3.9.2.4 Clear.



Remove all items associated with the group, leaving it empty.

### 3.9.3 View virtual modules.



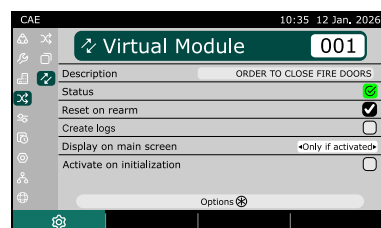
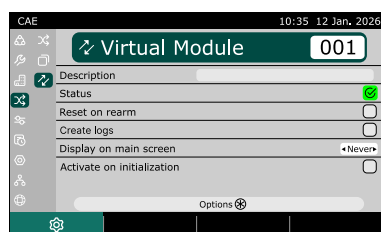
This allows you to view the defined virtual modules and edit their operating characteristics.

No virtual modules are defined by default, as these are created as the effect of a maneuver, but all 250 possible relays are available.

Virtual modules are definitions of intermediate states, which are dependent on the states (alarm, fault) of points (causes) and which, when a condition (AND/OR) is met, activate the virtual module.

They are used in maneuvers to define rules for activating or resetting outputs (sounders, relays, etc.), but also to enable or disable points (zones, areas, etc.).

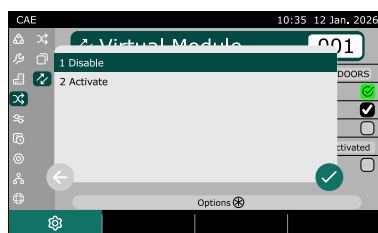
A virtual relay can also be used as the source of a maneuver, enabling more complex combinations.



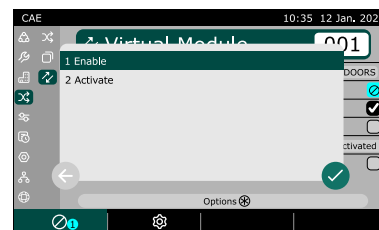
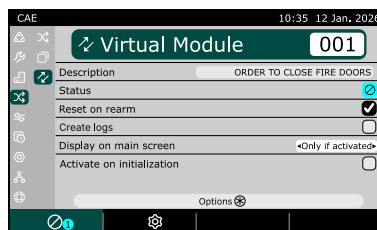
- **Description:** Descriptive text to facilitate its use.
- **State:** Shows the current state using icons.
- **Reset:** When you reset the alarm control panel, it enters a deactivated state.
- **Create log:** Saves events in the log.
- **Show on main screen:** This allows you to see its status on the main screen, in the virtual modules window.
  - Never
  - Only if activated
  - Always
- **Activate on initialization.** When starting up the alarm control panel, or after a reset, the virtual module is activated.

Press the \* key to open the options menu.

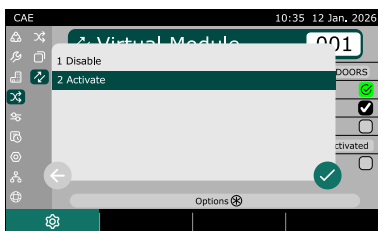
### 3.9.3.1 Disable / Enable.



This allows you to disable the virtual relay so that it is not included in the conditions or effects of the maneuvers.

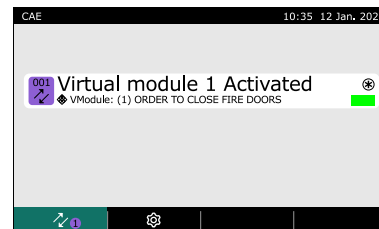
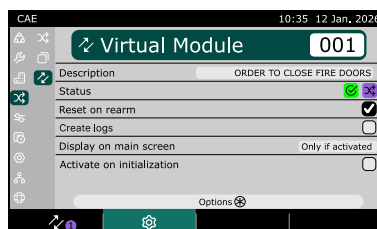


### 3.9.3.2 Activate.

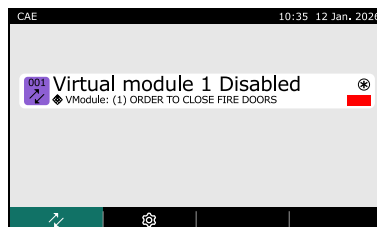


This allows you to force the manual activation of the virtual module to perform the maneuvers where it is listed as a cause.

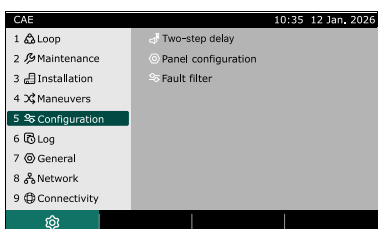
If it has been configured to always appear on the main screen; it can also be activated from there.



The virtual module can be deactivated from the menu option, or from the main screen, if it has been configured to display it when activated or always

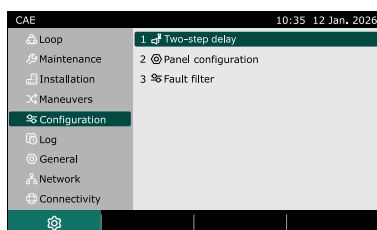


## 3.10 Configuration.



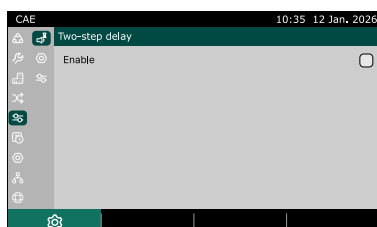
This allows you to change the operating settings of the alarm control panel.

### 3.10.1 Two-step delay.



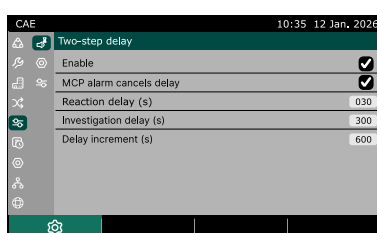
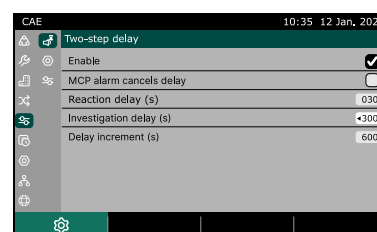
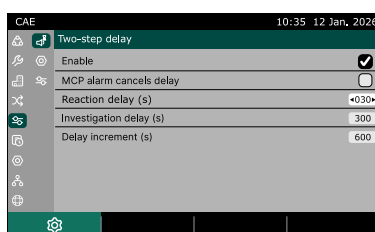
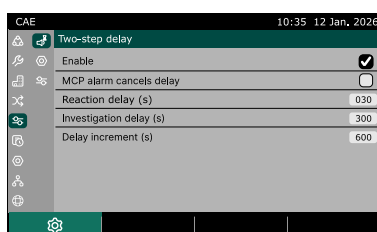
This allows you to enable delayed mode for output activation.

This mode allows for a response time between the alarm event being received and the automatic activation of the programmed maneuvers. Once the alarm has been dealt with, the investigation time can be extended or cancelled to activate the maneuvers.



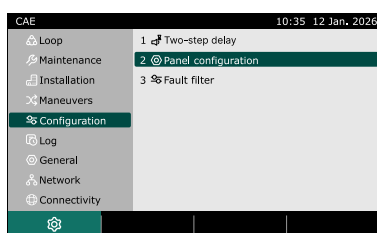
When enabled, the configured times are displayed and can be changed.

- Reaction delay (0...30 seconds)
- Investigation delay (0...300 seconds)
- Delay increment (0...30 seconds)



It is possible to configure the manual alarm buttons to disregard the alarm delay mode, cancelling the programmed time when they enter alarm status.

### 3.10.2 Panel configuration.

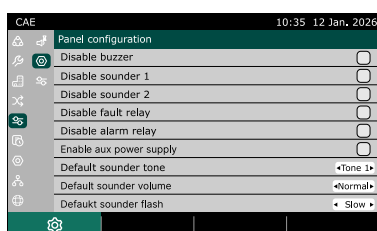


This allows you to configure certain internal operating parameters of the alarm control panel.

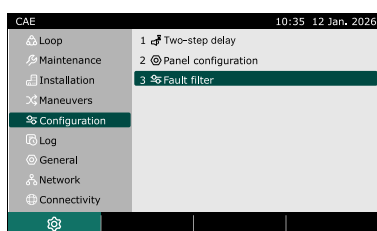


Use with care and only temporarily. Disabling certain functions is not in compliance with EN 54-2.

- **Disable buzzer.** Disables the operation of the local audible alert.
- **Disable sounder 1:** Disables sounder output 1 of the alarm control panel.
- **Disable sounder 2:** Disables sounder output 2 of the alarm control panel.
- **Disable fault relay:** Disables the activation of the fault relay.
- **Disable alarm relay:** Disables the activation of the alarm relay.
- **Disable aux power supply.** Allows you to connect and monitor an auxiliary power supply.
- **Default sounder tone:** Default tone used in analogue sounders.
- **Default sounder volume:** Default volume setting for analogue sounders.
- **Default sounder flash:** Flash frequency setting for analogue sounders with flashing lights.



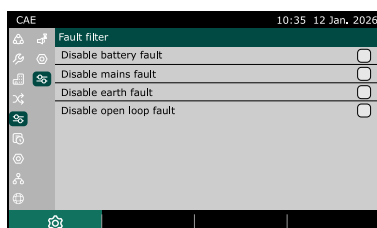
### 3.10.3 Fault filter.



This allows you to disable alerts for certain malfunctions in the alarm control panel, so they are not reported.

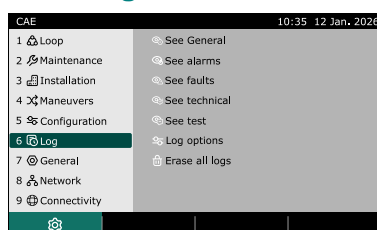


Use with care and only temporarily. Disabling certain functions is not in compliance with EN 54-2.



- **Disable battery fault.** Faults caused by batteries are not reported.
- **Disable main fault.** Faults caused by the main power supply (230 VAC) are not reported.
- **Disable earth fault.** Faults caused by earth leakage are not reported. It can also be disabled via the hardware settings.
- **Disable open loop fault.** Faults in analogue loops caused by open loops are not reported.

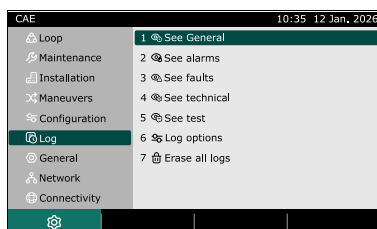
## 3.11 Log.



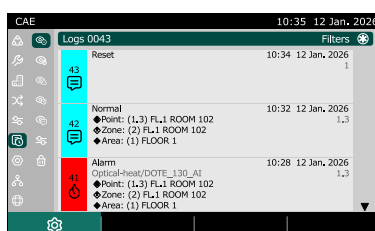
Allows you to view the history of events that have occurred at the Control Panel.

The Control Panel can store up to 32,000 events.

### 3.11.1 See General.

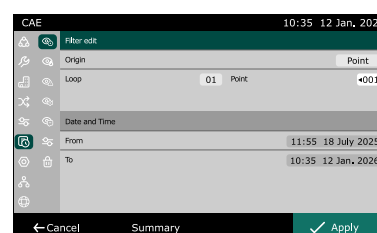
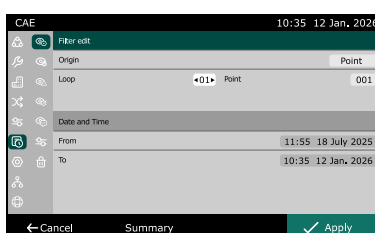
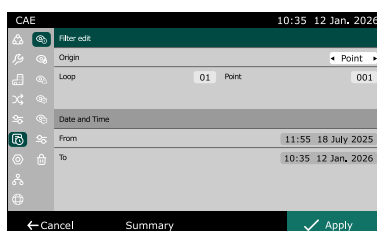
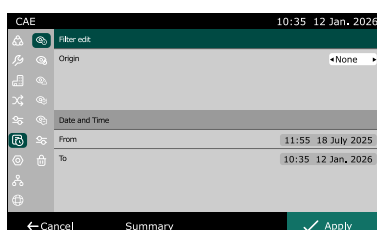


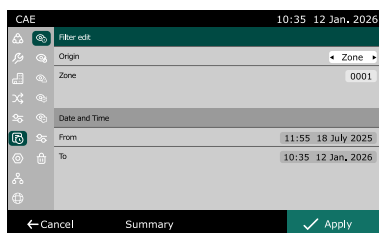
Displays all generated events, from the most recent to the oldest, in the order in which they were generated.



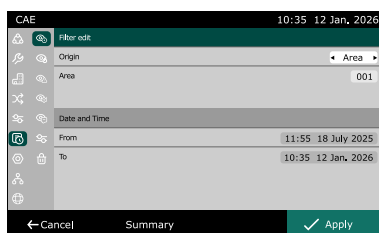
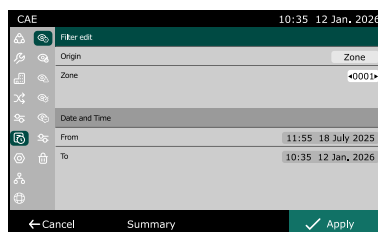
Pressing the \* key, can apply a filter based on:

- **None.** Show all events.
- **Point.** Shows all events generated by a specific point, specifying the channel and point in the loop.

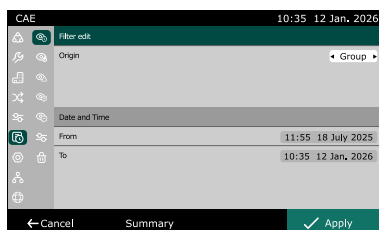
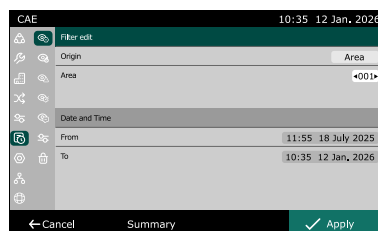




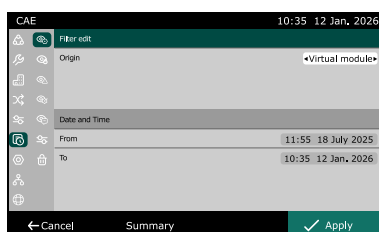
- **Zone.** Shows all events in the specified zone.



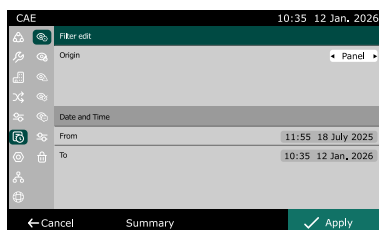
- **Area.** Shows all events in the specified area.



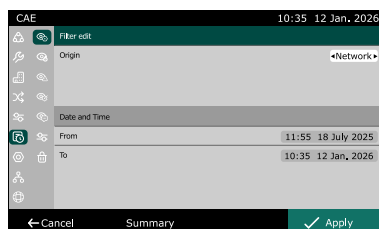
- **Group.** Displays all events for the specified group (if defined, optional).



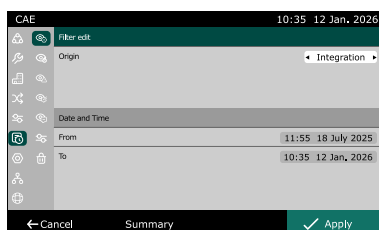
- **Virtual module.** Displays all events for the specified virtual module (if defined, optional).



- **Panel.** Displays all events corresponding to the specified panel. Used when there are several panels connected to the network.

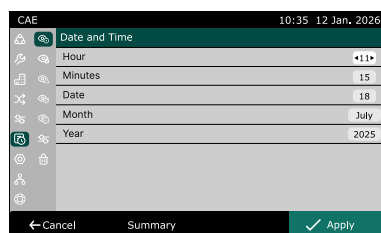


- **Network.** Shows events corresponding to incidents generated in the network status.

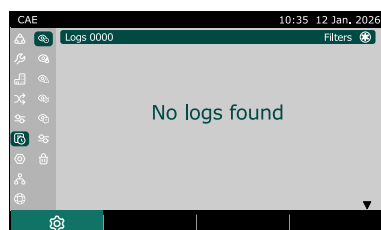


- **Integration.** Shows events corresponding to incidents generated by connections to ModBus integrations and connections to fire alarm receiving centers (A.C.R).



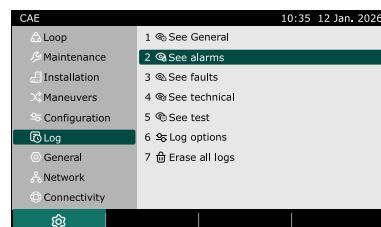


In addition, it is possible to add a time filter, specifying the start and end date and time.



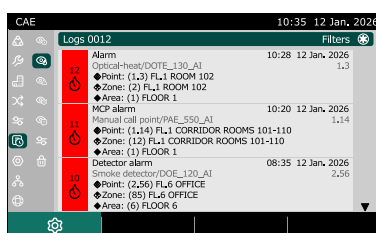
If there are no events that meet the filter parameters, the message “No logs found” is displayed.

### 3.11.2 See alarms.

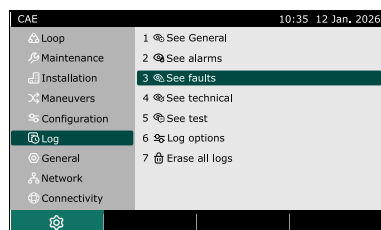


Shows all events corresponding to states of alarm.

Pressing the \* key allows to apply filters.

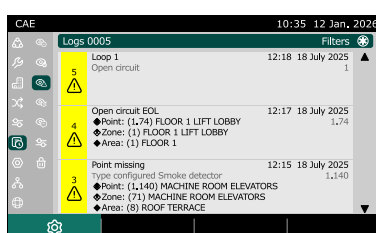


### 3.11.3 See faults.

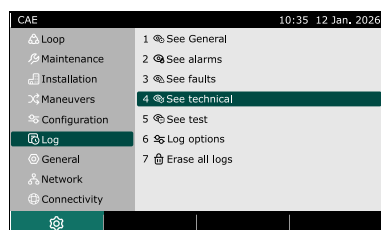


Shows all events corresponding to states of faults.

Pressing the \* key allows to apply filters.

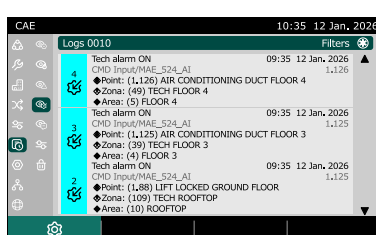


### 3.11.4 See technical.

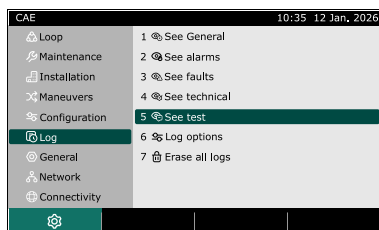


Shows all events corresponding to technical anomalies.

Pressing the \* key allows to apply filters.

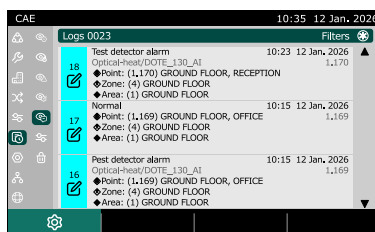


### 3.11.5 See test.

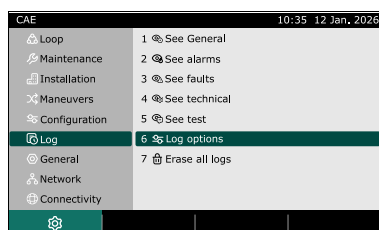


Displays all events corresponding to detector activations in test mode.

