Installation and Operation Manual of

Addressable Fire Alarm Control Panel

# WISE

W1-ACP-3XX



(REV. 9.4)

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# Tabel of content

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# Introduction

- **Responsibilities Related to This Manual**

This manual is an essential part of the panel and must be kept for its for as long as the panel is in use. therefore it should be accessible to the user.

- **Manual Information**

  o **Product:** Addressable Fire Alarm Control Panel

  o **Title:** Installation and Setup Guide

  o **Date:** 2025/07/09

# Safety and Warranty

- **Safety Regulations**

The purpose of the information in this manual is to ensure the correct installation and operation of the device. It is supposed that anyone installing or operating this device must be familiar with the contents of this manual.

- **Use of Accessories**

This device should only be installed and used as described in this manual and with components manufactured by our company.

These devices are designed, manufactured, and tested according to the declared safety standards. By following the instructions in this manual, the control center will not pose any life or financial hazards.

- **Warranty Limitations**

If the fire alarm system is used under conditions other than those intended, the company is not responsible for direct or indirect damages to persons or property. The technician must precisely install the panel by following the instructions in this manual and in accordance with the standard.

This product has a 24-month warranty against factory defects starting from the installation date. The warranty does not cover defects resulting from the following:

  o Physical impact exposure

  o Damages caused by manipulation and repair of boards.

  o installation by unqualified personnel

  o Electrical fluctuations

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o   Water damage

In the case of defects resulting from improper use or operations not described in this manual, the warranty is not applicable

- **Technical Support**

For any specific technical questions or requests, please contact the after-sales service department of the SENS company.

o   Technical Support (WhatsApp): +90 512 862 75

# Product Identification Information

- **Manufacturer Identification Information**

    o   Factory Address: East Azerbaijan, Tabriz, Shahin Shahr Industrial Zone

    o   Head Office Phone: 041-36379707-8

    o   Fax: 041-36379709

- **Package Contents**

    o   Addressable fire alarm control panel

    o   Accessory kit

    o   User manual

    o   Installation template

- **Adhered Standards**

    o   EN 54-2

    o   EN 54-4

# Introduction to the Addressable Panel

## General Features

The WISE Control Panel is an addressable fire alarm control panel that can manage all the individual devices connected to it using their corresponding addresses. This control center can support up to 10 loops, and each loop can control a maximum of 240 addressable devices depending on the wiring type and the current consumption of the devices

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## Transportation

To prevent damage during transportation precautions must be taken due to the panel's sensitivity to impact. It is also crucial to observe temperature limitations and avoid direct light exposure.

## Opening the Packaging

Be careful when opening the package to avoid damaging the panel.

## Installation and Setup Precautions

o When installing the panel on the wall, make sure to use the template provided by the installer. The template should be placed on the wall, and the screw locations should be marked using the built-in holes. Do not use the panel itself for wall drilling or measurement.

o The electronic boards of the panel contain sensitive semiconductor devices that are sensitive to electrostatic discharge. Therefore, during panel handling, avoid direct contact and potential sources of electrostatic discharge, and do not touch the electronic components.

o To minimize the vulnerability and sensitivity to noise, make sure that there is a standard grounding in the site and connect the panel's earth wire to it properly.

o Disconnect the battery and AC power before inserting or removing expansion electronic cards or performing any maintenance or repair.

o It's crucial to ensure that all connected devices, such as detectors, alarms, and more, are compatible with the control panel as it is recommended by the device manufacturer. Incompatible components can lead to improper functioning or even damage to the control panel.

o This panel must be used with two 7.2 amp-hour batteries, which should be connected in series according to the manufacturer's instructions and connected to the power supply board terminal.

* Note that the access to level 3 user is possible simultaneously with the alpha switch (access key) open (or the presence of ALPHA SW jumper) on the main panel board and entering the level 3 user code.

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# Technical Specifications

## Hardware Features

- o Designed based on a 32-bit ARM microprocessor.

- o Modular design to reduce the cost of maintenance and increase the flexibility of the system.

- o 7-inch touchscreen display with a resolution of 800×480

- o Advanced digital communication protocol for reduced noise susceptibility

- o Automatic device detection on both open and closed loop configurations

- o Two default loop configurations selectable

- o Capability to expand loops to up to 10 loops using five loop expansion cards.

- o Supports a maximum of 240 addressable devices per loop, depending on loop length and cable quality.

- o Equipped with status indicator LEDs.

- o Has a buzzer warning with the capability to activate the silent mode

- o Relay contact output for system command circuit applications such as smoke evacuation, fire extinguishing system activation, etc. in fire conditions

- o Two supervised 24V outputs with a maximum current capacity of 500 mA for conventional alarms

- o Auxiliary 24V voltage output with a maximum current capacity of 500 mA

- o RJ-45 port for connecting to the SENS WATCH module for remote monitoring.

- o Ethernet port for panel status monitoring using a PC.

- o USB 2.0 port for programming, configuration backup, and event reporting

- o Expansion connector for installing an IP Card, specified to the WISE system for creating an integrated inter-panel network.

- o One RS-485 port for connecting to a Repeater.

- o Support for two series-connected 12V 7.2 amp-hour batteries during power outages according to standards

- o Printer connection option for event printing

- o Telephone dialer output

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## Software Features

- o Management of all addressable devices in each loop

- o Ability to define and program 32 zones.

- o Storage of more than 10,000 events in the control panel

- o Search and automatic identification of all addressable devices in each loop

- o Support for various detectors and addressable modules introduced by the manufacturer.

- o Ability to define 32 Output Zones and assign up to 32 output devices or addressable devices to each zone using 32 configurable Logic Functions

## Panel Input Specifications

| Input Voltage | 220 volts - 50 Hz |
|---|---|
| Current Consumption | 500 mA |
| Input Fuse | 4 A |

## Electrical Specifications

| Operating Voltage | 30VDC |
|---|---|
| Backup Batteries | 2 batteries, 12 V, 7.2 Ah |
| Minimum Battery Operating Voltage After Main Power Cut | 21V |
| Power Switching | 100 W single-output enclosed type switching power supply. High efficiency up to 89% with metallic mesh case for enhanced heat dissipation. Operates under natural air convection without fan. |
| Output Current | 5A max. |
| Cable | 1mm2, 20mΩ @ 1m |
| Max. Cable Resistance | 22.5 Ω |

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| | |
|---|---|
| **I**$_{\text{min}}$ (the quiescent current drawn by the power supply equipment (PSE) with the minimum output loading.) | 360mA |
| **I**$_{\text{max}\,a}$ (the current taken from the main power source, when supplying the quiescent load, charging the battery and supplying the maximum load from all auxiliary outputs.) | 3.25A |
| **I**$_{\text{max}\,b}$ (the current taken from the main power source, when supplying the system in the fire alarm condition, with all mandatory outputs activated, and with no battery charging.) | 4A |

## Functional Specifications

| | |
|---|---|
| Keypad | Touchscreen |
| Type of Visual Indicator | LED |
| Type of Audible Alarm | Buzzer |
| Image Resolution | 800×480 |
| Maximum Number of Recordable Events | 10,000 |
| Number of User Levels | 2 access levels with password entry, 1 level without a password |
| Maximum Number of Installable Loop Development Cards | 5 |
| Maximum Number of Zones | 32 |
| Maximum Number of Output Zones | 32 |
| Maximum Number of Logic Functions | 32 |

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| Maximum Detector Wire Length | Up to 3000 meters (depending on the number of devices in the loop and the size and type of wire used) |
|---|---|

## Environmental Specifications

| Operating Temperature | -10°C to +40°C |
|---|---|
| Relative Humidity | 93% @ 40°C<br>95% @ 25°C<br>(Non-condensing) |

## Mechanical Specifications

| Body Material | St14 Sheet Metal |
|---|---|
| Dimensions | 120×485×485 mm |
| Weight without Batteries | 9 Kg |
| Color | Black |

# External components of the panel

The image below specifies the external components available to the panel user, with descriptions provided for each part.