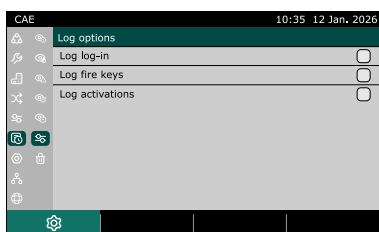
Pressing the \* key allows to apply filters.



### 3.11.6 Log options.

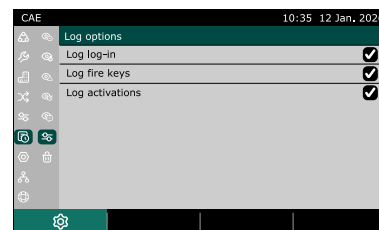
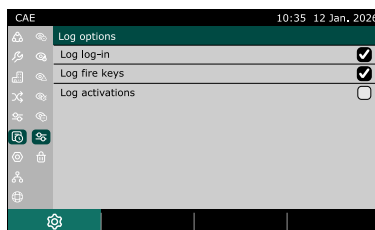
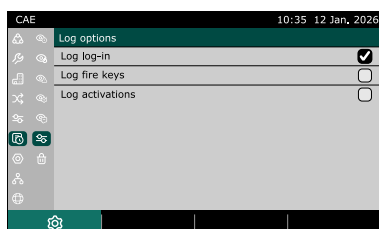


Allows you to define whether certain types of events are stored in the historical log or not.

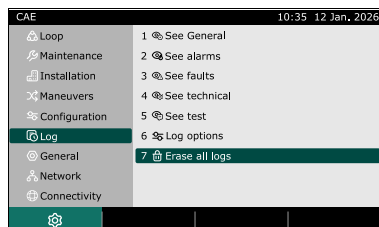


The types of events that can be selected are:

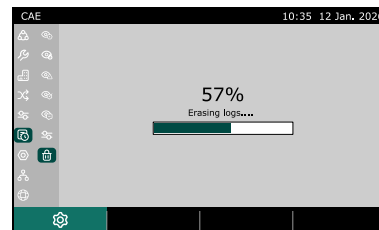
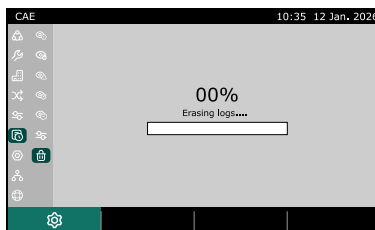
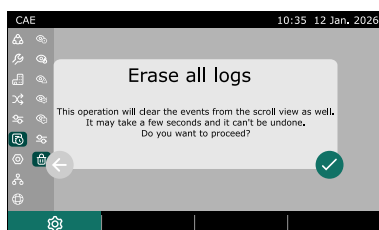
- Log-in registration (access to the Central with user or installer password).
- Log fire keys
- Log Activations



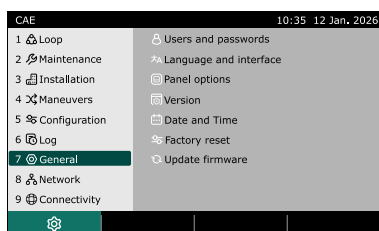
### 3.11.7 Erase all logs.



Allows you to erase all events stored in the history log.

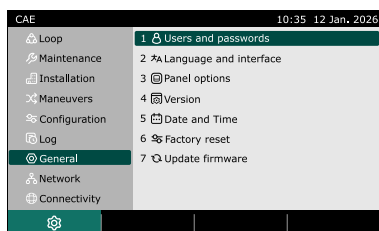


### 3.12 General.



Allows modification of general configuration parameters for the fire detection control panel.

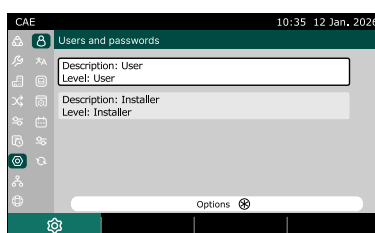
#### 3.12.1 Users and passwords.



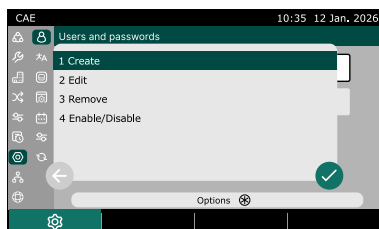
Allows you to manage users defined in the Control Panel, with their passwords and access level permissions.

Initially, it displays the two default users.

Pressing the \* key displays the menu of available options.

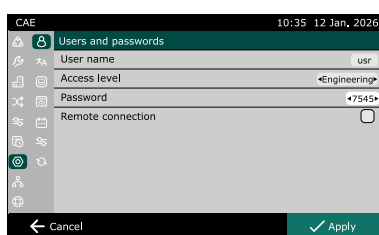
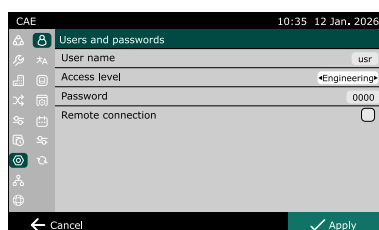
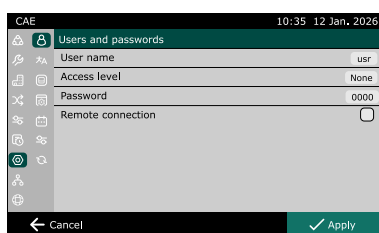


##### 3.12.1.1 Create.

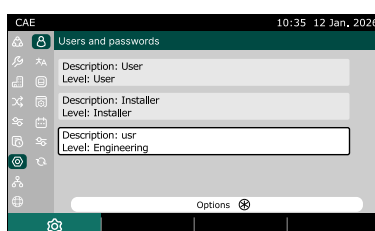


Allows you to create new users by defining the following fields:

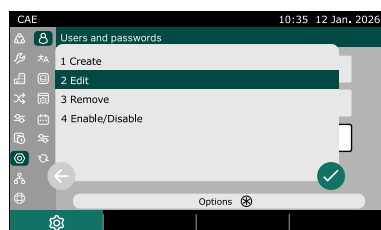
- **User name.** This is the name under which the user's accesses will be recorded in the historical lists.
- **Access level.**
  - None, Level 1 access
  - User, Level 2 access
  - Installer, Level 3 access
  - Engineering, reserved for Easy Detect use.
- **Password,** 4-digit combination.
- **Remote connection.** Allows the user to remotely access the Central's functions.



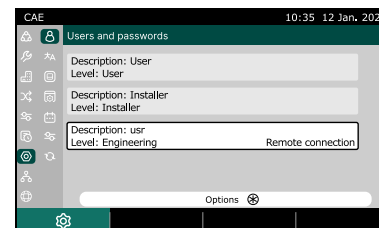
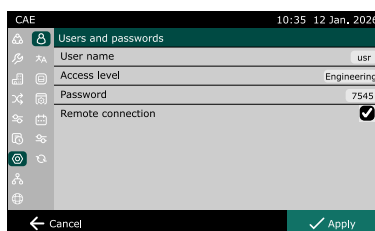
When the changes are applied, the new user defined is displayed.



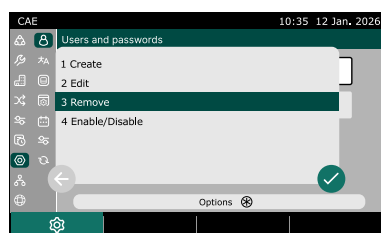
### 3.12.1.2 Edit.



Allows you to edit the parameters defined for the selected user.

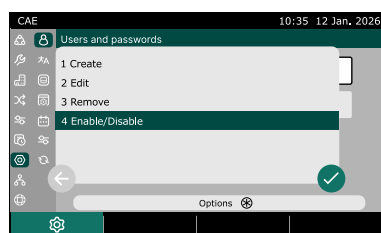


### 3.12.1.3 Remove.

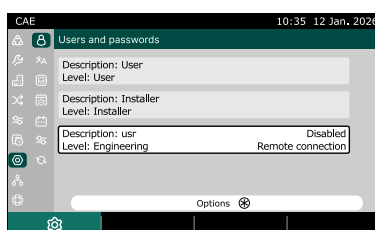


Allows you to delete the selected user.

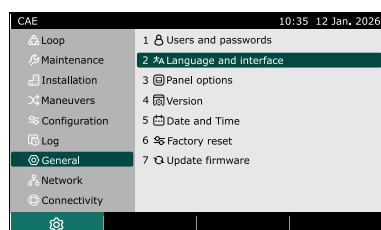
### 3.12.1.4 Enable/Disable.



Allows you to deactivate a defined user so that they are no longer operational, without deleting their definition, and enabling them again later.

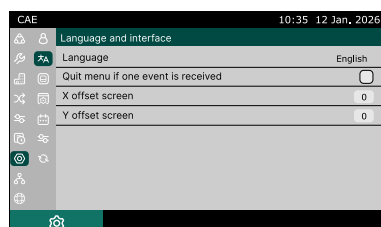


## 3.12.2 Language and interface.



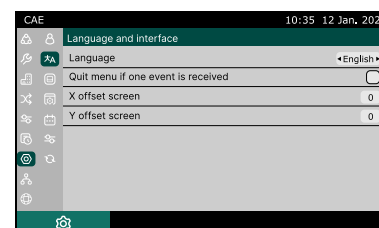
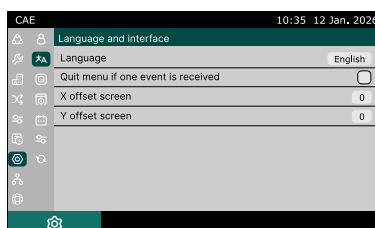
This allows you to select the language used to operate the alarm control panel and display events. Available languages: English, Spanish, French, Catalan, Serbian, Turkish, and Italian.

- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



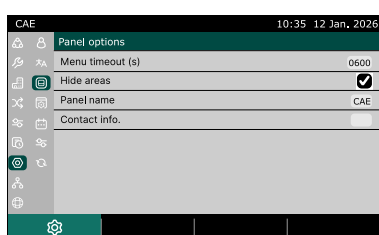
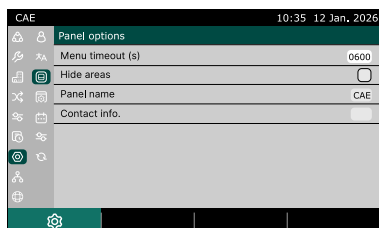
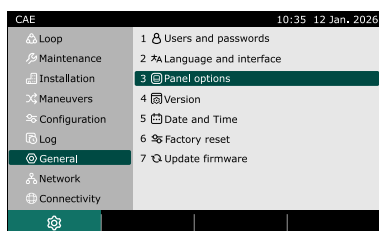
Checking the box "Quit menu if one event is received" forces the event to be displayed on screen when you are operating the alarm control panel.

The X and Y screen offset allows you to shift the display on the screen by  $\pm 5$  pixels, to fit the alarm control panel's front cover.



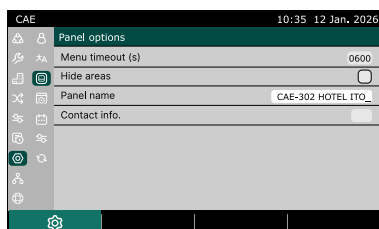
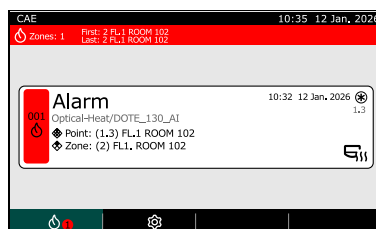
### 3.12.3 Panel options.

Allows you to define certain options for how data is displayed on screen

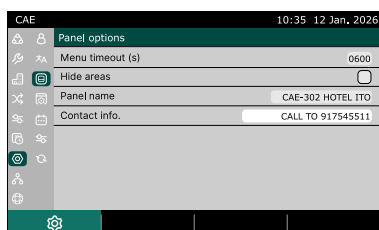
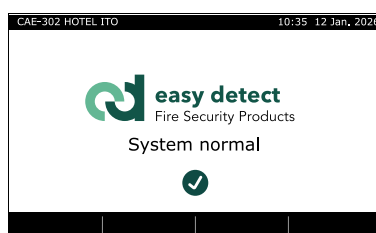


- **Menu timeout.** Specifies the time that must elapse before automatically exiting the menus, from the last time a key was pressed.

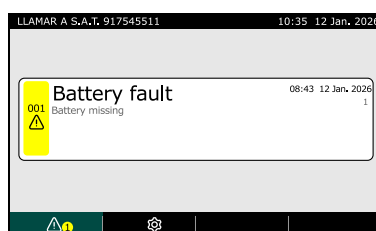
- **Hide areas.** Checking the box does not display the descriptive text of the area associated with a zone. This is useful in installations where areas have not been defined (optional)



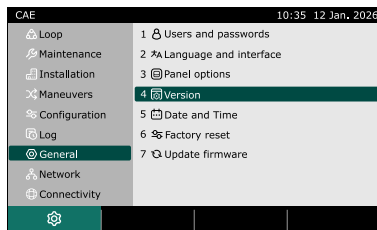
- **Panel name.** Descriptive text that appears at the top of the screen; this may be the model of the power station or the name of the building where the installation is located, for example.



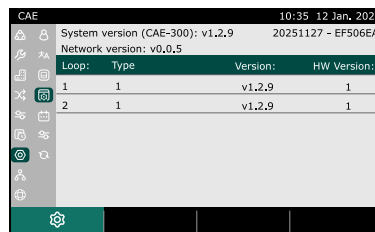
- **Contact Info.** Text that appears alternatively to the panel name, on the top line of the screen, when a fault event has been generated.



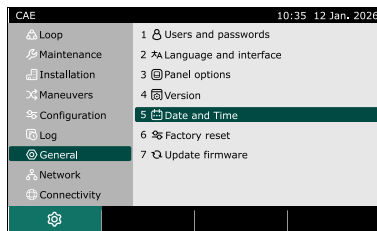
### 3.12.4 Version.



Displays the firmware version of the CPU and loops. It also displays the network card version, if installed.



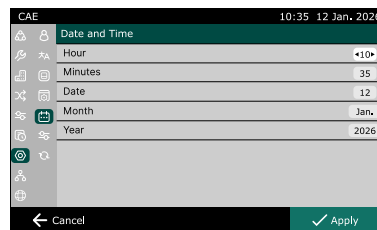
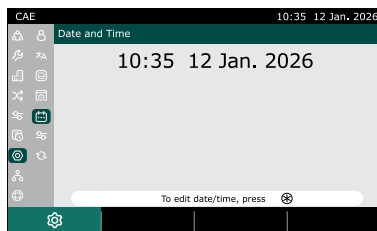
### 3.12.5 Date and Time.



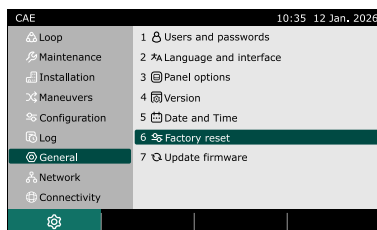
This allows you to set the time and date of the alarm control panel's clock.

Press the \* key to access the editing function.

- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



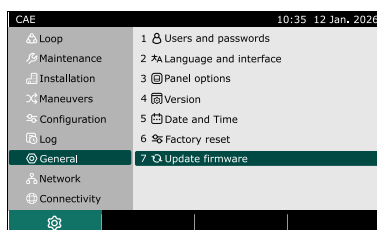
### 3.12.6 Factory reset.



Allows you to delete the Central configuration, restoring the default settings.



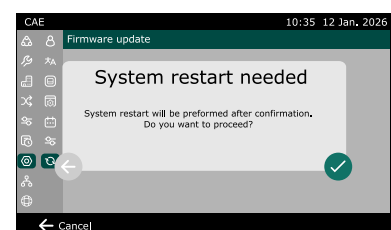
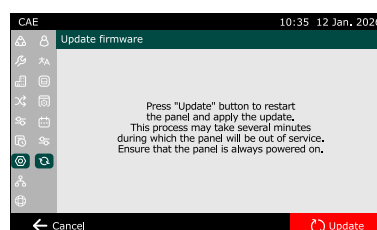
### 3.12.7 Update firmware.



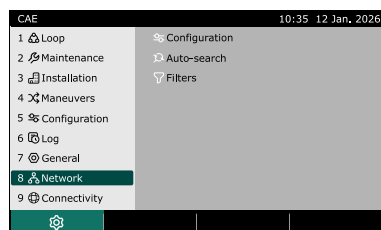
Allows you to update the firmware of the CPU, analog loops, and network card



The new firmware version must have been previously sent using the SCE configuration software. Contact Easy Detect to obtain the file with the latest available version.

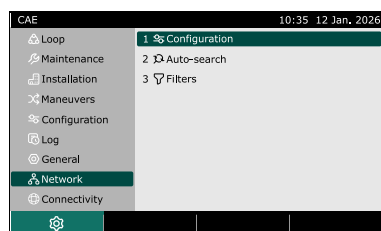


### 3.13 Network.



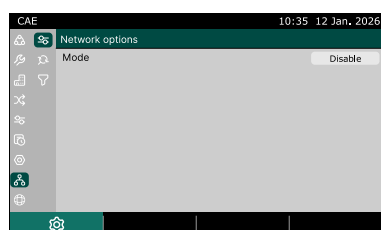
This allows you to enable and configure the CAE-300 alarm control panel's connection to a network of alarm control panels and the events that it can present from other alarm control panels.

#### 3.13.1 Configuration.



To configure the network connection.

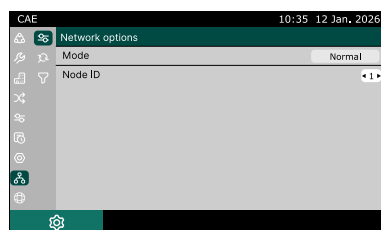
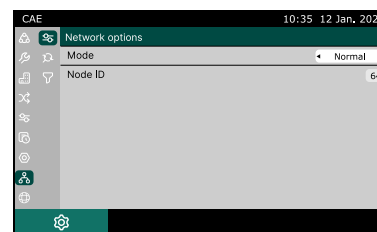
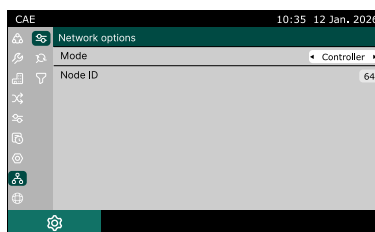
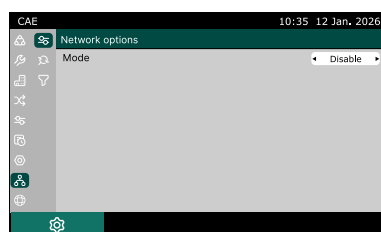
##### 3.13.1.1 Network options.




To change the operating mode:

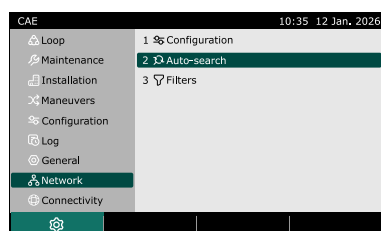
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.


If the network is enabled, the alarm control panel can function as a controller node or a normal node, and the node number must be specified.



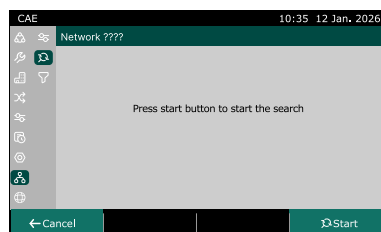
 There can only be one controller node in the installation; all other nodes must be normal nodes. Each node must have a different number, from 1 to 64.

#### 3.13.2 Auto-search.

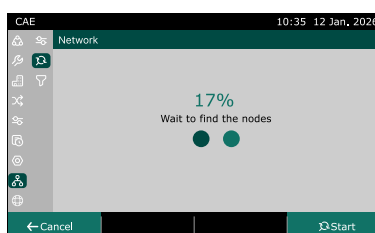


 This function is only available for control panels configured as controller nodes.

Allows you to search for nodes connected to the network and the type of topology used in the connection.

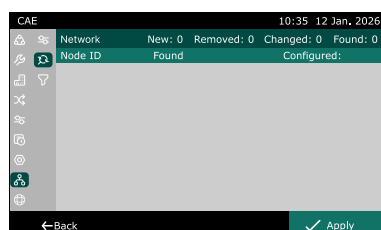


Press the “Start” button to begin analyzing the installation.

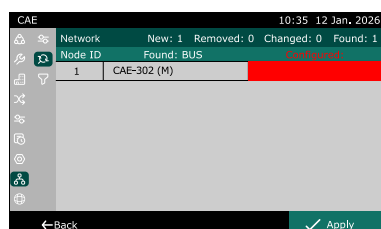


When the search is complete, it displays the nodes found.

If there is no network card or it is not working properly, no information will be displayed.

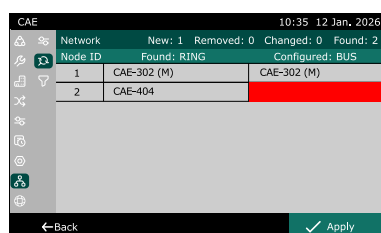


If there are no other nodes connected or configured, it only displays the Central itself, with its node identification number, Central model, and configuration type (with an M if it is a controller).

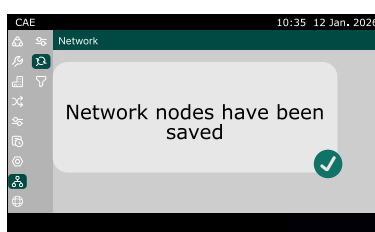


- The detected topology type can be:
  - Bus. Daisy chain connection, point to point.
  - Ring. Point-to-point connection in a closed ring.

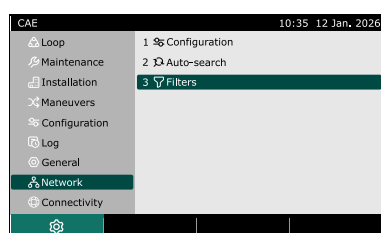
Any differences found with respect to the saved configuration are indicated in red.



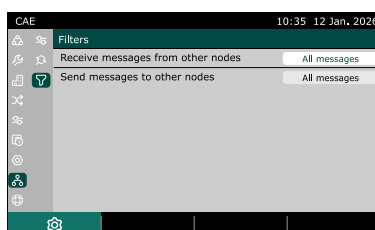
When you click on the “Apply” button, the detected settings are saved.



### 3.13.3 Filters.

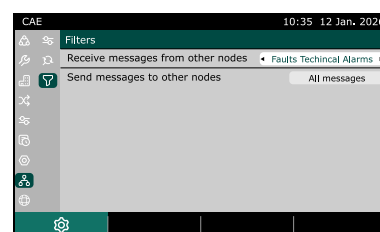
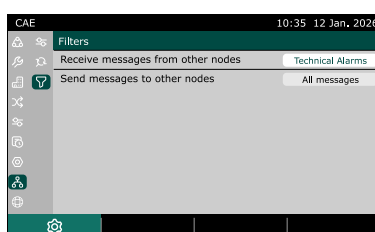
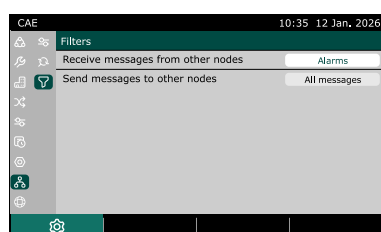


Allows to filter which events generated in other nodes will be displayed on screen, and those generated in the node itself that will be sent to the other nodes in the network.



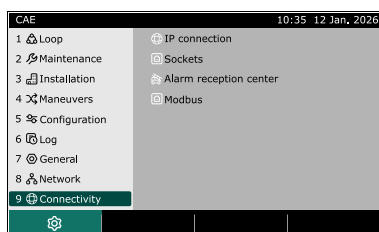
The filters that can be applied are:

- All messages.
- Alarms.
- Technical alarms.
- Faults technical alarms.



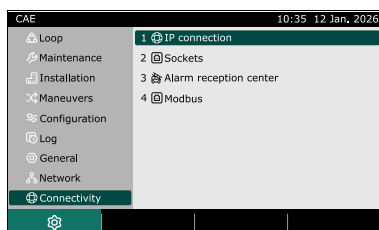


### 3.14 Connectivity.



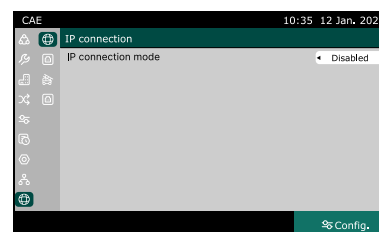
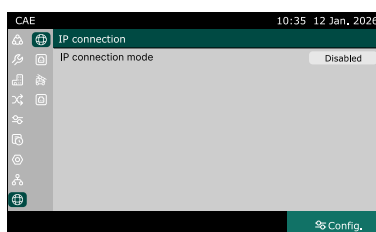
Allows you to configure and manage the different remote connection options and integrations supported through the Ethernet port.

#### 3.14.1 Configuración IP.

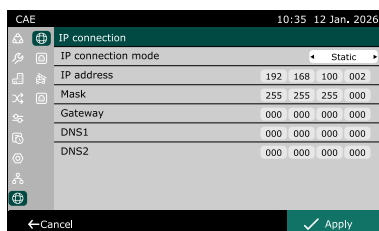


Allows you to configure the IP address of the Control Panel.

By default, the IP address is disabled. When enabled, you can assign a static (fixed) or dynamic IP address.



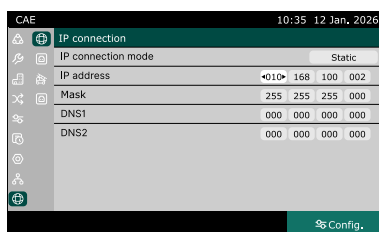
##### 3.14.1.1 Static IP.



A fixed IP address is assigned to the Control Panel within the LAN network to which it is connected via the Ethernet port.

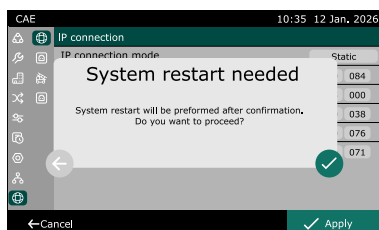


The configuration data must be provided by the administrator of the network to which you are connecting.

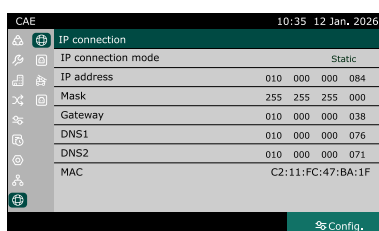


The parameters to be configured are:

- **IP address.**
- **Network mask.**
- **Gateway.**
- **DNS1** (optional, only if internet access is required)
- **DNS2** (optional, only if internet access is required)

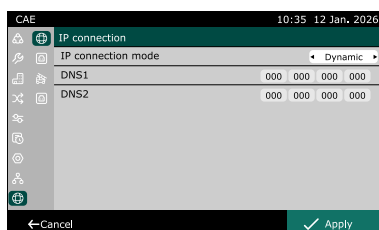


Pressing on the Apply button saves the configured parameters, and a system restart is required to apply the new configuration.

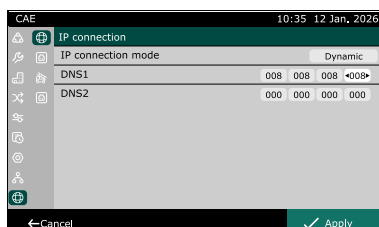


The static IP configuration is now displayed, including the MAC address of the Control Panel.

### 3.14.1.2 Dynamic IP.

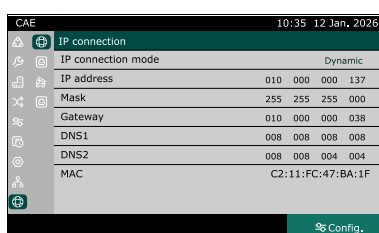


When you log on to the LAN, the network itself assigns you an available IP address.

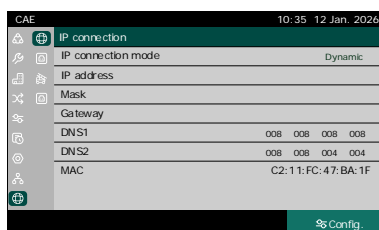


If internet access is required, the following parameters can be configured:

- **DNS1**
- **DNS2**

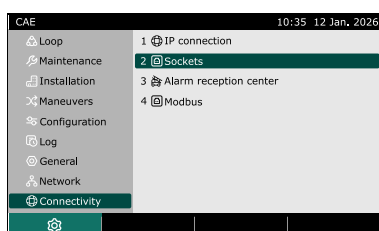


Pressing on the Apply button saves the configured parameters and displays all the settings, including the MAC address of the control panel and the assigned IP address.

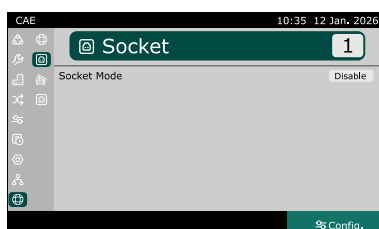


If there is no connectivity to the Ethernet network, and therefore the IP address cannot be assigned, it will only display the configured DNS and MAC data.

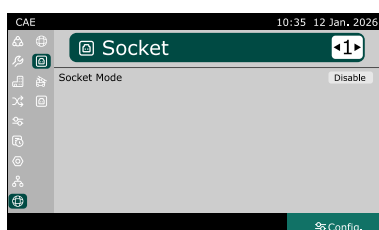
### 3.14.2 Sockets.



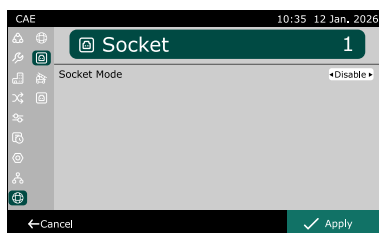
A socket is a communication channel between two devices over the network. The process begins when one device (client) seeks to connect with another device (server) to query or request information, for example. Network communication must be established over a specific port, and once communication has been established, the nodes (devices) can exchange information.



The Control Panel allows up to 5 simultaneous sockets.

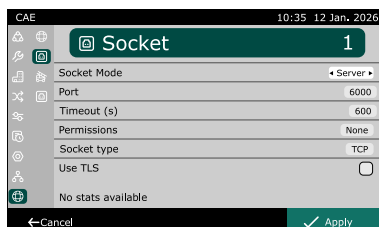


First, select the socket number to configure, which will be disabled by default.



The connection can be configured as a server or client.

### 3.14.2.1 Server.

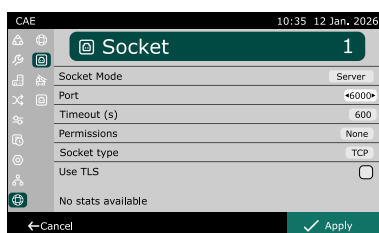


The socket configured as a server listens for and accepts connections on a fixed port, offering services and establishing a two-way communication channel.

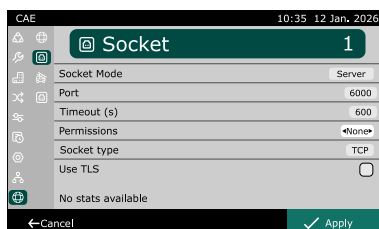
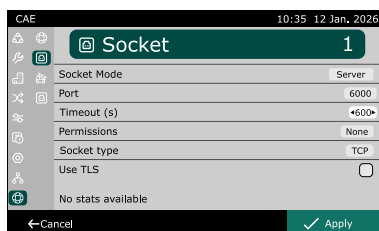
The server has a known address and waits passively.

The following parameters can be configured:

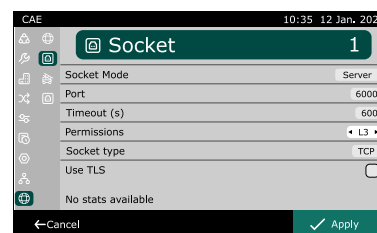
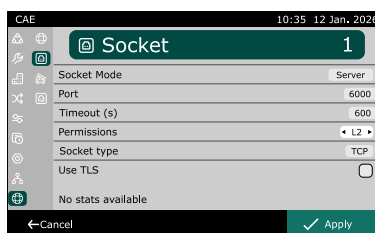
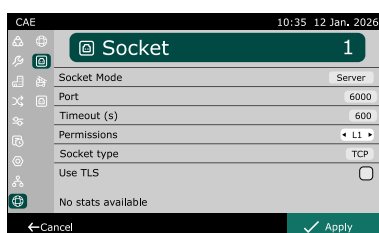
- **Port.** The port to be assigned will depend on the intended use.



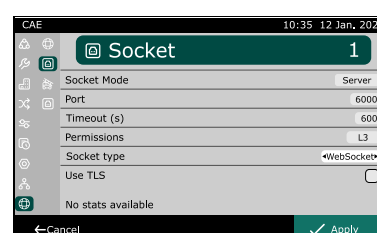
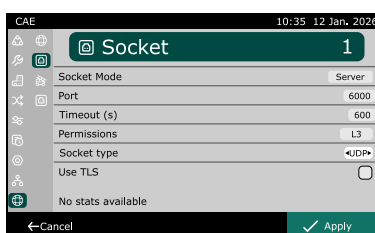
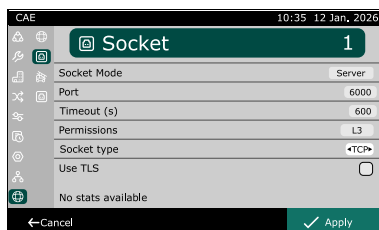
- **Timeout (s).**

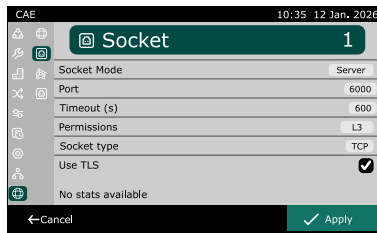


- **Permissions.** It can be:
  - **None.**
  - **L1.** Level 1 access.
  - **L2.** Level 2 access or "user".
  - **L3.** Level 3 access or "installer".



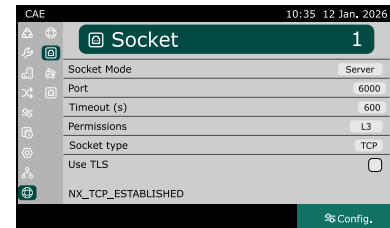
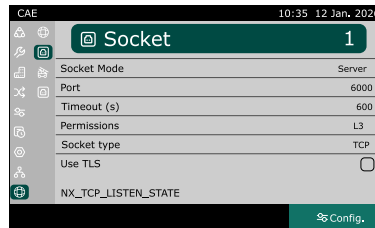
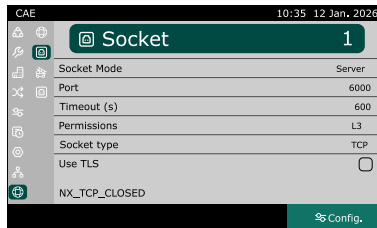
- **Socket type.** It can be:
  - **TCP.**
  - **UDP.**
  - **Websocket.**



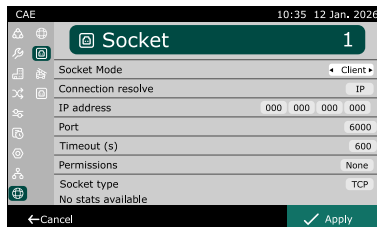


- **Use TLS.** Enables TLS encryption for TCP connections.

Press the Apply button to save the settings, and the socket information will be updated based on the connection status.



### 3.14.2.2 Client.

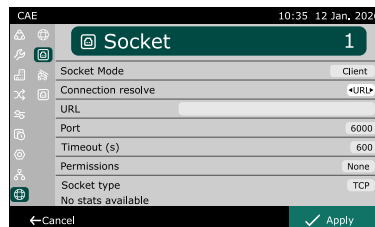


The socket configured as a client initiates the connection to the server's IP and port, requesting those services and establishing a bidirectional communication channel.

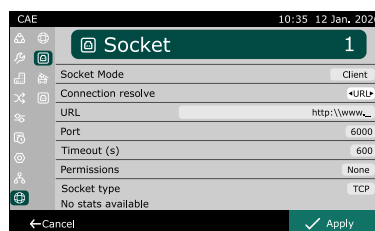
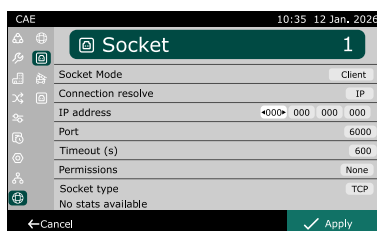
The client server is active, connecting and then disconnecting.

The following parameters can be configured:

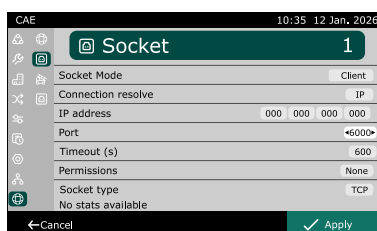
- **Connection resolve.** It can be:
  - **IP.**
  - **URL.**

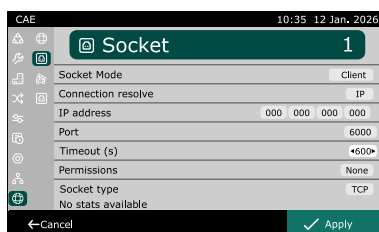


- **IP address or URL.**

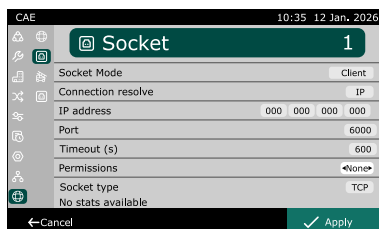


- **Port.**



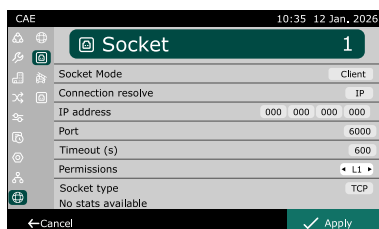
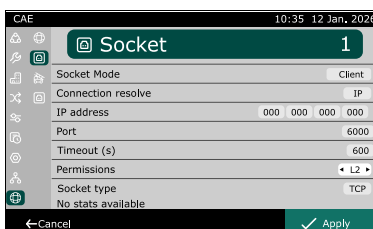
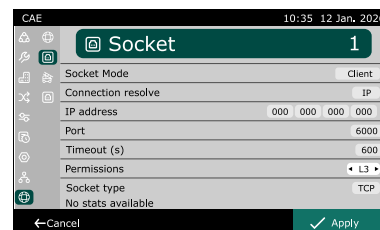
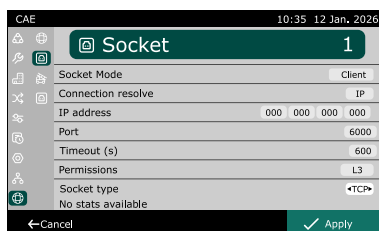


- **Timeout (s).**



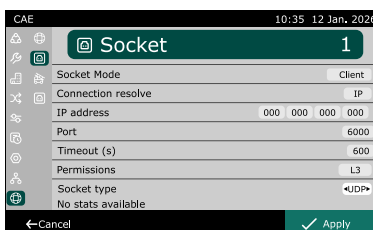
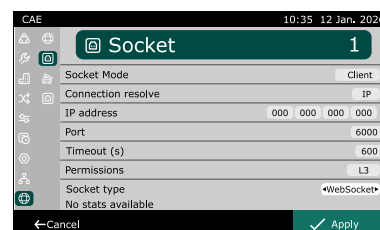
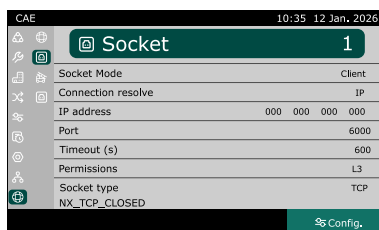
**Permissions.** It can be:

- **None.**
- **L1.** Level 1 access.
- **L2.** Level 2 access or "user".
- **L3.** Level 3 access or "installer".