## 1- Touchscreen Panel

Used for viewing events and entering user commands.



## 2- General Panel Indicators



| Number | Name | Color | Description |
|--------|------|-------|-------------|
| 1 | Power Supply indicator | green | Lights up steadily when the main power supply (AC power) is active. |
| 2 | Fire indicator | red | In the presence of a fire in the fire alarm system, the LED will be lit continuously |
| 3 | Fault indicator | orange | Stays on continuously in the event of any general fault |
| 4 | Test indicator | orange | Lights up when entering the engineering test mode and remains on until the test is complete |
| 5 | Disablement indicator | orange | The LED will stay on when any of the devices, zones, or logic functions are disabled |

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| | | | |
|---|---|---|---|
| 6 | Silence indicator | orange | by pressing the Silence Alarms button in access levels 2 and 3, the silence mode will be activated for the eligible output devices that can be silenced, and the corresponding indicator will light up |
| 7 | Buzzer silent indicator | orange | Lights up when the buzzer is disabled via the relevant button on various pages of the program |

## 3- Panel Output Indicators



| Number | Name | color | description |
|---|---|---|---|
| 1 | Sounder 1 Out Active | orange | Lights up when sounder 1 is activated |
| 2 | Sounder 2 Out Active | orange | This indicator lights up when Sounder 2 is activated. |
| 3 | EXT. Out Active | orange | This indicator lights up when the fire relay output is activated |
| 4 | Dialer Out Active | orange | This indicator will light up when the dialer output is activated |
| 5 | Fault Relay Active | orange | In the event of an error in the addressable panel system, this indicator, which indicates the activation of the output relay, will remain on |

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| | | | |
|---|---|---|---|
| 6 | Sounder Out Dis | orange | This indicator will light up if sounder outputs are disabled. |

## 4- Panel Fault Indicators



| Number | Name | color | description |
|---|---|---|---|
| 1 | System Fault | orange | This indicator remains lit continuously in case of a system processing error |
| 2 | Power Supply Fault | orange | This indicator lights up in case of a power outage, fuse disruption, or a problem with the panel's power switching |
| 3 | Battery Fault | orange | This indicator lights up when there is no battery or an issue with the battery connections or battery operation |
| 4 | Earth Fault | orange | This indicator lights up in case of a current leak or leakage from any of the panel components, such as loop wires, panel output, or power supply, to the panel's grounding |
| 5 | Sounder1 Out Fault | orange | This indicator lights up if any of the wires of the sounder connected to the sounder1 output terminal |

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| | | | are cut or short-circuited or if there is no end-of-line resistor at the end of the cable. |
|---|---|---|---|
| 6 | Sounder2 Out Fault | orange | This indicator lights up if any of the wires of the sounder connected to the sounder2 Out terminal are cut or short-circuited or if there is no end-of-line resistor at the end of the cable. |

### 5- Printer (optional)

You can print events and reports from the panel by selecting the printer option in the panel menus and sending specific time range events or all panel events to the printer.



**Printer**
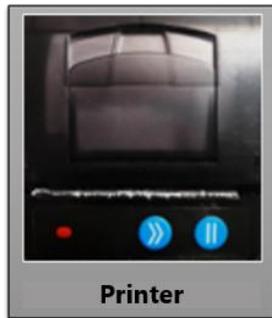
# Internal components of the panel

- Connectors:

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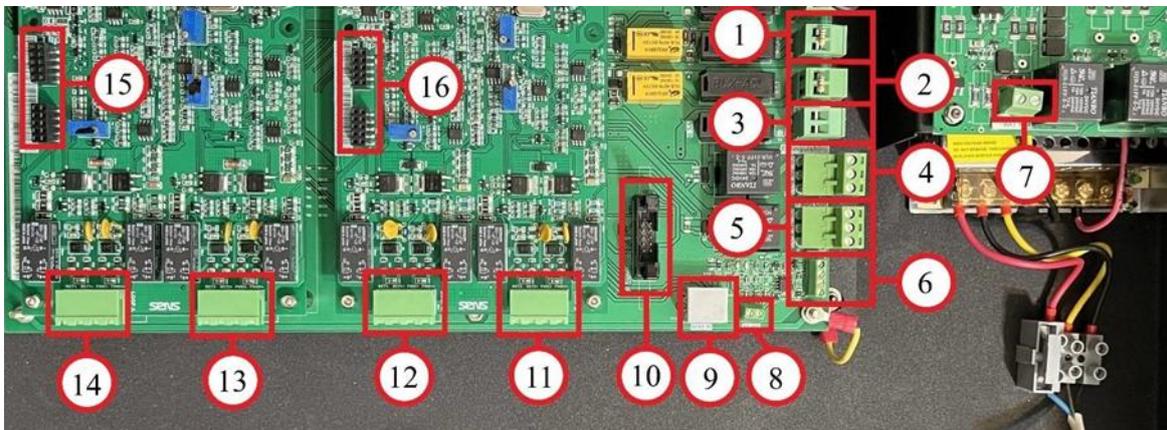
1. SND1 Connector: For monitored output (Sounder Output).
2. SND2 Connector: For monitored output (Sounder Output).
3. +24V AUX Connector: For a constant voltage output of 24-30 volts.
4. Extinguishing Connector: For a relay output that is activated during a fire.
5. Fault Out Connector: For a relay output that is activated during a fault.
6. Dialer Connector: For connection to the dialer.
7. Battery Input Terminal
8. RS-485 Connector: For connection to a Repeater.
9. SENS W Connector: For connection to the SENS Watch module.
10. IP Extension Connector: For connection to the network card.
11. Loop-4 input and output (Based on the configuration of the loop card)
12. Loop-3 input and output.
13. Loop-2input and output.
14. Loop-1 input and output.
15. Loop Card Communication Pin with the main board
16. Loop Card Communication Pin with the main board

- Fuses

1. F2 Fuse: 3A
2. F1 Fuse: 3A
3. F2 Fuse: 0.5A
4. F3 Fuse: 0.5A
5. F1 Fuse: 0.5A

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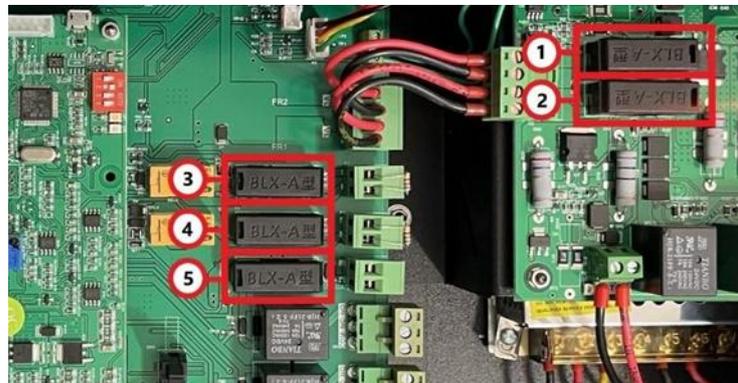
- **Batteries**

Two batteries with specifications of 7.2 ampere-hours and 12 volts are connected in series, paying careful attention to the corresponding positive and negative terminals to the power supply board of the device. In case of a power outage, the batteries will automatically be integrated into the circuit. They will provide the necessary power to the panel for at least about 4 hours (in the normal mode) until the main power is restored.