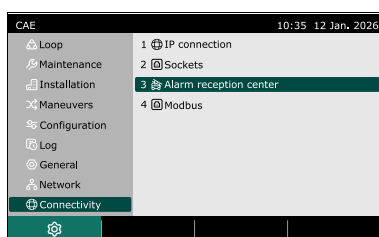
- **Socket type.** It can be:

- **TCP.**
- **UDP.**
- **Websocket.**

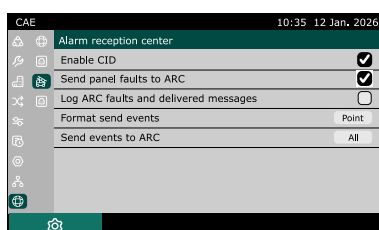
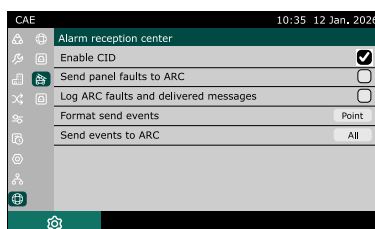
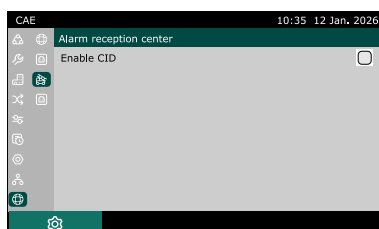
Click the **Apply** button to save the settings, and the socket information will be updated based on the connection status.

### 3.14.3 Alarm Reception Center (ARC).



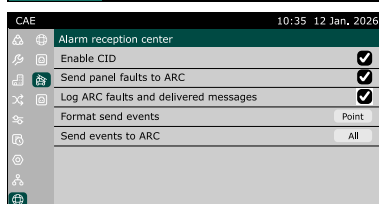
Configure the connection to the Alarm Reception Center (ARC) using the Kit-FB2-ED.

When you enable the connection to the ARC to send CID codes, the rest of the submenu options are displayed. Press the keys ▼ and ▲ to select them, and ✓ to change the selection.

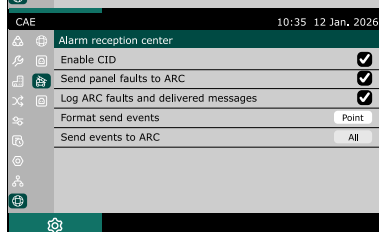


By activating the option “Send panel faults to ARC,” fault events are also sent

By default, only alarm events are sent.



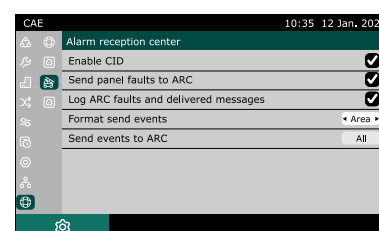
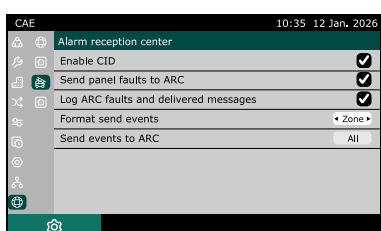
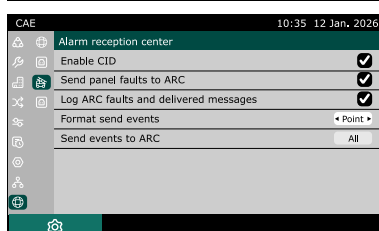
By activating the option “Log ARC faults and delivered messages,” events are recorded and can be viewed later.



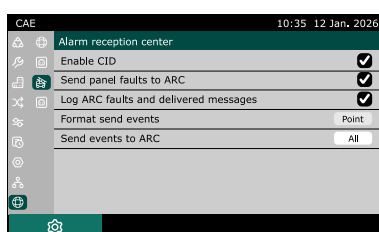
The “Format send events” option allows you to define the details of the events sent to the ARC, which can be:

- Points.
- Zones.
- Areas.

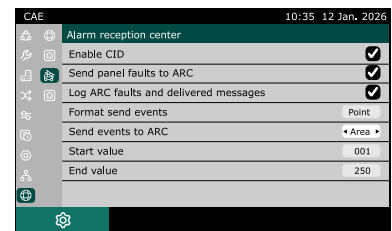
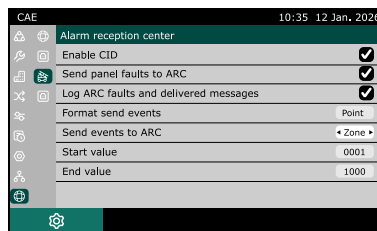
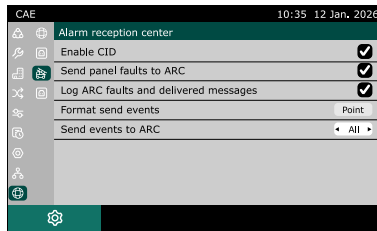
Press ✓ to edit, and ► and ◀ to modify it.



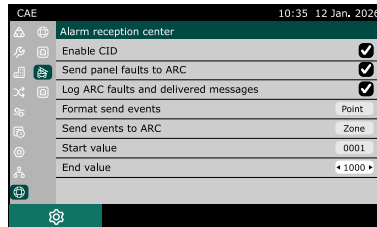
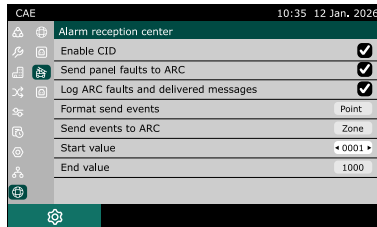
The “Send events to ARC” option allows you to filter which events corresponding to the selected format are sent, which may be:



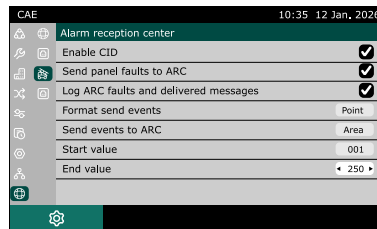
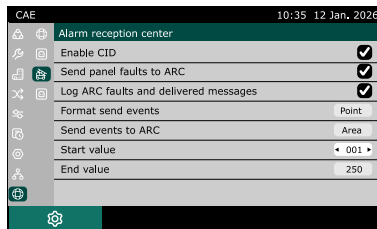
- All
- Only those belonging to a range of:
  - Zones (start and end)
  - Areas (start and end)



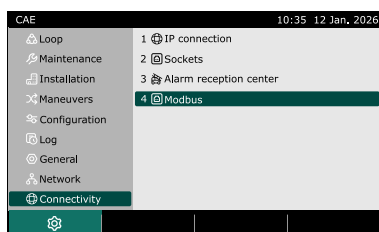
The zone filter allows you to select the initial range from zone 1 and the final range up to zone 1000.



The area filter allows you to select the initial range from area 1 and the final range up to area 250.



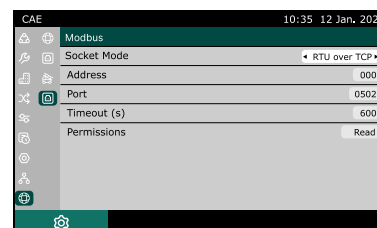
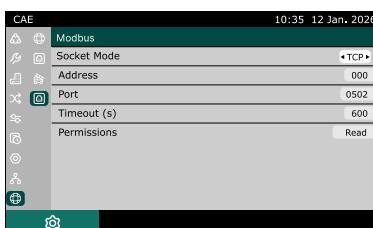
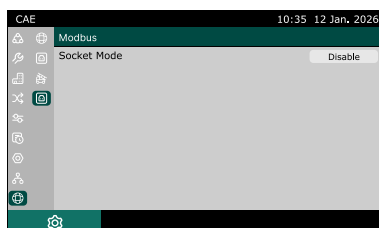
### 3.14.4 Modbus.



Allows you to configure the connection for ModBus integrations.

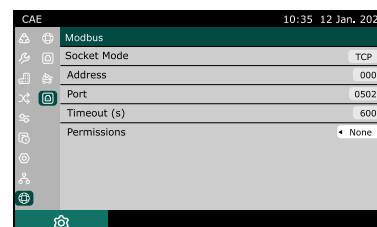
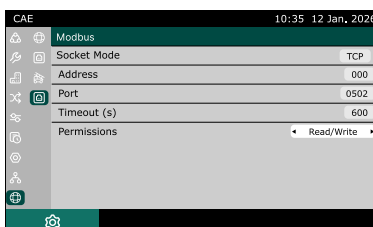
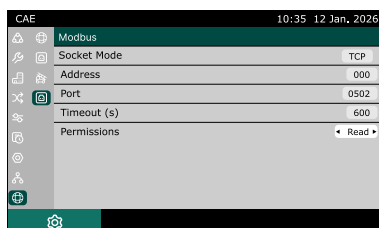
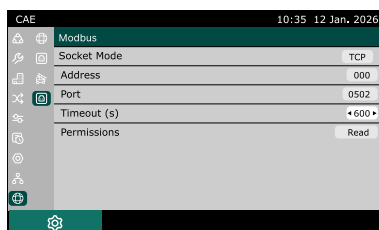
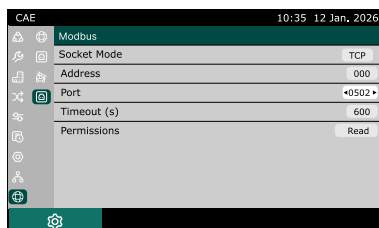
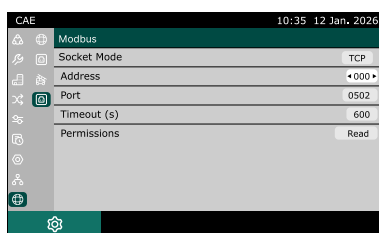
When socket mode is enabled, it can be:

- TCP, for ModBus TCP.
- RTU over TCP.



Allows you to configure the following parameters.

- **Address.** Node address.
- **Port.** Communications port used.
- **Timeout (s),** in seconds to confirm responses.
- **Permissions.** These can be:
  - **Read.** Only allows reading of Modbus registers.
  - **Read/Write.** Allows reading and writing of Modbus registers to execute actions in the Control Panel.
  - **None.**





## 4 Functional tests.

The procedure for performing functional tests on the alarm control panel components is described below.

### 4.1 Power failure.

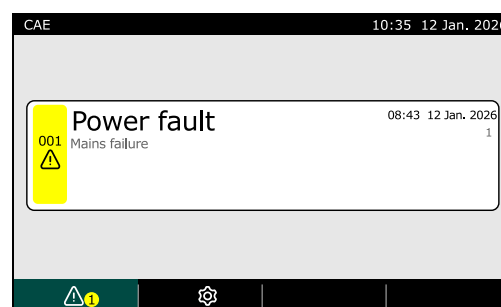
#### 4.1.1 Mains voltage failure.

Disconnect the power supply by operating the external circuit breaker. After a few seconds, the following will be activated in the alarm control panel:

- A message is displayed on the screen.
- "Power failure" indicator light flashing.
- "General fault" indicator light flashing.
- Buzzer sounding intermittently.
- Fault relay.

To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.

Reconnect the power supply. The alarm control panel will continue to indicate a fault until the Reset key is pressed, requiring the entry of the access code (9999).



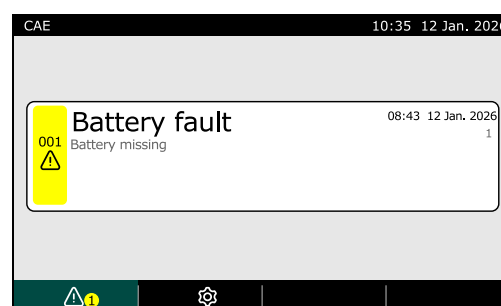
#### 4.1.2 Battery fault.

Disconnect the batteries by removing one of the cables. After a few seconds, the following will be activated in the alarm control panel:

- A message is displayed on the screen.
- "Power failure" indicator light flashing.
- "General fault" indicator light flashing.
- Buzzer sounding intermittently.
- Fault relay.

To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.

Reconnect the batteries. The alarm control panel will continue to indicate a fault until the Reset key is pressed, requiring the entry of the access code (9999).



If the batteries are not sufficiently charged or are not in good working order, the fault indication will remain.

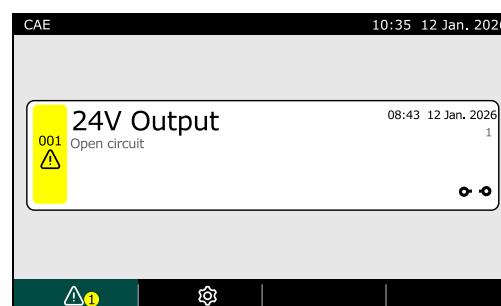
#### 4.1.3 24 V auxiliary output fault.

To simulate a fault in the 24 V auxiliary output, remove fuse F1. After a few seconds, the following will be activated in the alarm control panel:

- A message is displayed on the screen.
- "Outputs disabled" indicator light flashing.
- "General fault" indicator light flashing.
- Buzzer sounding intermittently.
- Fault relay.

To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.

Reconnect fuse F1. The alarm control panel will continue to indicate a fault until the Reset key is pressed, requiring the entry of the access code (9999).



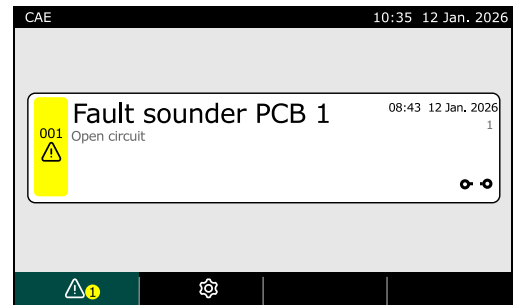
## 4.2 Sounder outputs.

### 4.2.1 Sounder output fault.

To trigger a fault in the sounder outputs, either remove the end-of-line resistors, disconnect the sounder line, or remove fuses F2 and F3. After a few seconds, the following will be activated in the alarm control panel:

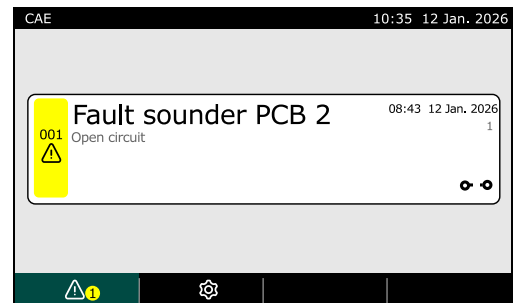
- A message is displayed on the screen.
- "Sounder fault / disabled" indicator light flashing.
- "General fault" indicator light flashing.
- Buzzer sounding intermittently.
- Fault relay.

To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.



Reconnect the sounder line. The alarm control panel will continue to indicate a fault until the Reset key is pressed, requiring the entry of the access code (9999).

Repeat the test for the other sounder output.




## 5 User guide.

For ease of operation, the functions of all of the alarm control panel's indicators and controls are listed below. The available operating modes and what to do in the event of an alarm or fault are also explained.

### 5.1 Access level.

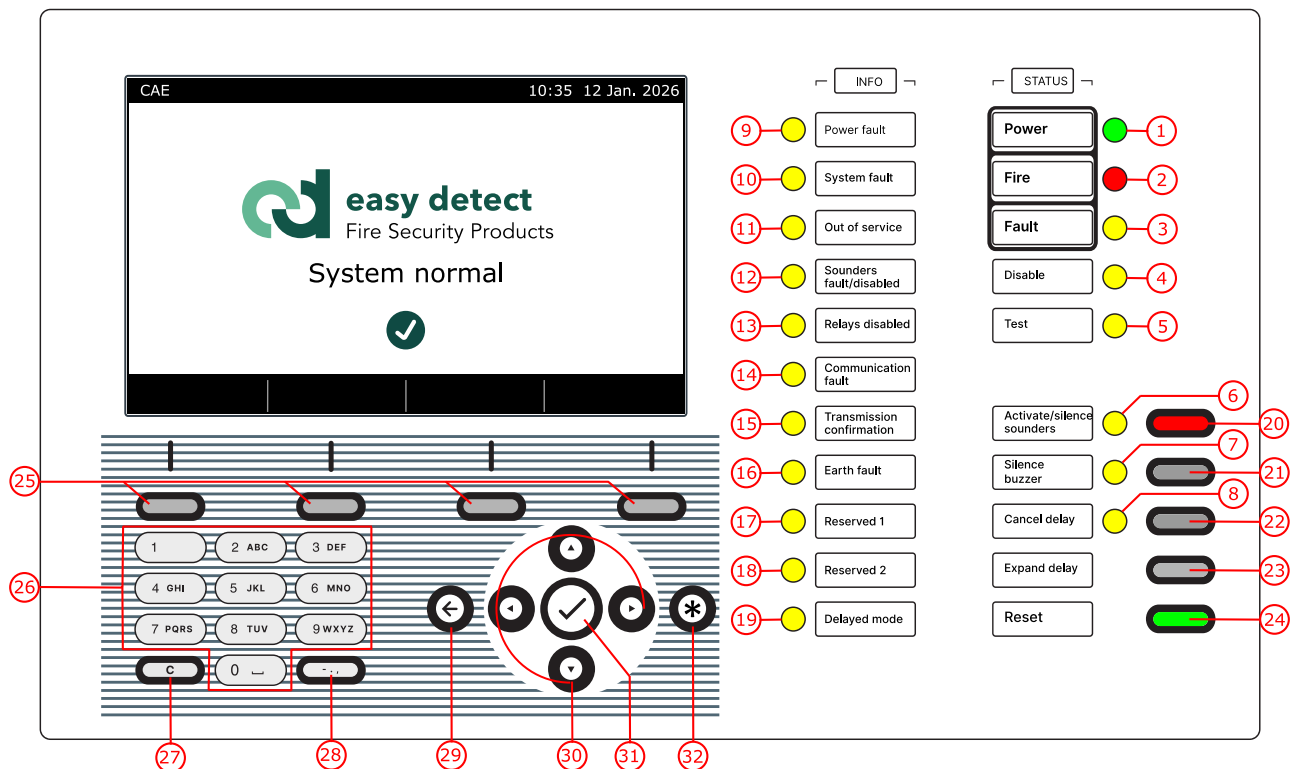
The alarm control panel has access level control so that only authorised personnel can operate it, in accordance with EN54-2.

Access level 1	Free access	<ul style="list-style-type: none"> <li>Only the "Silence buzzer" key is enabled</li> </ul>
Access level 2	User code 8888	<ul style="list-style-type: none"> <li>All keys are enabled</li> <li>User menu with restricted functions</li> </ul>
Access level 3	Installer code 9999	<ul style="list-style-type: none"> <li>All keys are enabled</li> <li>Installer menu with access to all operating, maintenance and configuration functions.</li> </ul>
Access level 4	Access to inside the alarm control panel	<ul style="list-style-type: none"> <li>SCE configuration software for configuring and updating the alarm control panel's firmware</li> </ul>

When you open the menu by entering the access code, the access level is maintained until you exit the menus by pressing the  key.

### 5.2 Front of the alarm control panel.

CAE-300 alarm control panels feature the following indicator lights, control keys, information display screen, and screen control keypad.



**Fig. 39 Front of CAE-300 alarm control panel**

## 5.2.1 Indicator lights.

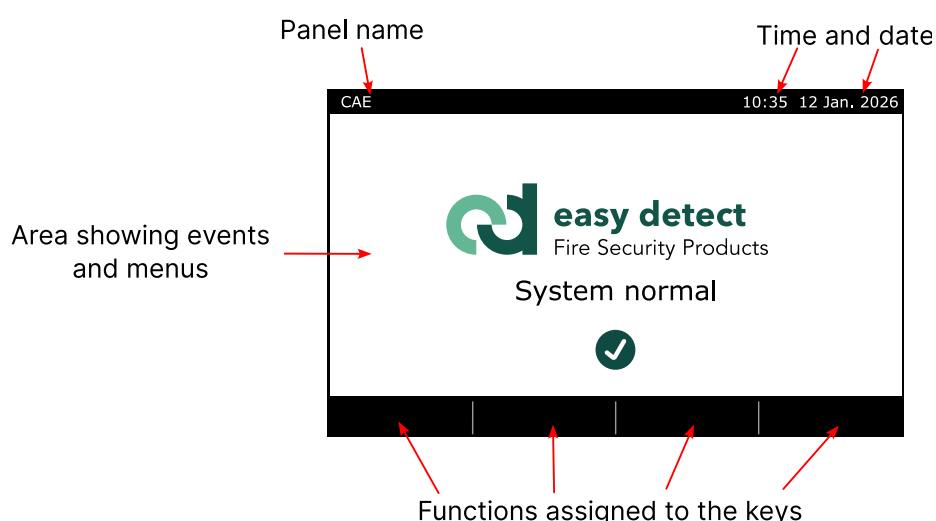
1	Power	Green	Indicates that the alarm control panel is being powered and is operational
2	Fire	Red	General alarm indicator <ul style="list-style-type: none"> <li>Flashing, the alarm has been activated by a detector.</li> <li>Steady, the alarm has been activated by a manual call point.</li> </ul>
3	Fault	Yellow	General fault indicator
4	Disable	Yellow	General indicator of disconnected zones. At least one point, zone or area is disconnected
5	Test	Yellow	General indicator of zones in test mode. At least one zone or area is in test mode.
6	Activate / silence sounders	Yellow	The Activate sounders key has been pressed. It remains lit for as long as the sounders are activated.
7	Silence buzzer	Yellow	The alarm control panel's audible alert has been muted by pressing the "Silence buzzer" key, indicating that the latest event detected has been dealt with.
8	Cancel delay	Yellow	
9	Power fault	Yellow	General power failure indicator, caused by: <ul style="list-style-type: none"> <li>Mains voltage failure</li> <li>Battery failure</li> <li>Power supply failure</li> <li>Earth fault</li> </ul>
10	System fault	Yellow	CPU malfunction indicator
11	Out of service	Yellow	Supply voltage below 21 V, insufficient for the alarm control panel to operate correctly.
12	Sounder fault/disabled	Yellow	General sounder output indicator <ul style="list-style-type: none"> <li>Flashing, in the event of a fault in any of the sounder outputs or analogue sounders.</li> <li>Steady, 2 outputs disconnected.</li> </ul>
13	Relays disabled	Yellow	There is no power at the 24 V AUX outputs. <ul style="list-style-type: none"> <li>Fault in fuse F1 (24 V AUX output).</li> </ul>
14	Communication fault	Yellow	
15	Transmission confirmation	Yellow	
16	Earth fault		An earth leakage fault has been detected
17	Reserved 1	Yellow	
18	Reserved 2	Yellow	
19	Delayed mode	Yellow	This is steadily lit when a maneuver has been programmed with a delay time prior to its activation. It flashes intermittently when the maneuver is being performed, counting down the delay time.

### 5.2.2 Control keys.

20	Activate / mute sounders	Key	Access level 2. Activates or resets the system's sounders by activating: <ul style="list-style-type: none"> <li>• Sounder outputs 1 and 2 of the alarm control panel</li> <li>• Analogue sounders</li> <li>• Monitored 24 V outputs (configured as sounders)</li> <li>• Outputs (configured as sounders)</li> </ul>
21	Silence buzzer	Key	Pressing it resets the alarm control panel's audible alert (buzzer) until it is triggered when a new event is reported. It is recorded in the log to show that the event displayed on the alarm control panel has been dealt with.
22	Cancel delay	Key	Access level 2 It is only operational if delayed mode is activated in the alarm control panel and an alarm has been received. <ul style="list-style-type: none"> <li>• It overrides response time and performs the maneuvers.</li> <li>• It overrides investigation time and performs the maneuvers.</li> </ul>
23	Expand delay	Key	Access level 2 Upon receiving an alarm with delayed mode activated: <ul style="list-style-type: none"> <li>• If pressed during the response time (30 seconds), it switches to the investigation time (300 seconds).</li> <li>• If pressed during the investigation time, it increases the time by 60 seconds up to a maximum of 600 seconds.</li> </ul>
24	Reset	Key	Access level 2 Pressing it resets the system. All points of the system are put in standby mode and a further complete analysis of the system is started.

### 5.2.3 Screen and keypad.

The CAE-300 alarm control panel features a 5" colour screen with a resolution of 800x480 pixels.



This screen will display all of the events that have been generated and the alarm control panel's menus, which will vary depending on the access privileges of the code entered.

The screen control keys are as follows:

25	Screen function keys	The function of each of the four keys is shown on the bottom line of the screen, above each key.
26	0...9	To enter numerical values or select a function from the menu. When editing text, pressing the key repeatedly switches between uppercase and lowercase letters
27	C	When editing text and numbers, it clears the last character entered
28	-,.	To enter special characters
29	←	To go back through the menus and exit
30	◀, ▶, ▲ and ▼	Cursor keys to navigate through menus and screens
31	✓	To accept the selected menu value or function
32	*	Function key, available when the option appears on the screen

### 5.3 Audible alerts.

The alarm control panel has an audible alarm (buzzer) that is activated differently depending on the type of alert

- **Alarm indicator:** Continuous internal buzzer.
- **Fault indicator:** Intermittent internal buzzer.

Priority is given to the alarm when the buzzer is activated, so if an alarm is sounding and a fault is detected, the buzzer will sound continuously.

If the buzzer is muted manually by pressing the "Silence buzzer" key, this will be indicated by the "Silence buzzer" indicator light, until a new state is indicated or the alarm control panel is reset.

### 5.4 Control keys.

#### 5.4.1 Activate/silence sounders.

This function requires Access level 2, so you will be asked for the access code.

It activates or resets all of the system's sounders by activating:

- Sounder outputs 1 and 2 of the alarm control panel
- Analogue sounders
- Monitored 24 V outputs (configured as sounders)
- Outputs (configured as sounders)

The sounders are activated instantly, overriding any existing time delay, and the "Activate/silence sounders" indicator light is illuminated.

#### 5.4.2 Silence buzzer.

This function requires Access level 1, so it is always accessible.

It stops the internal buzzer when it is activated and the "Silence buzzer" indicator light comes on, until a new event is reported.

It also serves to show that the event has been dealt with, saving a message in the log (optional).

### 5.4.3 Cancel delay.

This function requires Access level 2, so you will be asked for the access code.

When the alarm control panel is in an alarm state and delayed mode is activated, this overrides the response or investigation times, performing the programmed maneuvers immediately.



### 5.4.4 Extend delay.

This function requires Access level 2, so you will be asked for the access code.

When the alarm control panel is in an alarm state and delayed mode is activated, it serves two different functions:

- If it is counting down the response time delay, it switches to the investigation time.



- If it is counting down the investigation time delay, each press increases the delay by up to a maximum of 600 seconds.



### 5.4.5 Reset.

This function requires Access level 2, so you will be asked for the access code.

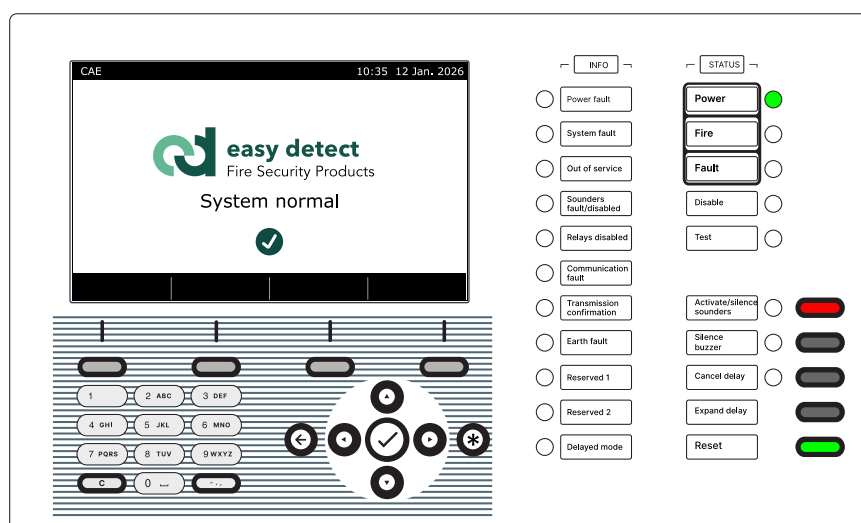
It starts up the system, putting the entire system into standby mode and performing another complete analysis of it.

Any alarm or fault that remains present in the system will be reported again.

## 5.5 Normal operating mode.

### 5.5.1 Standby mode.

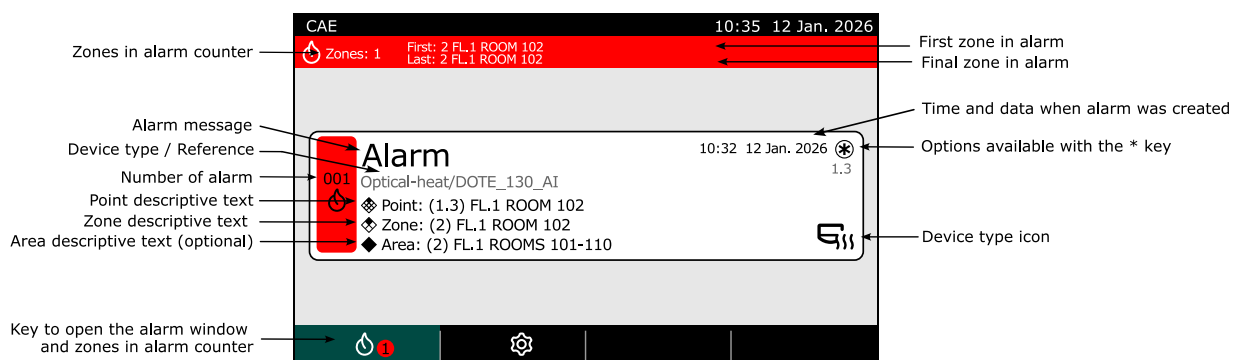
When the alarm control panel is on standby, the service indicator is on and all other audible and light indicators are off.



Optionally, the delayed mode indicator may be lit if a maneuver has been programmed with a delay before activation.

### 5.5.2 Alarm state.

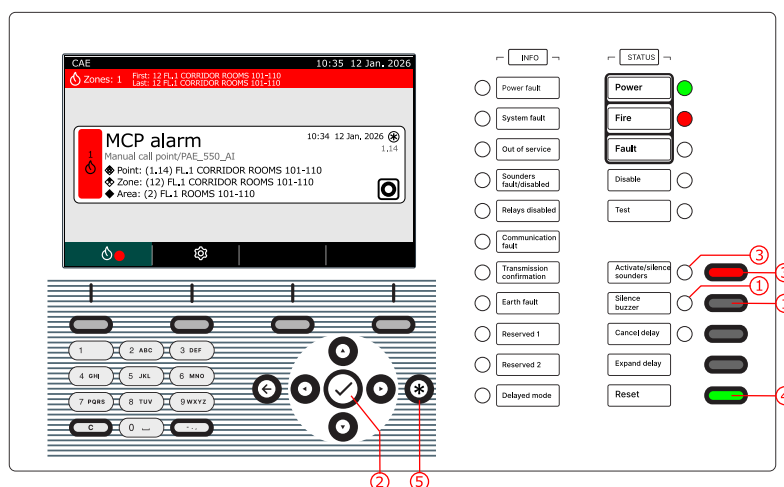
When the alarm control panel detects a point that is in an alarm state, it will indicate this as follows:



- The message is displayed on the screen with detailed information.
- The message is saved in the log.
- The general alarm LED lights up steadily if it is a manual call point and flashes if it is a detector, input or conventional zone.
- The buzzer sounds continuously.
- The alarm relay is activated.
- If sounder or relay output activation maneuvers are programmed, they will be performed if the activation condition is met.

If there is more than one point in an alarm state, a message will be displayed for each of them. Use the ▲ and ▼ keys to check them.

#### 5.5.2.1 Steps to take in the event of an alarm.



1. To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.
2. If you are asked for an access code during the following steps, enter "8888" and press the ✓ key to obtain Level 2 access privileges and access to the User menu.
3. If the sounders are activated, mute them by pressing the "Silence sounders" key and check the cause of the alarm in the respective zone. The status LED of the detector or manual call point that triggered the alarm will be lit red.
4. Reset the system with the "Reset" key. If the condition that triggered the alarm persists, the point will be reactivated. You should not reset the system until the cause of the alarm has been located and checked.
5. If it is a false alarm, you can temporarily disconnect the point that triggered the alarm by pressing the \* key. The alarm control panel must then be reset using the "Reset" key.

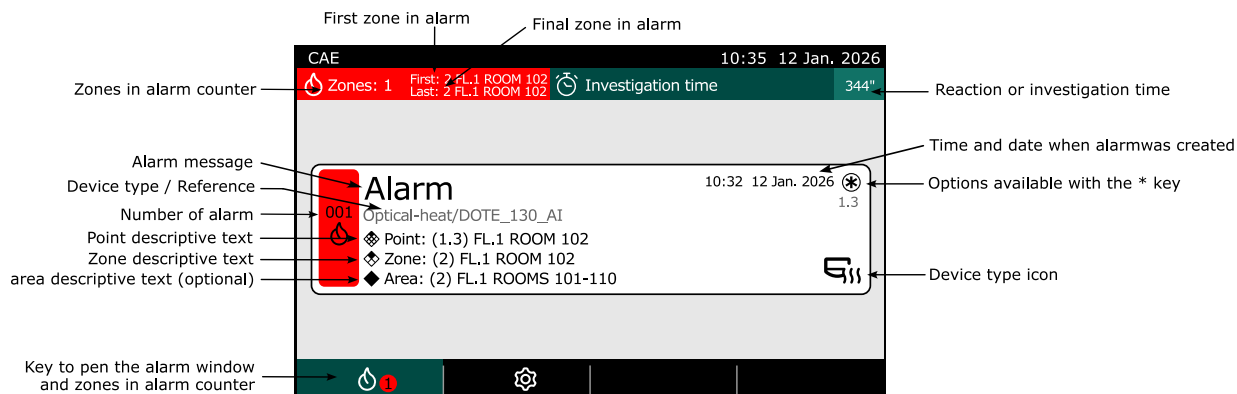


If it is necessary to evacuate the building, press the "Activate sounders" key; all of the system's sounders will be activated. The "Activate sounders" indicator light will come on.



### 5.5.3 Alarm state in delayed mode.

When the alarm control panel detects a point that is in an alarm state while in delayed mode, it will indicate this as follows:

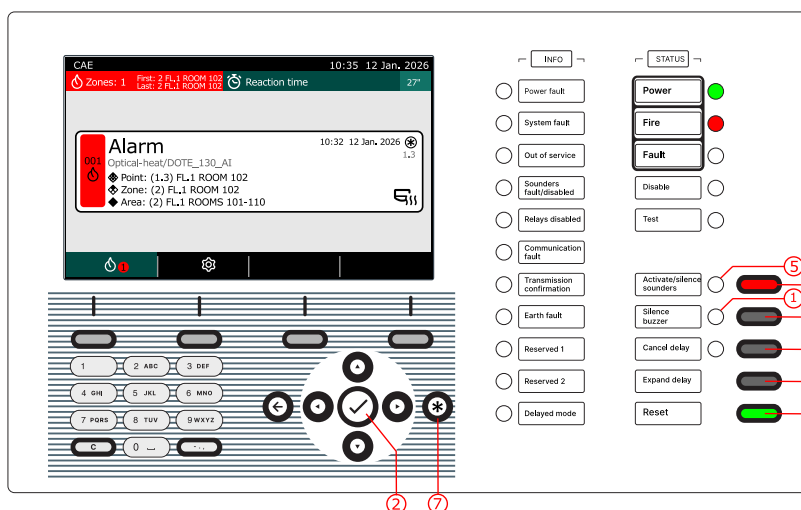


The message is displayed on the screen with detailed information.

- The message is saved in the log.
- The general alarm LED lights up steadily if it is a manual call point and flashes if it is a detector, input or conventional zone.
- The buzzer sounds continuously.
- The alarm relay is activated.
- The **response time** (30 s) is started before activating automatic maneuvers:
  - If you press **Extend delay** (access code 8888), it switches to **Inspection time** (300 s) to allow you to inspect and verify the cause of the alarm.
  - If you press **Cancel delay** the delay is cancelled.
- If the Inspection time is counting down:
  - If you press **Extend delay** you can increase it to a total of 600 s.
  - If you press **Cancel delay** the delay is cancelled.
- If sounder or relay output activation maneuvers are programmed, they will be performed if the activation condition is met.

If there is more than one point in an alarm state, a message will be displayed for each of them. Use the ▲ and ▼ keys to check them.

#### 5.5.3.1 Steps to take in the event of an alarm in delayed mode.



1. To stop the buzzer, press the "Silence buzzer" key. The "Silence buzzer" indicator light will come on.
2. Press the ✓ and enter the User code "8888", which provides Level 2 access privileges and access to the user menu.