- o Battery Wiring

For proper wiring, follow the steps below carefully:

1.Create a connection using the small black wire from the positive terminal of one of the batteries to the negative connector of the other battery.

2.Create a connection using a red wire from the positive terminal of the battery to the positive battery input connector on the power supply panel.

3.Create a connection with a long black wire from the negative terminal of the battery to the negative battery input connector on the power supply panel.
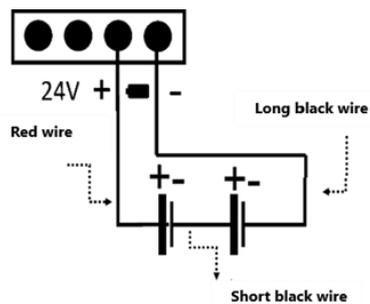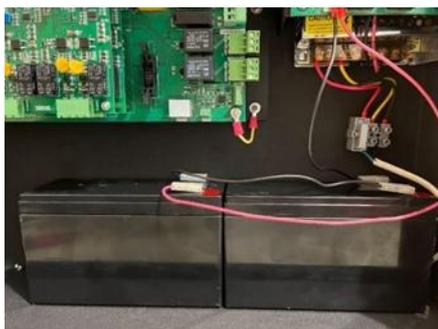


- o Battery Installation Notices

1. Battery voltage must be periodically checked according to the battery manufacturer's information, and battery replacement should be carried out at the specified service life.

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2. Any issues with the battery, including failure to charge, failure to be in the circuit, wire problems, and battery defects, are indicated by the Battery Fault LED.

# System Description

## Connections Between Addressable System Devices and Components

The following image shows the schematic connection between the various components of an addressable system and its devices.
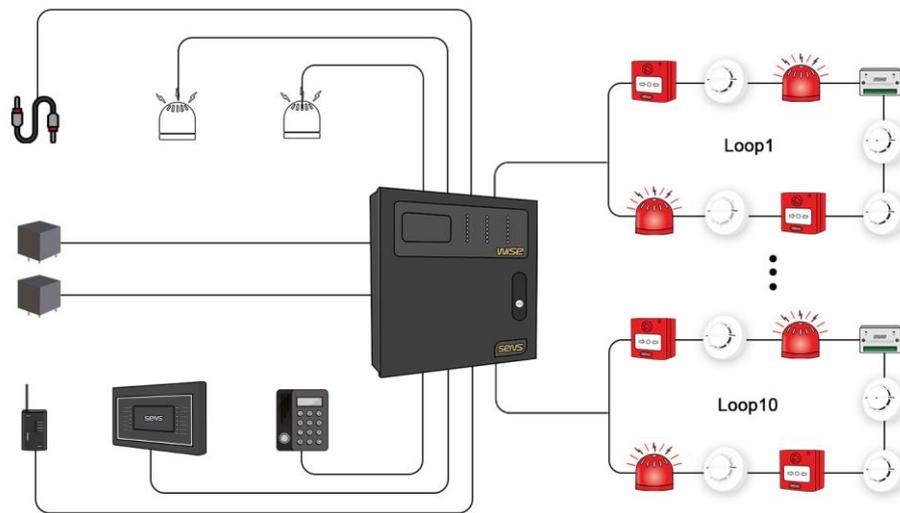


## Programming Addressable Devices

Addressing the devices is done using a Hand-held Address Programmer, as shown in the image below:

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To address smoke detectors, heat detectors, and multi-sensor detectors, simply place them on the programmer's base as shown. Use the red buttons to select the desired address, define it by pressing the designated green button, and read the address set for the device using the yellow button.



To program input, output, alarm modules, etc., you need to use the programmer's wiring kit to connect the positive and negative terminals to the positive and negative terminals of the input devices. This connection allows addressing.

# Connection and Wiring of Addressable Panel

## Main Power Wiring

Using a 1×3 cable that includes phase, neutral and earth, the panel is connected to the main power supply. Pay close attention to the wiring diagram below to avoid power wiring mistakes, as they can lead to disasters. This panel is designed considering the correct grounding, so using it without grounding will disrupt its performance.

Additionally, one of the reasons for using a fuse terminal in this panel is to make it easy to turn the panel on and off. By pulling up the fuse section as shown in the diagram below, the panel can be easily turned on and off.

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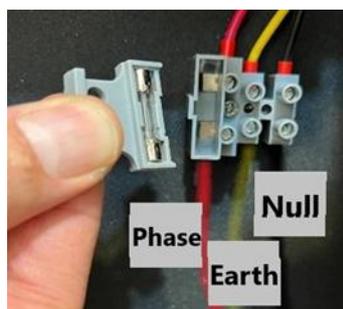
## Loop and Output Wiring

The wiring must be done organized and without interference with each other. Pass the loop wires and other outputs precisely through the holder brackets behind the main board, passing them through the holes in the panel walls. This is done by first separating the cover of the holes on the panel body using the appropriate tool, such as long nose pliers, with proper pressure. Pass the wires through the holes without Interfering with other panel components and route them under the holder bracket before connecting them to their corresponding terminals.

Avoid improper cutting and drilling in undefined points, and only use the holes provided on the panel frame.



Points to consider during the internal wiring and the site cabling of the addressable fire alarm system:

- o Use suitable and standard cables that are heat-resistant for the fire alarm system.
- o A loop that contains only detectors, sounders, and modules, configured as a closed loop with shielded standard cable with a minimum thickness of 2x1.5 mm, can be at a maximum length of 3,000 meters. When using high-consumption devices such as sounders or remote indicators, ensure that the distribution of these devices along the loop is uniform and the minimum number should be considered in the loop design. Depending on the quality of cabling and the type of cables used in indoor projects, the manufacturer recommends using a maximum of 10 sounder flashers, 20 remote indicators, and 120 addressable detectors in each loop. If more of these devices are required, solutions such as reducing loop length, increasing cable thickness to a minimum of 2 mm, distributing high-consumption devices in multiple loops, or using dedicated outputs for sounder on the installed board are recommended. For more accurate information on the allowable number of devices based on the wiring type, device type, loop length, etc., you can use the manufacturer's Loop Calculator software.
- o Line resistance should not exceed 100 ohms.

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o The cable routing path of the addressable fire alarm system loops must be separate and distinct from the building's electrical cables and equipment.

o Cables should be at an appropriate distance from high voltage and high current lines and sources.