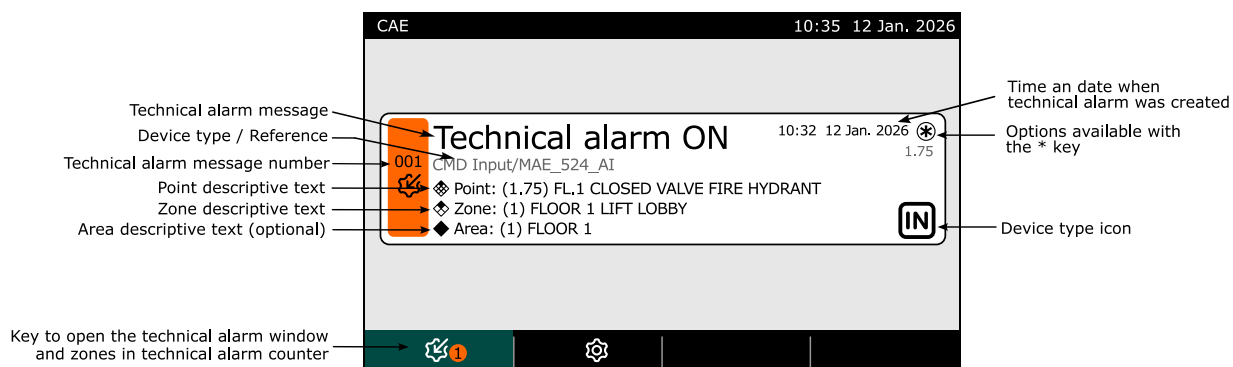
3. Before the response time counter reaches 0, press the "Extend delay" key to increase the time available to check the cause of the alarm before the programmed automatic actions are performed. Press it again if you want more time.
4. To cancel the delay, press the "Cancel delay" key.
5. If the sounders are activated, mute them by pressing the "Mute sounders" key and check the cause of the alarm in the respective zone. The status LED of the detector or manual call point that triggered the alarm will be lit red.
6. Reset the system with the "Reset" key. If the condition that triggered the alarm persists, the point will be reactivated. You should not reset the system until the cause of the alarm has been located and checked.
7. If it is a false alarm, you can temporarily disconnect the point that triggered the alarm by pressing the \* key. The alarm control panel must then be reset using the "Reset" key.



If it is necessary to evacuate the building, press the "Activate sounders" key; all of the system's sounders will be activated. The "Activate sounders" indicator light will come on.

### 5.5.4 Technical alarm state.

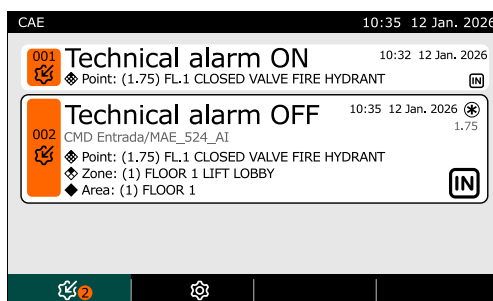
When the alarm control panel detects a point that is in a technical alarm state, it will indicate this as follows:



- The message is displayed on the screen with detailed information.
- The message is saved in the log.
- If sounder or relay output activation maneuvers are programmed, they will be performed if the activation condition is met.

If there is more than one point in an alarm state, a message will be displayed for each of them. Use the ▲ and ▼ keys to check them.

When the technical alarm is reset, a message is also generated on the screen to show that the alarm condition has ceased.



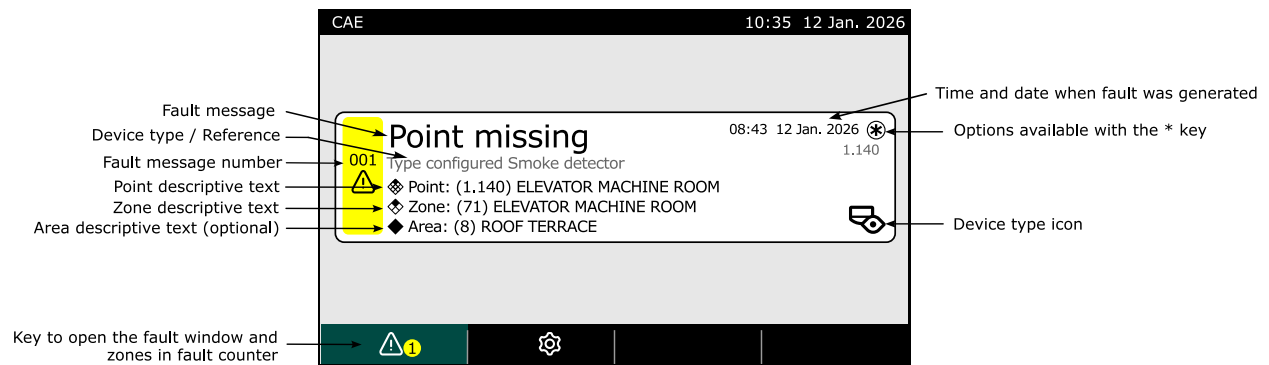
To clear the messages on the screen, reset the alarm control panel.



Technical alarms can also be configured individually to perform the programmed maneuvers and save the message in the log but not display it on the screen.

### 5.5.5 Fault state.

When the alarm control panel detects a fault, the type and location of the fault will be indicated with:

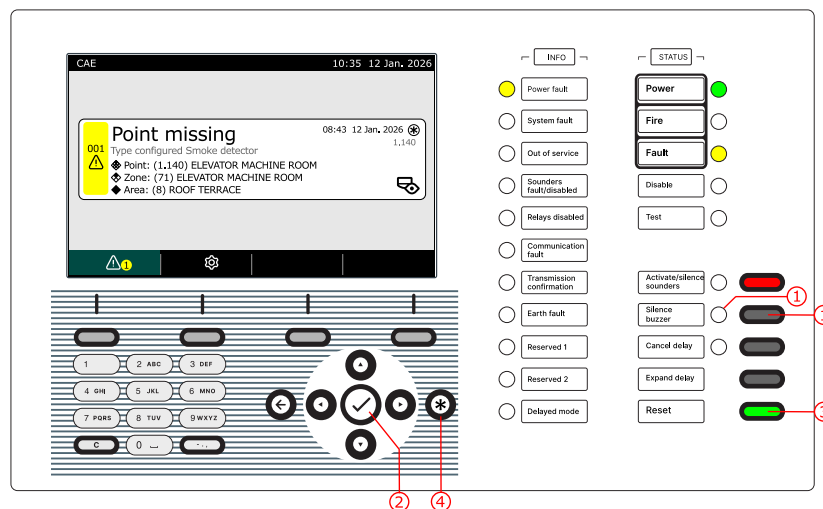


The message is displayed on the screen with detailed information.

- The general fault LED lights up.
- The buzzer sounds intermittently.
- The fault relay is activated.

If there is more than one point in a fault state, a message will be displayed for each of them. Use the ▲ and ▼ keys to check them.

#### 5.5.5.1 Steps to take in the event of a fault.



Contact the service responsible for maintaining the system to resolve any faults.

### 5.5.5.2 Causes of different types of faults.

A fault may be reported in the alarm control panel due to:

- Fault due to an open line after removing a detector from its base or disconnecting a cable.
- A device communication failure:
  - Detector off base
  - Open line in loop due to disconnected cable
  - Short-circuited loop
  - Device failure
- Address conflict, when two or more devices have the same address.
- Missing end-of-line resistor (4K7) on monitored inputs and outputs.
- Fault due to malfunction in connected devices, which may require auxiliary power.

The power failure may be due to:

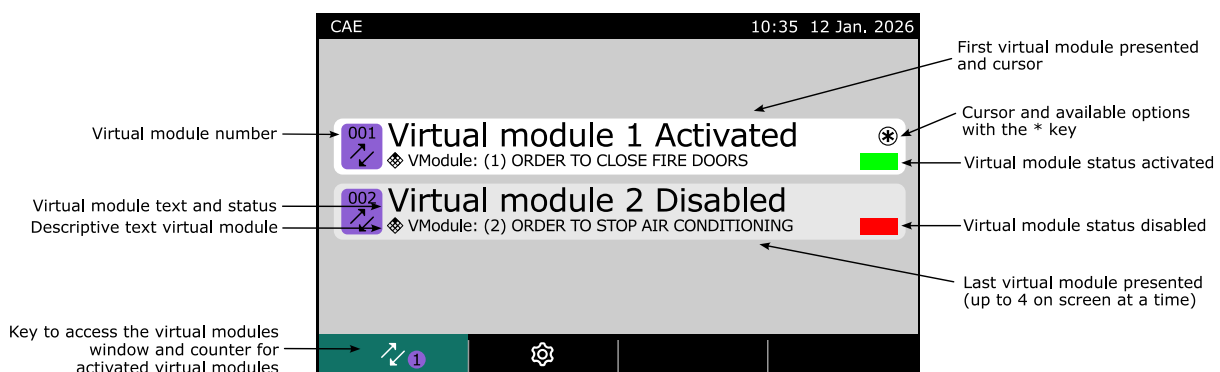
- Lack of mains power due to:
  - Blown fuse.
  - External circuit breaker disconnected.
  - Mains voltage failure.
- Battery failure due to:
  - Battery disconnected.
  - Low battery voltage.
  - Faulty battery (increased internal resistance).
  - Blown battery fuse.

The sounder output fault may be due to:

- Fuse failure in one of the sounder outputs.
- Fault due to an open line or disconnected cable.
- Fault in the sounder's polarised diode.
- Missing end-of-line resistor (4K7).
- Fault due to a short circuit in the wiring.

### 5.5.6 Virtual modules.

Optionally, the Control Panel can display the status of virtual modules on screen.



Virtual modules can be individually configured so that:

- They are never displayed on screen.
- They are displayed in the activated state.
- They are always displayed, regardless of their status.

Use the ▲ and ▼ keys to move the cursor between the displayed virtual modules and, press the \* key to access the available options.

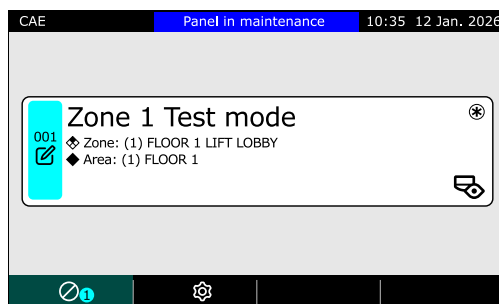
## 5.6 Zone test mode.

The alarm control panel allows individual zones and areas to be placed in test mode in order to perform functional tests on analogue detectors. The general test LED will blink at a frequency of 2 Hz.



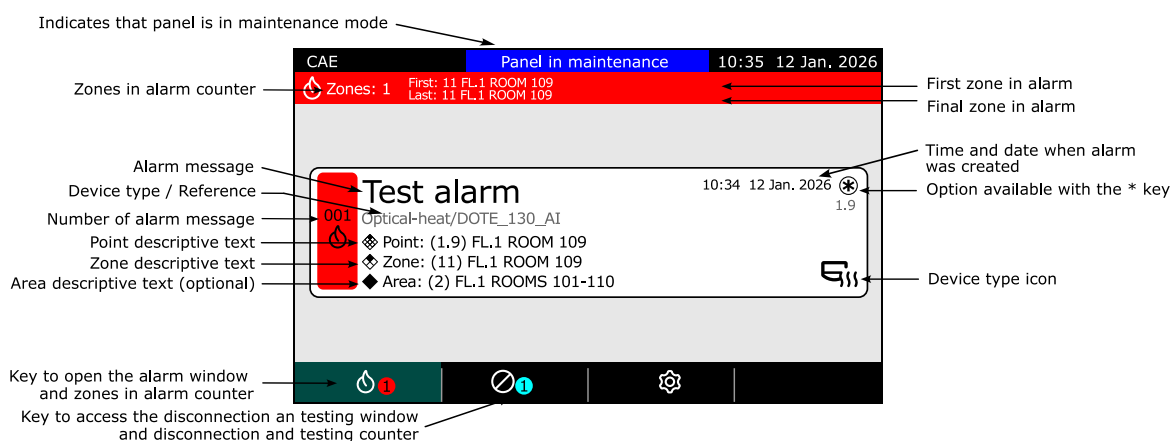
Activating an alarm state in a zone being tested will not activate the sounder outputs or the main alarm relay. The rest of the alarm control panel's areas will remain operational, and if an alarm is triggered in these areas, the sounder outputs and main relay will be activated.

When a zone is being tested in the alarm control panel, it indicates this as follows:



- The message is displayed on the screen with detailed information.
- A message is displayed indicating that the panel is in maintenance mode for functional testing.
- The general test indicator is activated.

If the alarm control panel detects an alarm in the zone that is in test mode:



The message is displayed on the screen with detailed information.

- The local audible alert sounds continuously.
- After 5 seconds, the detector's status indicator light is turned off. The detector will not be activated again until the zone is no longer in test mode.



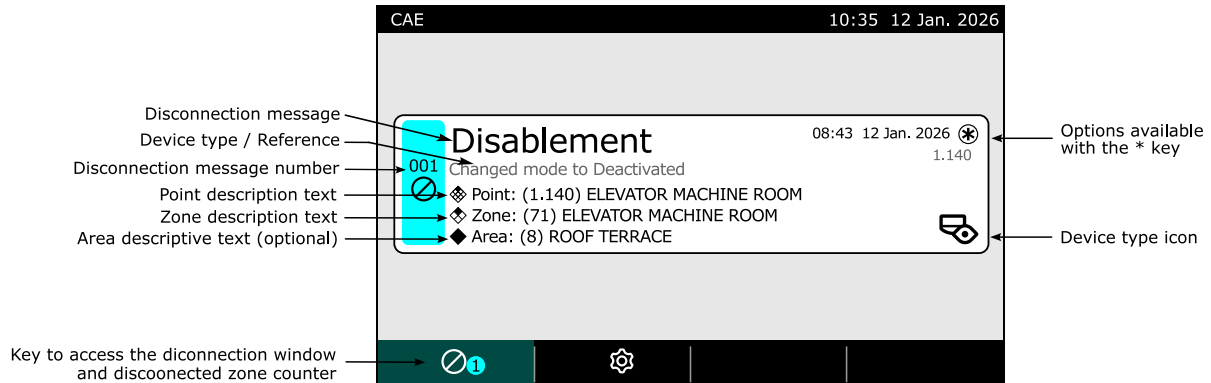
Before exiting test mode in a zone, wait a reasonable amount of time to ensure that the detectors have been properly cleaned and are free of smoke residue that could trigger false alarms.

## 5.7 Zone disconnection mode.

The alarm control panel allows you to disconnect and connect points, zones, and areas.

### 5.7.1 Disconnecting a point.

When a point is disconnected, it is shown as follows:

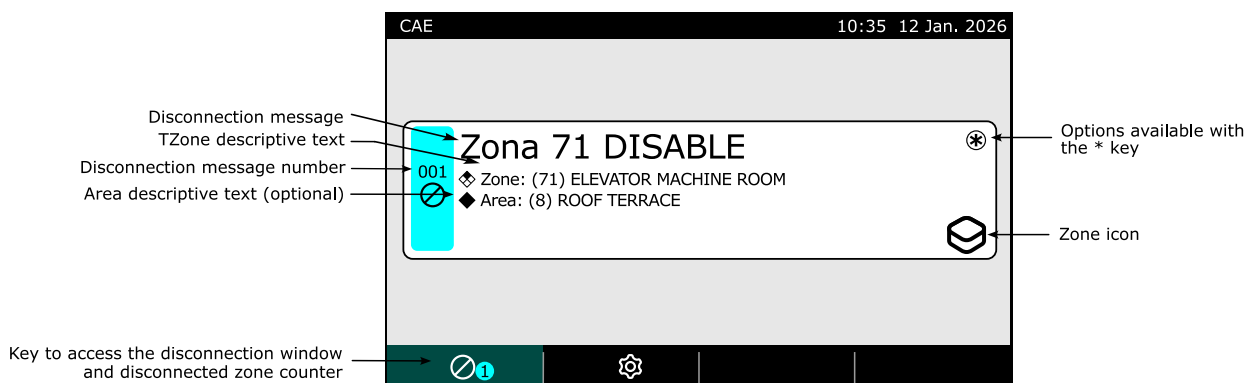


- A message is displayed on the screen.
- The general disconnection indicator light is lit (steady).

When a point is disconnected, no event occurring at that point will be reported by the alarm control panel and no audible alert will be sounded.

### 5.7.2 Disconnecting a zone.

When a zone is disconnected, it is shown as follows:

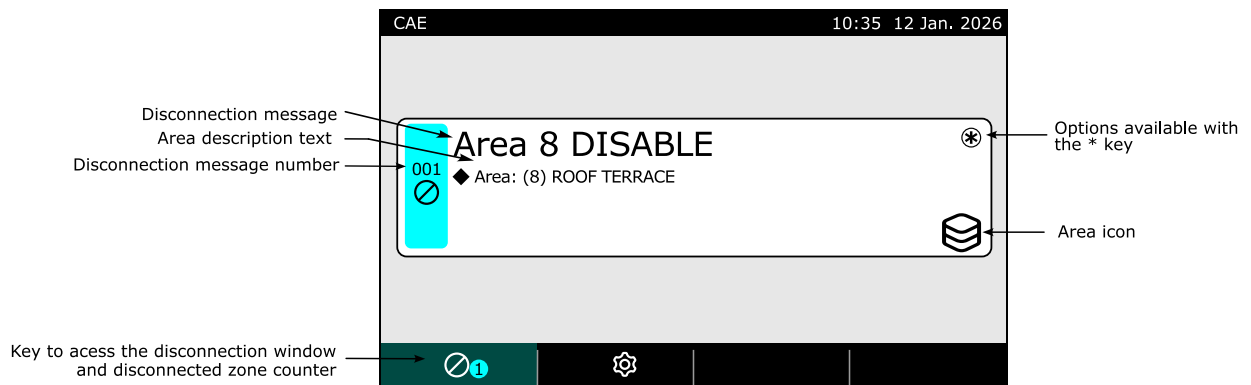


- A message is displayed on the screen.
- The general disconnection indicator light is lit (steady).

When a zone is disconnected, no events that occur in the associated points will be reported by the alarm control panel and no audible alert will be sounded.

### 5.7.3 Disconnecting an area.

When an area is disconnected, it is shown as follows:



- A message is displayed on the screen.
- The general disconnection indicator light is lit (steady).

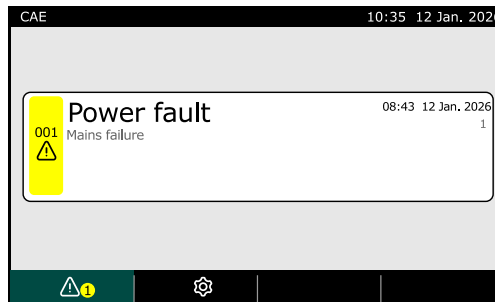
When an area is disconnected, no events that occur in any point of the zones associated with that area will be reported by the alarm control panel and no audible alert will be sounded.

## 5.8 Out of service operation.

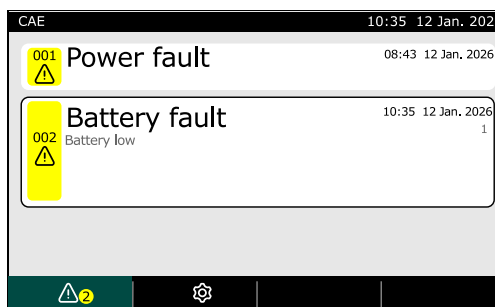
The alarm control panel enters out of service mode when there is no mains power supply (230 VAC) and the battery power drops below 20,5 V. While in this mode, any alarms or faults in the system will be ignored.

It is indicated as follows:

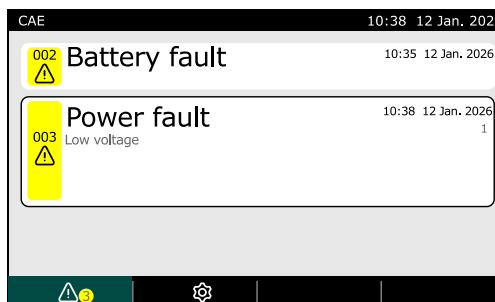
- A power failure due to a mains voltage failure will have been reported beforehand.
- The power failure indicator light is illuminated (flashing).