## Connecting Devices in a Closed Loop
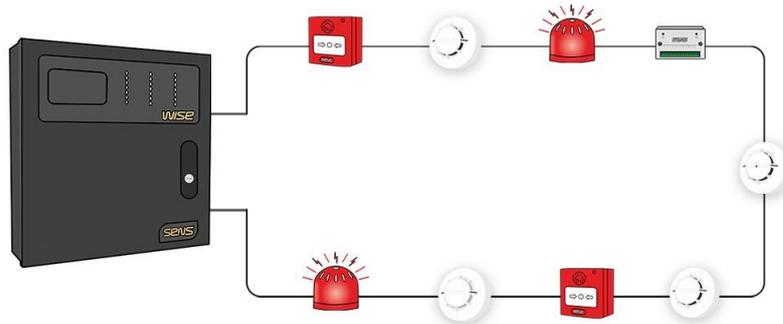


In this connection method, the desired FWD loop output on the loop card is connected to the first addressable device, and the rest of the devices are connected in series to each other, with the loop terminating at the last device connected to the Ret terminal of the loop card and forming a closed loop. The total length of the loop path, depending on the number of addressable devices used in the loop, wire size, and the type and quality of the cable used in the loop, should not exceed the recommended maximum length. In most cases, it is recommended to connect devices in a closed loop in each loop because, in this type of connection, as long as insulating devices are used at appropriate intervals, in case of a short circuit in any part of the path, the minimum number of devices will be removed from the circuit, preserving the overall performance of the addressable system.

## Connecting Devices in an Open Loop
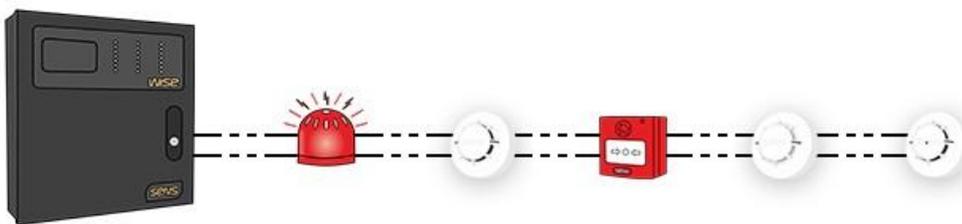


In this connection method, the desired FWD loop output on the loop card is connected to the first addressable device, and the rest of the devices are connected in parallel to each other, with the connection terminating at the last device in an open loop configuration. The

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only advantage of using this method is the reduction in the amount of cable required in the loop, which is not recommended due to the overall efficiency reduction of the addressable system in this method and the possibility of removing many devices in case of a short circuit in any part of the route.

## Connecting the Devices
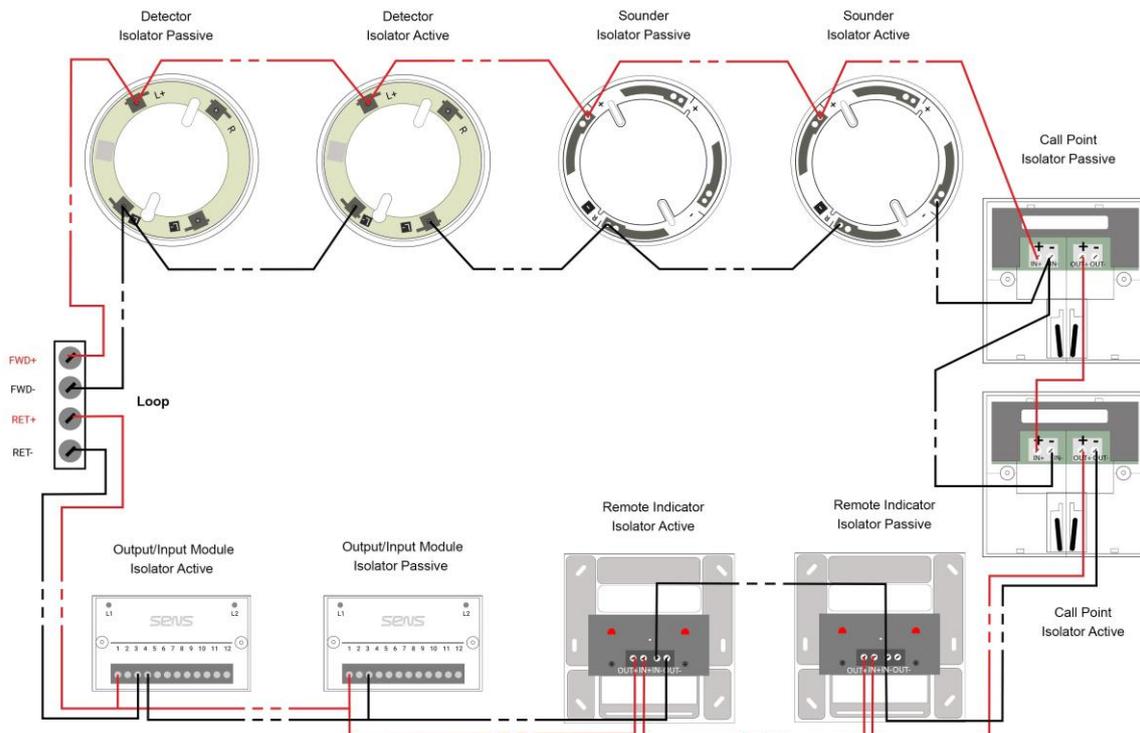


All addressable devices can be connected to the Phoenix connector of the loop expansion card as shown above. It is recommended to create a loop in such a way that, initially, connect the device to the FWD loop development card as an isolator (negatives separated), then connect about 30 devices to the loop without isolators (negatives connected), and close the isolator wiring as well and continue in the same way.

- Conventional device Connections

Using monitored output connections, several devices with a maximum current rating of 500 milliamps can be connected to the panel, and at the end of the line, a 6.8-kilohm resistor must be used.
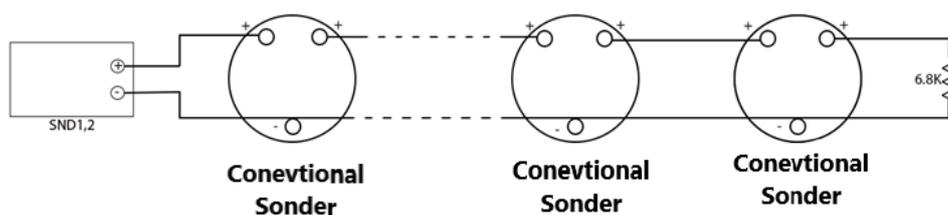
o It is possible to use the conventional indicator remote in the addressable panel as follows:
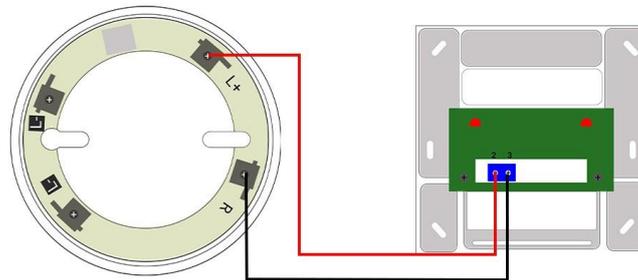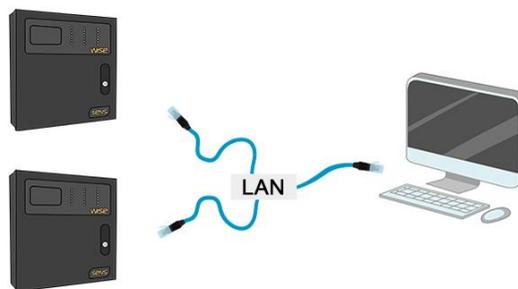


# Panel communication capabilities with other devices

It is possible to communicate between the panel and other systems as follows:

## Communication with PC

Communication between the panel and a PC can be established by using the LAN port embedded in the panel.



## Communication with the SENS Watch System

The panel connects to the SENS Watch interface module via the LAN port, establishing a local panel–module link.