- Subsequently, a low battery fault will also be reported when the voltage drops below 21 V.



- When the battery voltage drops below 21 V, a "Power Failure, Low voltage" message is displayed:



- The out of service indicator light (steady) is activated.
- The general fault indicator light (flashing) is activated.
- The audible alert sounds intermittently.
- The fault relay is activated.



When mains power returns and the supply voltage is higher than 21 V, the alarm control panel resumes operation, but a reset is required to clear the fault alerts.

### 5.8.1 Operations available while out of service.

Mute the internal buzzer by pressing the "Silence sounders" key.



If the alarm control panel enters this mode, disconnect the system until power is restored to prevent damage to the batteries.



## 5.9 What to do in the event of an alarm or fault.

The conventional system is designed to ensure an effective response in the event of an alarm. For this reason, all points are connected to the alarm control panel, continuously monitoring the status and operation of the system and alerting the user if an event or incident occurs.

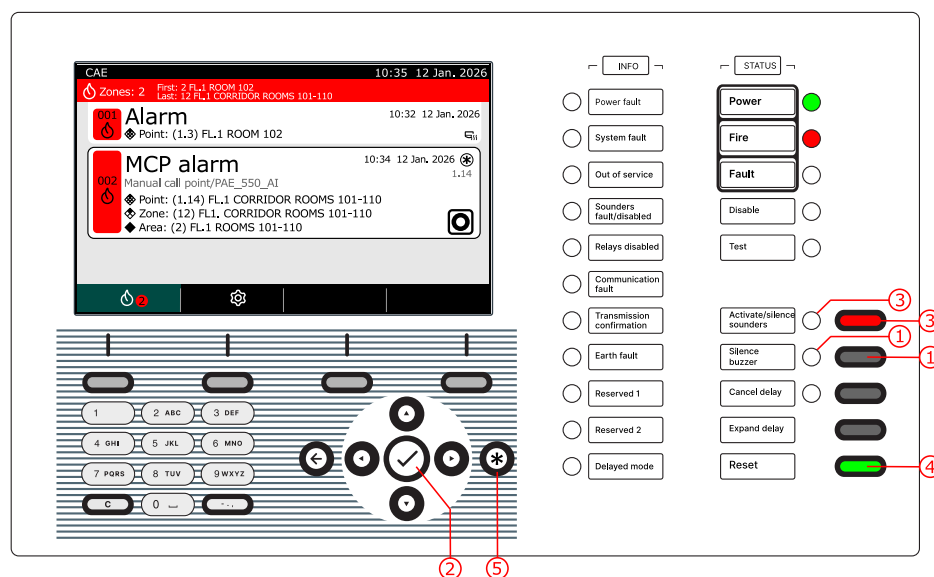
Knowledge of the conventional system is necessary to be able to act correctly in the event of an alarm.

**IMPORTANT:** it is advisable to read these steps that must be followed in the event of an alarm, as they will be extremely helpful if the situation arises.

### KEEP CALM

When an alarm condition is met, the alarm control panel activates sounders and/or buzzers to alert the user of an event.

Above all, it is important to remain calm, as the stress caused by the audible signal can prevent you from reacting correctly.



#### 1. PRESS THE SILENCE BUZZER KEY

The user must press the "Silence buzzer" key to mute the local audible alert. This will help them to think more calmly.

#### 2. KEYPAD ACCESS

The person responsible for manning the system in this situation will know the code that provides Level 2 access, allowing them to control the keypad. Press the ✓ key and enter the user code "8888".

**Note:** if the sounders are activated and you wish to deactivate them, press the "Silence sounders" key.

#### 3. IDENTIFY THE CAUSE OF THE ALARM

The message on the display and indicator lights on the front cover of the alarm control panel will indicate the type of fault or alarm that has been triggered in the system and its location.

#### 4. ACT


Once the cause of the alarm has been identified, it is time to act by following the emergency plan in place at each site.

If it is necessary to evacuate the building, press the "Activate sounders" key.

#### 5. RESET THE SYSTEM

Once the problem has been resolved, press the Reset key to reset the alarm control panel and reboot the start-up devices.

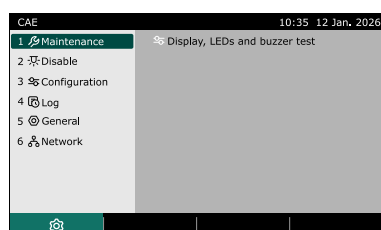
## 6 User menu.

Press the  key and enter the access code “8888” to open the user menu, where you can perform the following functions:



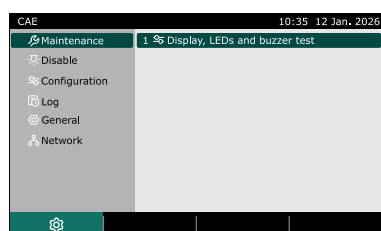
Select the option by pressing the corresponding number or use the  and  keys, and press  to confirm.

### 6.1 Maintenance.



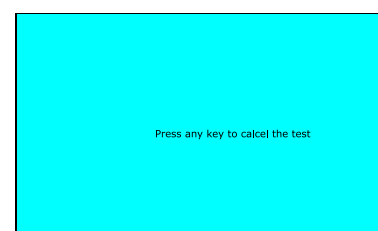
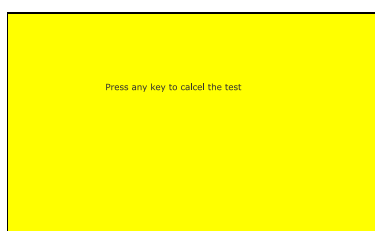
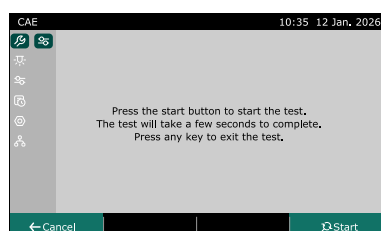
This allows you to perform basic maintenance of the alarm control panel.

#### 6.1.1 Display, LED and buzzer test.

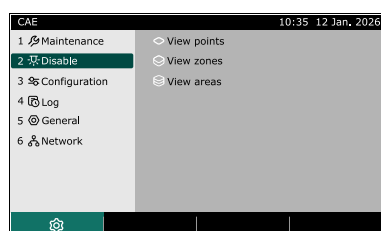


This tests the operation of the screen, indicator lights and buzzers.

Follow the on-screen instructions to begin. Screens will be displayed in different colours to check that they are being displayed/sounding correctly.



### 6.2 Disable.

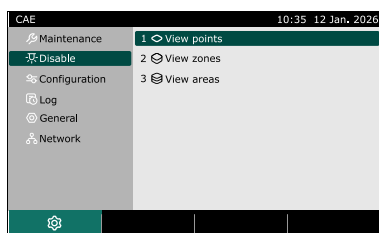


This allows you to disable points in the system, leaving them temporarily out of service, ignoring any alarm or fault signals that they may generate.

It allows you to activate the devices' indicator lights so that they can be identified in the system.

It allows you to put zones and areas into detector test mode.

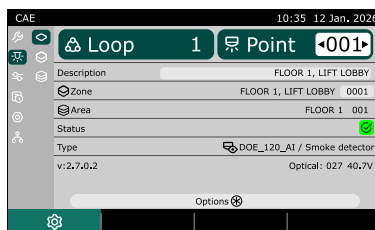
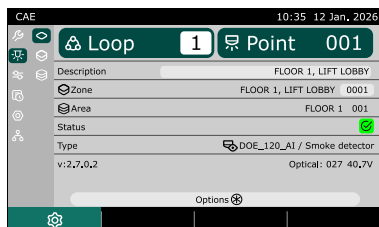
## 6.2.1 View devices.



It displays information about the points in the system.

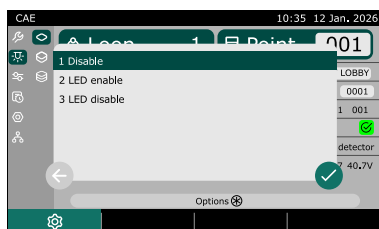
Select the loop number and the device number.

- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



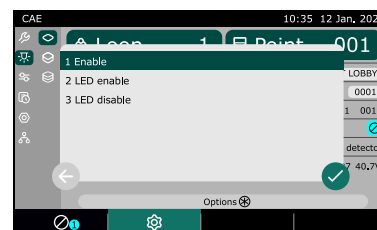
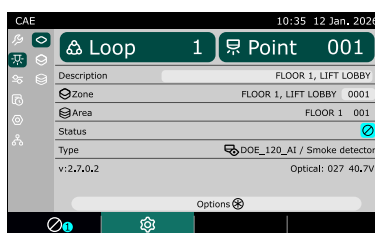
Press the \* key to display the available options menu.

### 6.2.1.1 Disable / Enable.

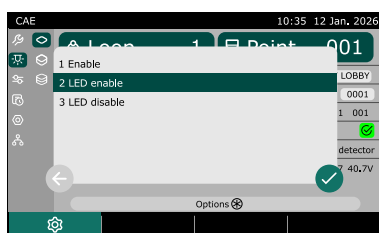


This allows you to enable or disable the selected point.

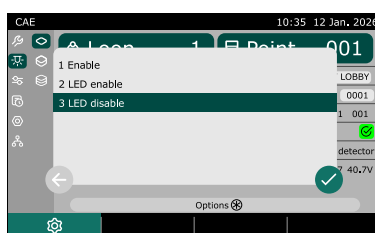
The status icon changes to blue (disabled).



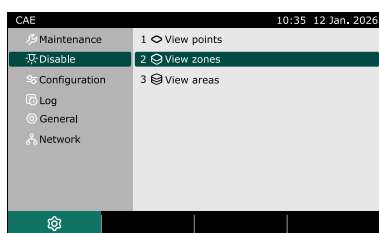
### 6.2.1.2 Activate / Deactivate LED.



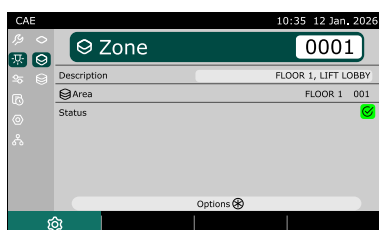
Activate the device's status LED so it can be physically identified in the system.



## 6.2.2 View zones.

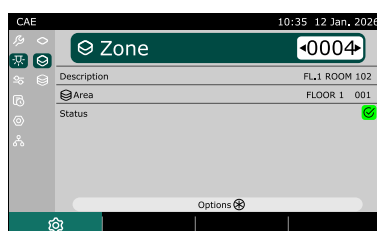


It displays information about the system's zones.



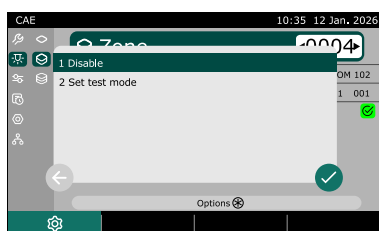
Select the number of the zone you want to view.

- press ✓ to change the zone number.
- press ◀ and ▶ to change the value or press the number.
- press ✓ to confirm the value.



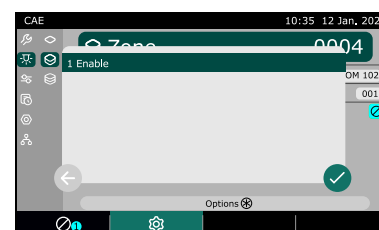
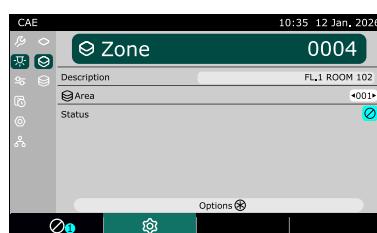
Press the \* key to display the available options menu.

### 6.2.2.1 Disable / Enable.

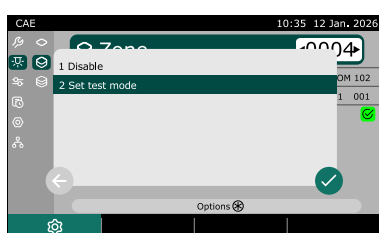


This allows you to enable or disable zones, so that all points associated with the zone are also enabled or disabled.

The status icon changes to blue (disabled).

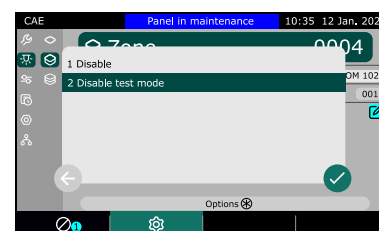
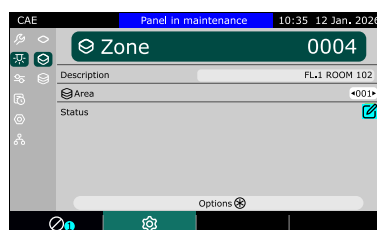


### 6.2.2.2 Activate / deactivate test mode.

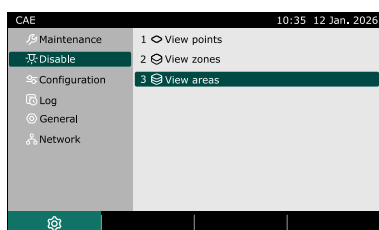


This allows the zone to be put in test mode, to perform functional tests on the detectors in the zone, without performing the programmed automatic maneuvers.


At the top of the screen, it shows that the alarm control panel is in maintenance, and the icon in the zone status line changes.

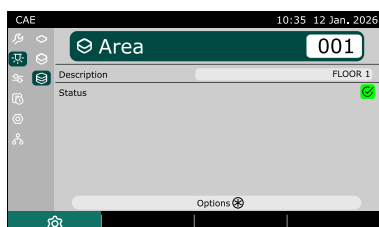


### 6.2.3 View areas.



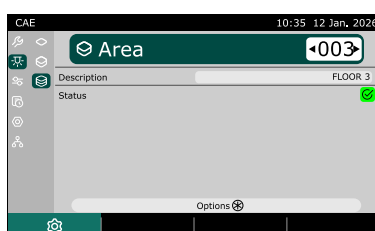
It displays information about the system's areas.

 Defining areas in the installation is optional. If no areas are defined, no information will be displayed.



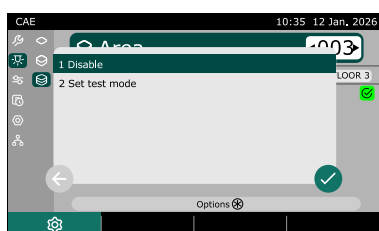
Select the number of the area you want to view.

- press ✓ to change the area number.
- press ◀ and ▶ to change the value or press the number.
- press ✓ to confirm the value.



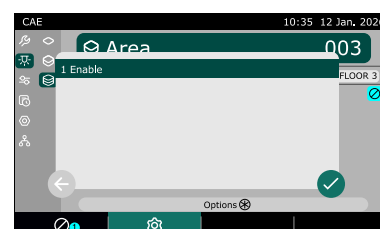
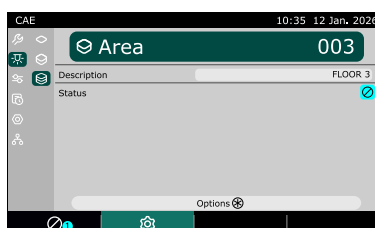
Press the \* key to display the available options menu.

#### 6.2.3.1 Disable / Enable.

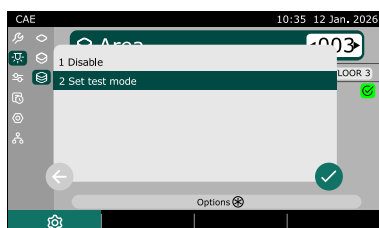


This allows you to enable or disable areas, so that all zones associated with the area are also enabled or disabled, and all points associated with the zones are also enabled and disabled.

The status icon changes to blue (disabled).

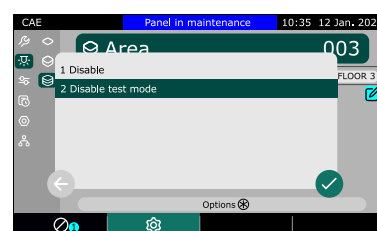
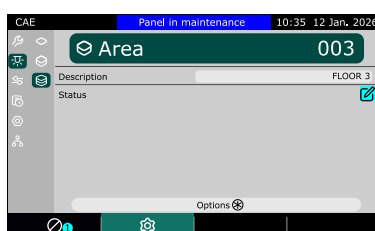


#### 6.2.3.2 Activate test mode.

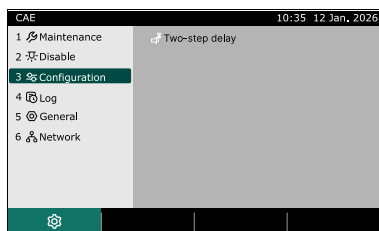


This allows the area to be put in test mode, to perform functional tests on the detectors in the zones associated with the area, without performing the programmed automatic maneuvers.


At the top of the screen, it shows that the alarm control panel is in maintenance, and the icon in the area status line changes.



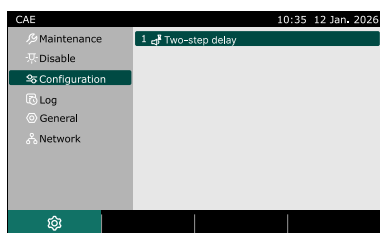
## 6.3 Configuration.



Allows changes to be made to the control panel settings that affect the operation of the fire detection system.

 Only changes that can be made by users with Level 2 access are permitted.

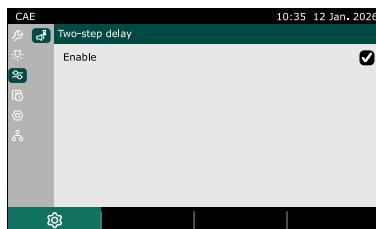
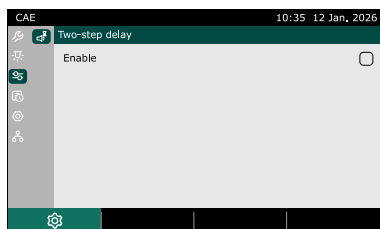
### 6.3.1 Two-step delay.



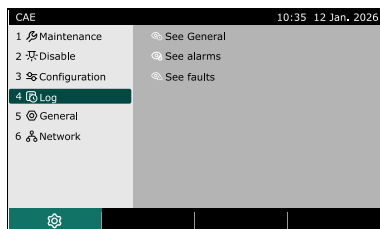
This allows you to enable delayed mode for output activation.

This mode allows for a response time between the alarm event being received and the automatic activation of the programmed maneuvers. Once the alarm has been dealt with, the investigation time can be extended or cancelled to activate the maneuvers.

Modifying the configured times is not permitted.

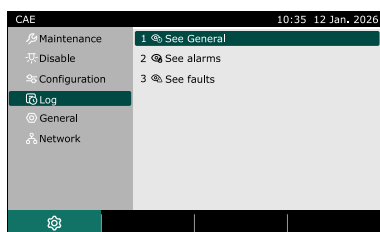


## 6.4 Log.

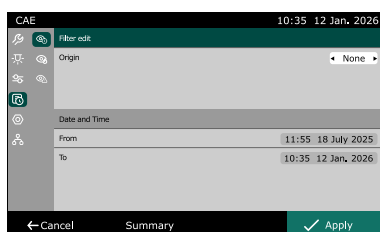
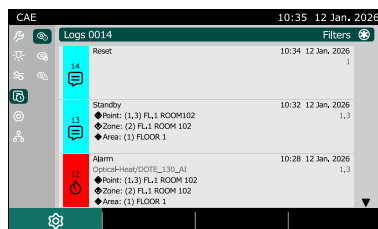


This allows you to view a log of the events generated in the alarm control panel.

### 6.4.1 See General log.



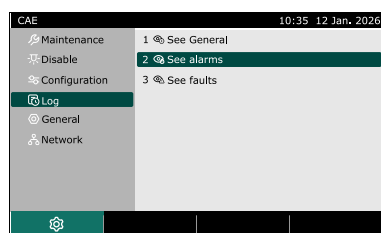
This displays all events stored in the alarm control panel, starting with the most recent event.



Pressing the \* key allows you to apply filters by date and/or the points that have generated the event.

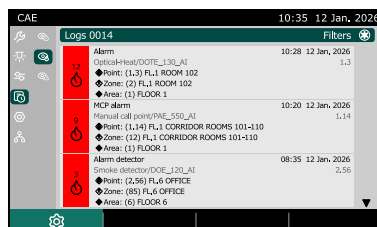
Only events that meet the filter requirements will be displayed.

## 6.4.2 See alarms log.

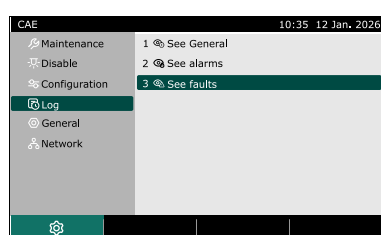


This displays all alarm events stored in the alarm control panel, starting with the most recent event.

Pressing the \* key allows you to apply filters by date and/or the points that have generated the event.

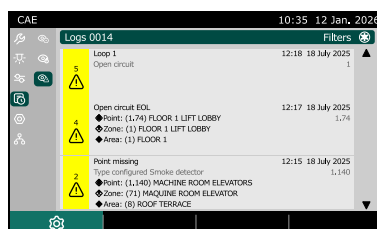


## 6.4.3 See faults log.

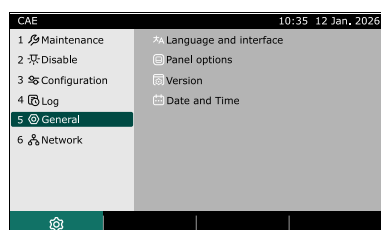


This displays all fault events stored in the alarm control panel, starting with the most recent event.

Pressing the \* key allows you to apply filters by date and/or the points that have generated the event.

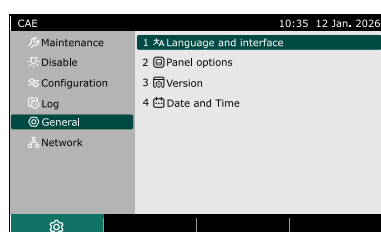


## 6.5 General.



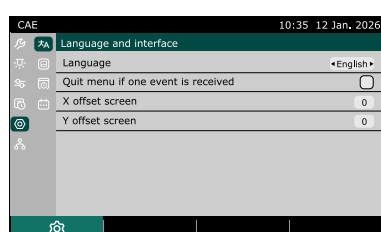
This allows you to view and configure certain operating parameters of the alarm control panel.

### 6.5.1 Language and interface.



This allows you to select the language used to operate the alarm control panel and display events. Available languages: English, Spanish, French, Catalan, Serbian, Turkish, and Italian.

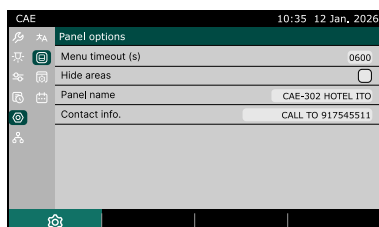
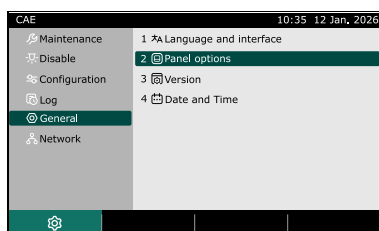
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



Checking the box "Quit menu if one event is received" forces the event to be displayed on screen when you are operating the alarm control panel.

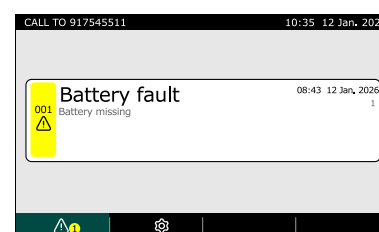
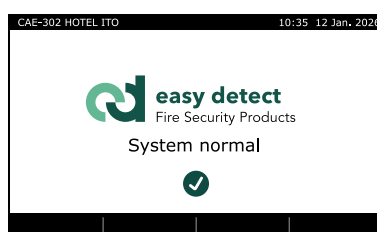
The X and Y screen offset allows you to shift the display on the screen by ±5 pixels, to fit the alarm control panel's front cover.

## 6.5.2 Panel options.

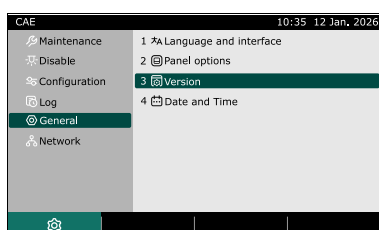


This allows you to configure the following options:

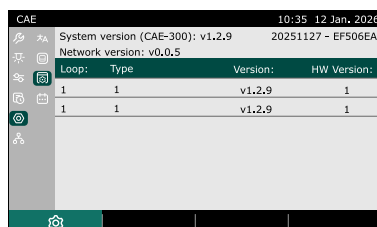
- **Manu timeout.** Exits the menu after a period of inactivity, since the last key press, in seconds.
- **Hide areas.** Checking this box conceals the descriptive text for the area associated with a given zone.
- **Panel name.** Descriptive text that appears on the top line of the screen, it can be the model of the alarm control panel, or the name of the building in the facility, for example.
- **Contact info.** Text that appears instead of the panel name on the top line of the screen when a fault event has occurred.



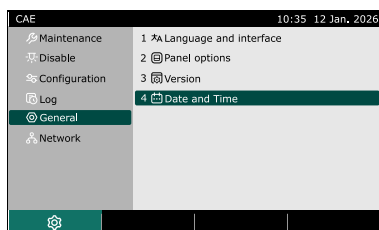
## 6.5.3 Version.



Displays the firmware version of the CPU and loops. It also displays the network card version, if installed.



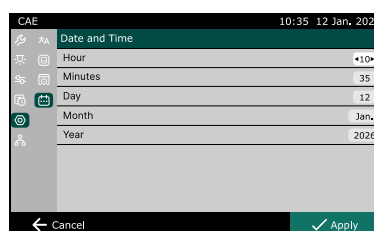
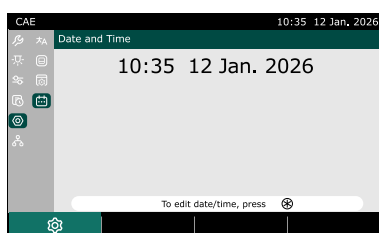
## 6.5.4 Date and time.



This allows you to set the time and date of the alarm control panel's clock.

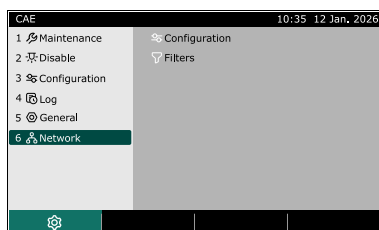
Press the \* key to access the editing function.

- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.



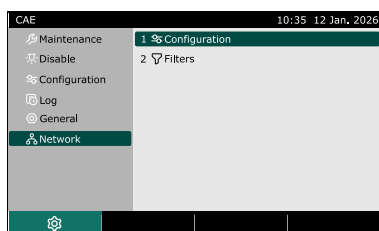


## 6.6 Network.



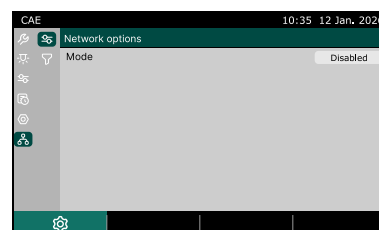
This allows you to enable and configure the CAE-300 alarm control panel's connection to a network of alarm control panels and the events that it can present from other alarm control panels.

### 6.6.1 Configuration.



To configure the network connection.

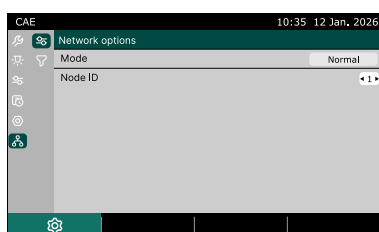
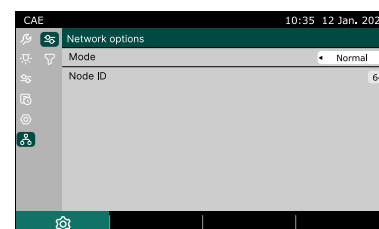
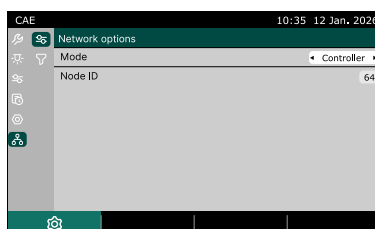
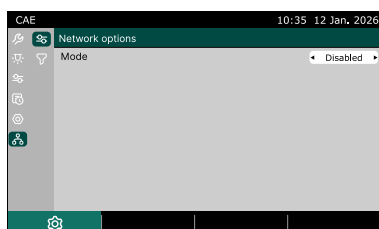
#### 6.6.1.1 Network options.




To change the operating mode:

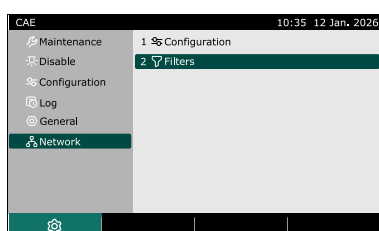
- press ✓ to modify the selected field.
- press ◀ and ▶ to change the value, or press the number.
- press ✓ to confirm the value.
- press ◀ and ▶ to toggle between fields.

If the network is enabled, the alarm control panel can function as a controller node or a normal node, and the node number must be specified.

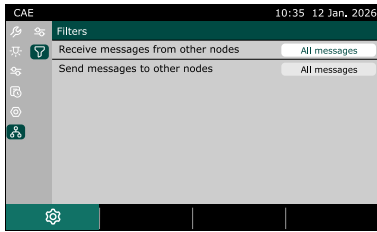


 There can only be one controller node in the installation; all other nodes must be normal nodes. Each node must have a different number, from 1 to 64.

#### 6.6.1.2 Filters.

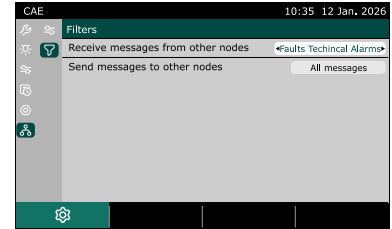
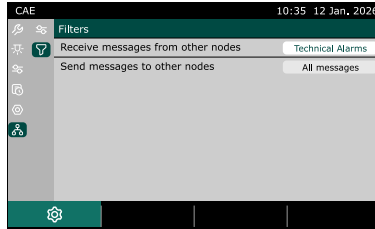
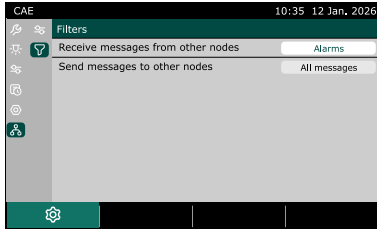


Allows to filter which events generated in other nodes will be displayed on screen, and those generated in the node itself that will be sent to the other nodes in the network.



The filters that can be applied are:

- All messages.
- Alarms.
- Technical alarms.
- Faults technical alarms.



## 7 System maintenance

The maintenance measures recommended in the EN54-14 standard must be performed.

### 7.1 System user

The system's end user must perform the following checks:

#### 7.1.1 Daily inspection

- The alarm control panel should indicate normal operation. If not, the faults must be recorded in the logbook and the maintenance company must be notified.
- Check that any previously recorded faults have been addressed.

#### 7.1.2 Monthly inspection

- At least one detector or manual call point must be activated to test the alarm control panel and the connected alert points. A different zone should be tested each month.
- Any malfunctions should be noted in the logbook, with corrective action taken as soon as possible.

#### 7.1.3 Cleaning

The alarm control panel should be cleaned with a damp cloth. Do not use solvent-based products.

### 7.2 Installer or maintenance company

The following checks must be carried out by the installer or maintenance company:

#### 7.2.1 Six-monthly inspection

- Inspect the logbook entries, taking appropriate corrective action if necessary.
- Check all battery connections and their charging voltage.
- In each zone, check the alarm, fault and auxiliary functions of the control and signalling equipment.
- Visual inspection of control and signalling equipment for any build-up of moisture or other damage.
- Determine whether there have been any structural changes that could affect the operation of detectors, manual call points or sounders. If so, carry out a visual inspection.
- Any defects should be noted in the logbook, with corrective action taken as soon as possible.

#### 7.2.2 Annual inspection

- Put the alarm control panel in test mode and make sure that all detectors and manual call points are operating as per the manufacturer's recommendations.
- Perform a visual inspection to ensure that all system connections and their fasteners are secure, undamaged and properly protected.
- Examine and test the batteries.
- Any defects should be noted in the logbook, with corrective action taken as soon as possible.

#### 7.2.3 Batteries

Even if the batteries are in a good condition and there is no indication of a fault in the alarm control panel, they should be replaced every four years, as this is the service life specified by the manufacturers.

Always replace both batteries at the same time with batteries of the same type, voltage (12 V) and capacity (Ah).

## 8 Troubleshooting guide

ISSUE	CAUSE	ACTION
Service indicator off. Screen not turning on.	The alarm control panel is not receiving power	Check the mains voltage (110 V or 230 V). Check the mains fuse. Check the battery. Check the battery fuse.
"Power failure" indicator light flashing and intermittent sound	Fault in a power supply circuit	Check the mains voltage (110 V or 230 V). Check the mains fuse. Check the battery connection. Check the battery fuse. Check the battery voltage (it must be higher than 22 V). Check the battery charger voltage (27.6 V).
"System malfunction" indicator light and continuous sound	Control unit fault	Restart the system by disconnecting the batteries and the mains supply and, after a few seconds, turn the power supply back on.  Contact the dealer
"Out of service" indicator light flashing and intermittent sound	The system has no mains supply and the battery is below 22 V (minimum operating voltage)	Disconnect the battery and the mains until power can be supplied from the mains or by charged batteries
Fault indicator light flashing and intermittent sound	The cause is shown in the fault events on the screen	Press the Reset key. If the fault persists, contact the personnel responsible for system maintenance.
General disconnection indicator lights	Points, zones or areas have been temporarily disconnected. The cause is shown in the disconnection events on the screen.	To re-enable them, press the * key or open the menu.
Sounder fault/disabled indicator light steadily lit	Sounder outputs 1 and 2 of the alarm control panel have been programmed to be disabled	To enable them, you need to access the settings as an installer.
Sounder fault/disabled indicator light flashing	Fault in the sounder outputs or analogue sounders	Contact the maintenance personnel

## 9 Technical characteristics

### CAE-400 casing:

Dimensions:	440 mm wide 390 mm high 130 mm deep
Weight	8 kg (without batteries)
Material	Sheet metal

### Environmental characteristics:

Operating temperature:	-5°C to +40°C.
Relative humidity:	maximum 95%, non-condensing
Protection rating:	IP30
Supports climate class:	3K5 in the EN 60721-3-3:19995 standard.

### Detection zones:

CAE -401	1 analogue loop
CAE -402	2 analogue loops
CAE -403	3 analogue loops
CAE -404	4 analogue loops
Maximum number of devices per loop:	250
Maximum number of points per loop:	250
Number of zones:	1000
Number of areas:	250
Number of groups:	250
Number of virtual modules:	250
Number of manoeuvres:	4096
Zone output voltage:	Nominal 40 V Maximum 41 V Minimum 33 V
Maximum loop current:	650 mA
Maximum loop length:	3000 m, closed loop
Maximum loop resistance:	44 Ω
Maximum loop capacity:	500 nF
Recommended cable:	2x1.5 mm <sup>2</sup> twisted pair and shielded
Zone line maximum resistance:	44 Ω

### Sounder outputs:

Number of outputs:	2 separate monitored, simultaneous activation
Monitoring:	open circuit/short circuit
End-of-line resistor:	4K7 1/4 W
Maximum output current:	500 mA each.
Output voltage:	On standby: -5 V and -9 V Activated: 18 V and 28 V
Recommended cable:	2x1.5 mm <sup>2</sup> twisted pair
Maximum output current:	500 mA each.

### Status repeater relays:

Alarm relay:	NO / C / NC voltage-free contacts
Fault relay	NO / C / NC voltage-free contacts Energised on standby
Maximum contact switching capacity:	2 A, 30 VDC

### 24 V aux. output:

Output voltage:	24 V (18 V ~28 V)
Maximum current:	500 mA


**Power supply:**


Maximum power consumed:	<200 W
Input voltage:	100 - 230 VAC 50 Hz
Output voltage:	24 VDC. Set to 27.9 V
Output current:	6.5 A

**Fuses:**

Mains fuse for 230 V:	4 A (5SF)
F1 fuse 24 V Aux:	0.5 A 20 mm HCR (T)
F2 fuse sounder 1:	0.5 A 20 mm HRC (T)
F3 fuse sounder 3:	0.5 A 20 mm HCR (T)
F4 fuse power supply:	5 A 20 mm HRC (T)
F5 fuse auxiliary power supply:	5 A 20 mm HRC (T)
F6 battery fuse:	6 A 20 mm HCR (T)

**Certificate:**

	
<p><b>EASY DETECT, S.L.</b>  <b>Paseo de los Ferrocarriles Catalanes, 143</b>  <b>08940 Cornellá de Llobregat (Barcelona) - Spain</b></p> <p><b>0370-CPR-7202</b></p>	
<p><b>ANALOGUE FIRE DETECTION ALARM CONTROL PANEL MODEL: CAE-408 / CAE-404 / CAE-403 / CAE-402 / CAE-401</b></p> <p>EN 54-2:1997, EN 54-2:1997/AC:1999, EN 54-2:1996/A1: 2006;</p> <p>Fire detection and fire alarm systems. Part 2: Control and indicating equipment</p> <p>EN 54-4:1997, EN 54-4:1997/AC:1999, EN 54-4:1997/A1:2002, EN 54-4:1997/A2:2006</p> <p>Fire detection and fire alarm systems. Part 4: Power supply equipment</p> <p>Notified body: 0370</p> <p>Optional functions with requirements:</p> <ul style="list-style-type: none"> <li>• Output for fire alarm devices.</li> <li>• Output delays.</li> <li>• Alarm counter.</li> <li>• Point failure signals.</li> <li>• Disconnection of addressable points.</li> <li>• Test mode.</li> </ul> <p>Technical data: See the documents provided by the manufacturer.</p> <ul style="list-style-type: none"> <li>• User, installation and commissioning manual. Document: CAE-400_Manual_usuario_EN.pdf</li> <li>• Quick guide.</li> </ul> <p><a href="http://www.easy-detect.com">www.easy-detect.com</a></p>	

	<p>To protect the environment, electrical or electronic equipment should not be treated as household waste at the end of its useful life. Please take it to one of the specific collection centres for the recycling of electrical and electronic equipment in your area for selective collection.</p>
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