Using the mobile network infrastructure of operators (e.g., MCI and Irancell), the module creates a secure tunnel and provides a stable, persistent connection between the panel and the monitoring website/server.

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## Communication with other pannels

Interconnect multiple panels on a network via a network card to monitor and perform operations remotely.
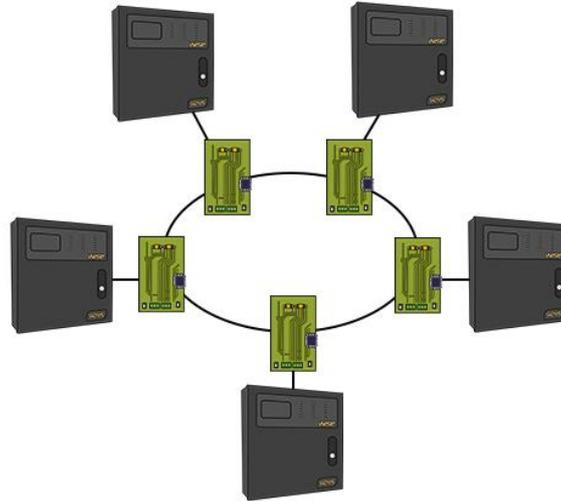


To set up the inter-panel network, as shown in the figure below, install the network card on the panel and then connect the power cable and network cables to the card. The network cables between the panels are connected in such a way that port B of the first network card is connected to port A of the second network card, port B of the second network card is connected to port A of the third network card, and this process continues up to 16 panels, with port B of the 16th network card connected to port A of the first network card.

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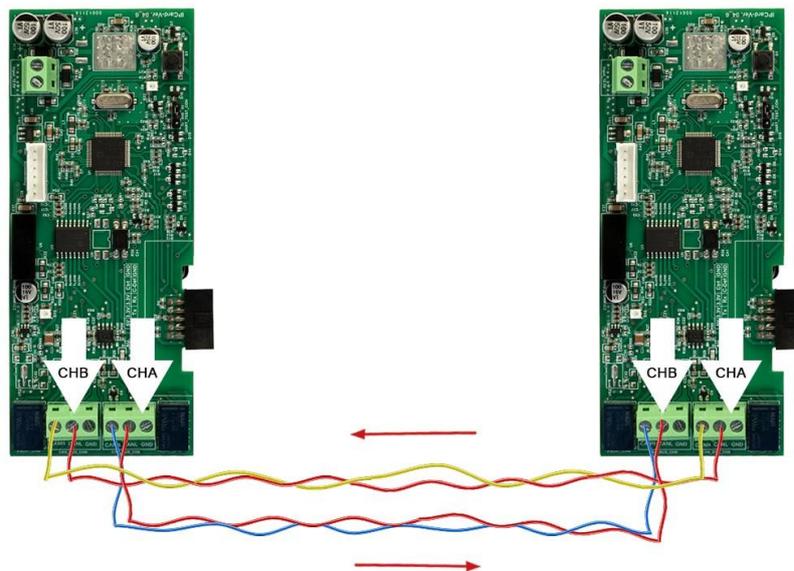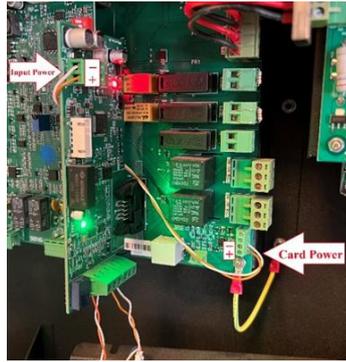
Make sure that the jumper on the UART_TEST_CON pin header is placed on the Rx and GND pins. Also, for networking the panels, a twisted pair of wires should be used to connect the CANH and CANL pins of the two cards. An additional wire is required for connecting the GND pins, therefore a shielded twisted-pair cable can be used (one pair for CANH and CANL, the other pair for GND). For distances less than 500 meters, use a shielded 0.6 mm twisted-pair cable, and for distances greater than 500 meters but less than 800 meters, use cable with a conductor diameter of 0.8 mm.

If there is a large potential difference between the Earth voltages of different cards, or if the environmental noise level is high, the GND wire of the network cable between the cards must be connected. In this case, it may be necessary to disconnect one of the GND wires between two panels to avoid forming a ground loop.

Ensure that the shield of the cable between two network cards is connected to the panel chassis earth at only one point (on one of the two panels).
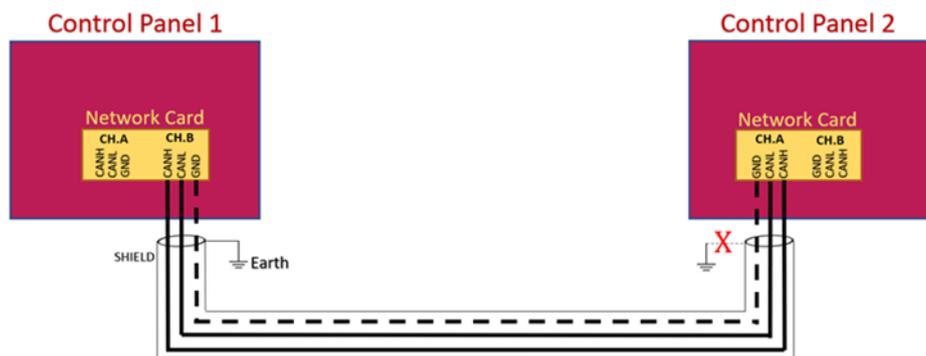


If the network cable is cut at a single point, the network will exit the ring mode but will continue operating. At the points where the disconnection occurs, the red LEDs on the network cards on both sides of the break will flash. If the network cable is cut at more than one point, the panels in each remaining section will continue communicating with each other. Once the disconnected panels are reconnected to the network, communication between all panels will be restored.

## Communication with Repeater

The SENS addressable panel connects to the addressable repeater via the dedicated terminal on the panel's main board. Using a twisted-pair data line, data exchange between the panel and the repeater is established. The relevant connector is located at the lower section of the main board and mates with the data connector on the repeater. The supply voltage required to power the repeater is provided from the panel's AUX output and delivered to the designated connector on the repeater.

Through the repeater, functions such as viewing the panel's current status, faults, fire alarms, all loop events, and other features as specified by the applicable standard are available.

# User Access Levels and Related Menus

| Access Level | Access Type | Password (Default) | Description |
|---|---|---|---|
| 1 | General | - | including enabling silent mode and viewing the latest panel events. |
| 2 | System Administrator | 22222 | Overall panel access, including contact information with the company, changing the password for this access level, viewing events, resetting panel alarms and possible errors, system self-check, viewing panel system information, emergency alert, and enabling alarm silence mode. |
| 3 | Trained Installation Technician | 33333 When the Alpha switch is enabled, or the Alpha switch jumper is enabled on | The highest level of access for a user, which includes activating the sounder silence, internal buzzer silence, changing the levels 2 and 3 passwords, setting the date and time, resetting loop cards, disabling devices, factory reset, configuring zones, configuring loops, and... |

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| | the main panel board |
|---|---|

## Access Level 1

When the panel is turned on, the WISE logo and its software version will be displayed.



Please note that in all menu interactions, regardless of the level and settings, the status will be displayed in the upper-left corner.

The first page after loading the system program is the main page of the program or access level 1. In this state, only the Power indicator should light up in green.



- o Alarms: Displays devices/zones in fire alarm condition.

- o Faults: Displays wiring faults (open circuit/short circuit).

- o Disabled: Displays disabled devices/zones.

- o Tests: Displays devices/zones in test mode.

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- o Com. Faults: Displays communication faults.
- o Oth. Faults: Displays other faults (battery, mains, earth/ground, etc.).

## Access Level 2

By pressing the "Login" button and entering the password, you can access the desired access level.



The menus related to this level are explained below:

In the "Support Center" section, it shows the contact information of the company.



From the "Change Password" section, you can change the password for this user level.

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From the "Events History" section, you can view all the recent and previous events on the panel, including fires and errors.



After pressing Events History, a window opens displaying the available event categories. Selecting any category reveals the associated event history.

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Using the "Reset" menu at access level 2, you can clear fires, errors, and all events on the main panel page. After resolving the error conditions or alarms of the relevant devices, the panel's operation returns to normal, and the corresponding LED indicators are turned off.



In the "Self Check" menu, you can perform an automatic test of the panel's internal components.
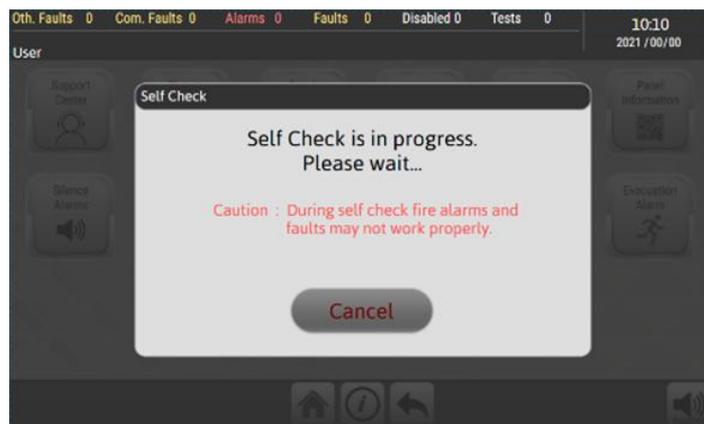


The "Panel Information" menu, displays the hardware and software version of the panel, the manufacturing date, and the panel ID.

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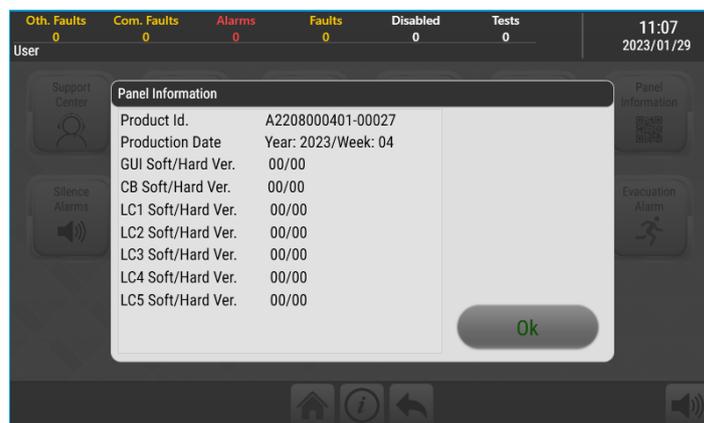
By pressing "Silence Alarm" during a fire event, all addressable devices, including sounders and sounder flashers, in all loops of the device that have the activated Silenceable feature, will be disabled.



When a level-2 user needs to manually activate addressable output devices in case of emergency, the user can press the "Evacuation Alarm" button to activate all output devices, including sounders, sounder flashers, output modules, and remote indicators of all loops of the panel, if the 'Enable Evacuation' feature of the devices is enabled at access level 3.

This includes sounder outputs 1 and 2 on the main board while their "Enable Evacuation" feature is enabled at access level 3.



## Access Level 3

To enter Access Level 3, enter the correct passcode while the Alpha Switch on the device door is open or the Alpha Switch jumper on the main board is set as shown in the image.

The menus related to this level are explained below:

By pressing the "Com. Fault Silence" button on the menu, it is possible to deactivate the audio alerts through the panel for errors related to failure with addressable devices during the system installation and setup process.

- Important Note: Please note that this feature is provided only to prevent the annoying noise caused by multiple and repetitive audio alerts during system installation, setup, and troubleshooting. After completing the setup process, it must be deactivated to allow audio alarms for the mentioned events.



Using the "Manage Passwords" section, the passwords for both Access Level 2 and Access Level 3 can be changed. After commissioning the system, it is recommended to change both access-level passwords and hand the new credentials to the responsible person.

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From the "Date & Time" menu, the date and time of the panel can be adjusted.
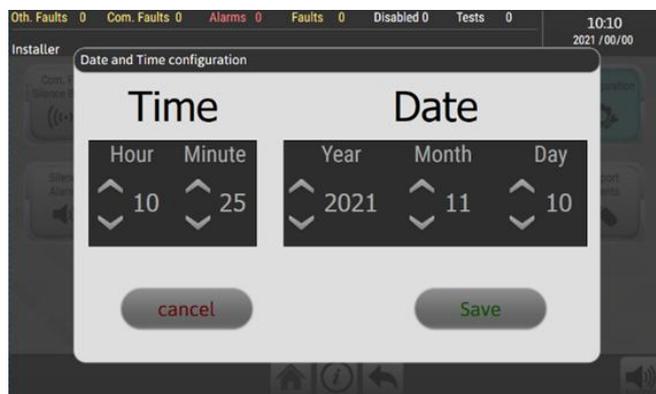


The reset function for loop cards is available at this access level. Resetting at this access level not only performs the equivalent of Access Level 2 but also resets the loop cards. It is recommended to use this reset feature in situations where, for any reason, any of the loop cards encounter issues such as no communication or system response.

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By disabling devices or loops in the Maintenance section, specific devices or loops can be deactivated during setup and troubleshooting. The number of deactivated devices will be displayed on the Home page and other pages at the top.





From the Maintenance menu, you can also run tests for loops and devices.

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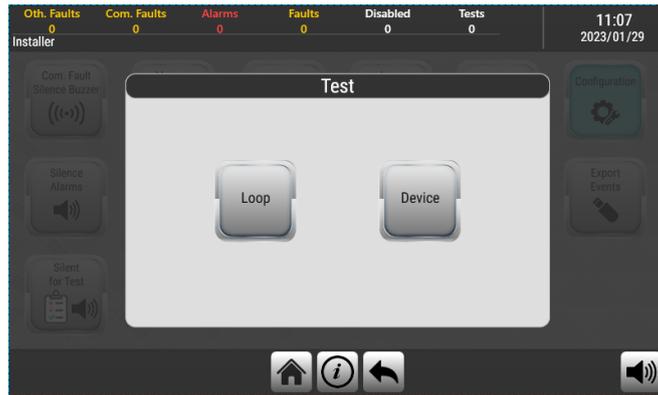
Additionally, the Maintenance menu includes Sensor Value to view real-time sensor readings, Mismatch to review configuration discrepancies, and Duplicate Address to display duplicate device addresses.
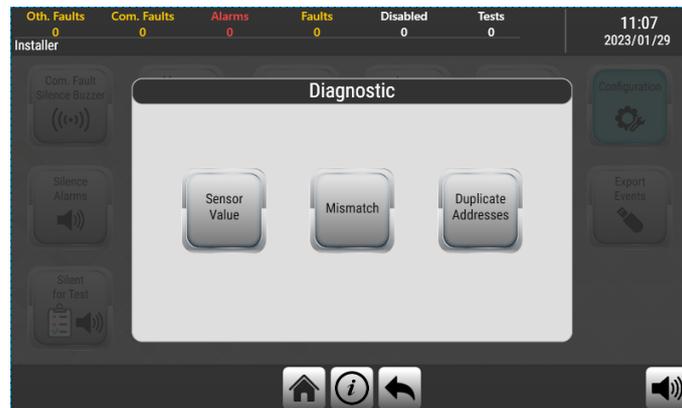


When adding a new loop card following the provided guidelines, it is necessary to add and configure the desired card and its loops on the "Configuration" menu setting, through the "Add/Remove Loop Cards" section.

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The "Mon. Sounders" section is used to configure monitored alarm devices. By enabling the "Active for All" option, the specified alarm will be activated whenever a fire occurs in any zone or loop. Additionally, enabling the "Enable Evacuation" and "Silenceable" options allows the activation of manual emergency alerts and provides the ability to silence these output alarms.



In the Configuration section, the "Auto Detect" menu automatically searches and adds connected devices to a loop.

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The "Factory Reset" option resets all panel settings to factory defaults. It's important to note that performing this reset will erase all events stored in the panel's memory.

It is essential to ensure the panel is in its normal operating state when performing this reset. If there was a fire or fault, it should be resolved using the loop reset function.
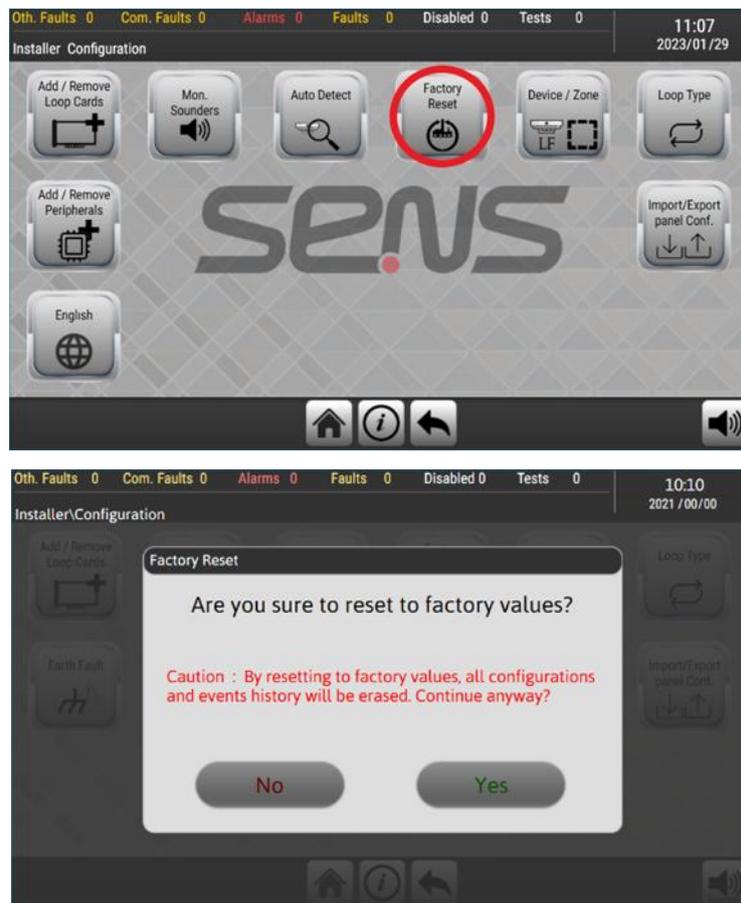


Using the "Device/Zone" option, you can manually add, delete, or edit the devices of each loop and the required zones of the panel. By selecting the 'Add' option, new devices can be defined for the desired loop or new zones for the panel. Deleting an addressable device from a loop or removing a previously defined zone from the panel can be done through the 'Delete' option, while the 'Modify' command enables editing or changing the type of an device in the specified loop or modifying the definitions of a previously set zone in the panel.

Parameters such as the type of addressable device (heat detector, smoke detector, input/output module, remote indicator, sounder, or sounder flasher) and optional names (indicating floor, unit, room, etc., up to 10 characters) can be edited on these pages. For output devices, the option to

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enable or disable manual emergency alerts, activation for all panel fires regardless of zones, and silencing capabilities are available.



To define zones for various points within the building and designate fire detection devices as input devices for the zones, as well as set output devices specific to those zones in fire conditions, the 'Add,' 'Delete,' and 'Modify' commands in the 'Zone' section of the "Device/Zone" menu are utilized. Therefore, defining up to 32 zones, including desired input and output devices, and assigning monitored SND outputs on the main panel board to those zones, is entirely achievable through the above menus.

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Using the "Device/Zone" option in the Configuration section allows access to the Output Zone settings. By selecting one of the Output Zones numbered from 1 to 32, you can enter its configurations.

Enter the zone name, then mark whether Sounders are active or not, and whether they are silent or not.
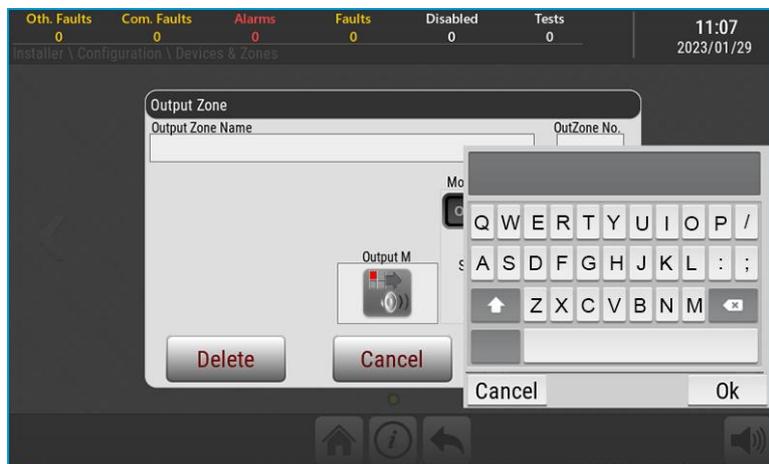




In the opened window for Output Zone settings, select Output M and choose the output devices you intend to place within a specific output zone.

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Using the "Device/Zone" option in the "Configuration" section, you can enter the Logic Function section, where the desired logic is defined as follows.

Select the desired Logic Function from 1 to 32. Each Logic Function has a definition table (inputs) and an output section.

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In the definition table, inputs are defined based on the desired conditions (fault or fire) and are structured conditionally using 'AND' and 'OR.'. Within parentheses, similar operations such as 'AND' or 'OR' can be set.

In each cell, three states can be selected as input conditions, including input devices, other defined Logic Functions, and Zones. All sensors, including detectors, input modules, etc., previously defined zones, or defined Logic Functions, can be set as well. You can choose fault or fire condition according to the desired scenario.
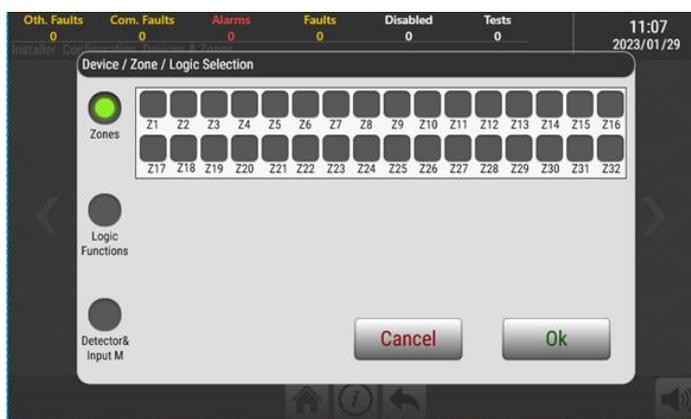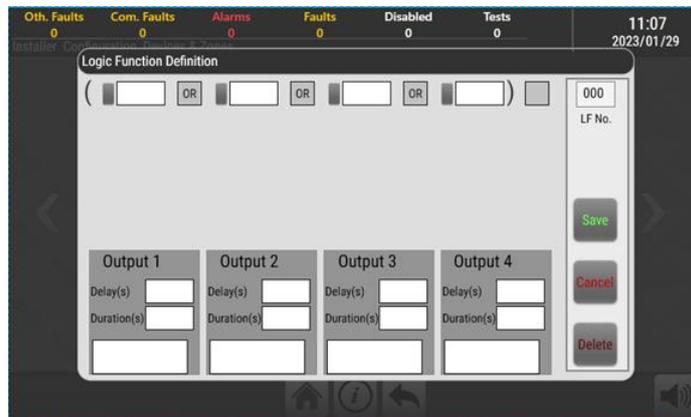
One of the two Output Zones or Output Modules can be used as the output of each Logic Function. By activating and selecting a previously configured Output Zone, or the desired output module, when the input conditions defined by the logic are met the output or the specified output zone will be activated.

The accuracy of this operation should be checked by defining inputs and outputs.

Additionally, the Delay time for activation and the Duration time for the output to remain active can be adjusted. In the current version, if the number of loops and devices is high, the minimum delay time should be 60 seconds, not less than that.





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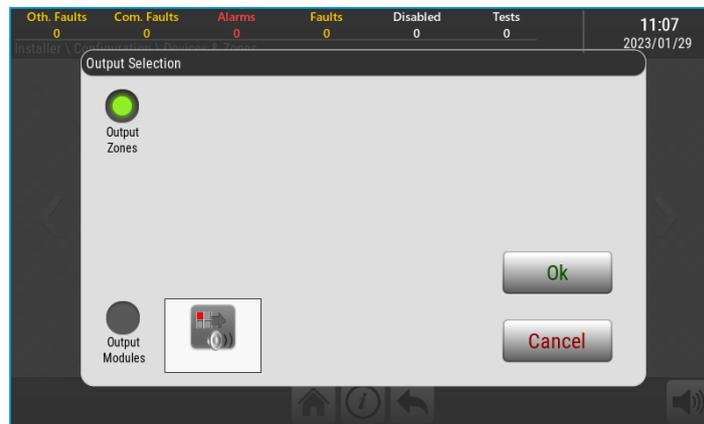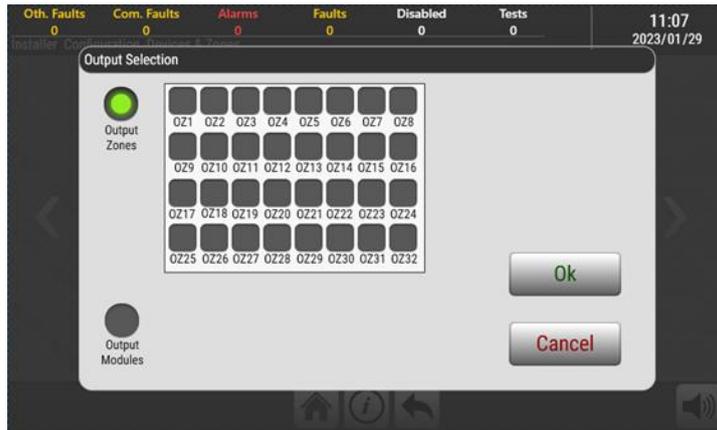
The "Loop Type" option allows defining open or closed loop types. Please note that changing the loop type requires the panel to be turned off and on again or executing the Reset option in Access Level 3.
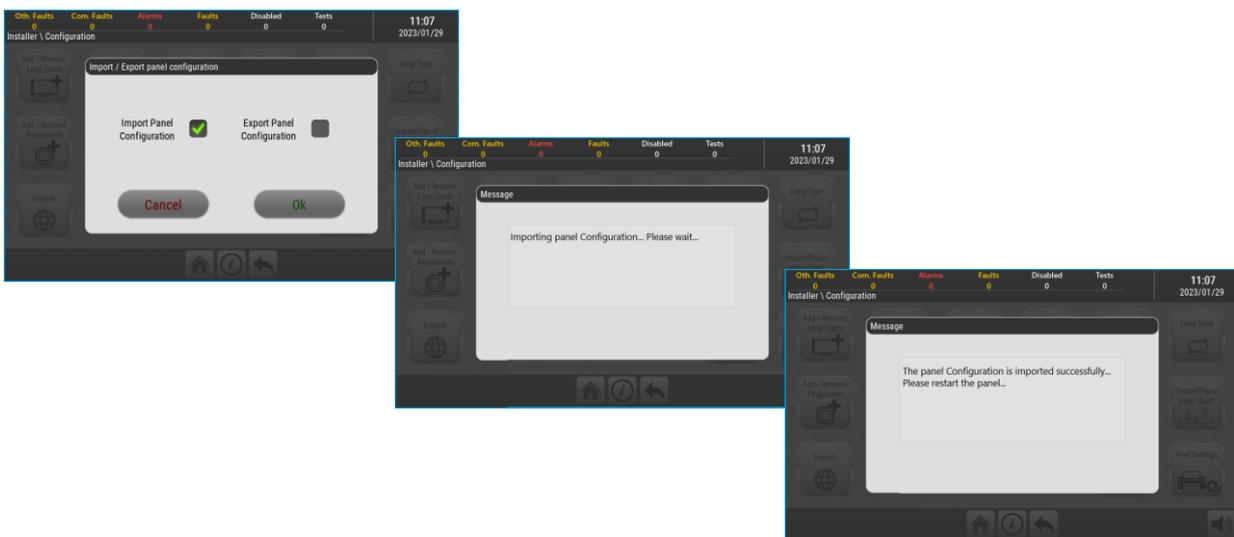




The "Import/Export Panel Conf." option in the Configuration section enables transferring panel settings to or from a USB flash drive.

Transferring settings from the control center to the USB flash drive:
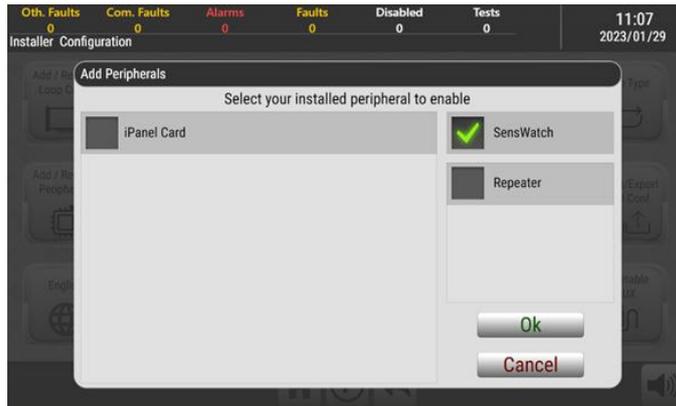
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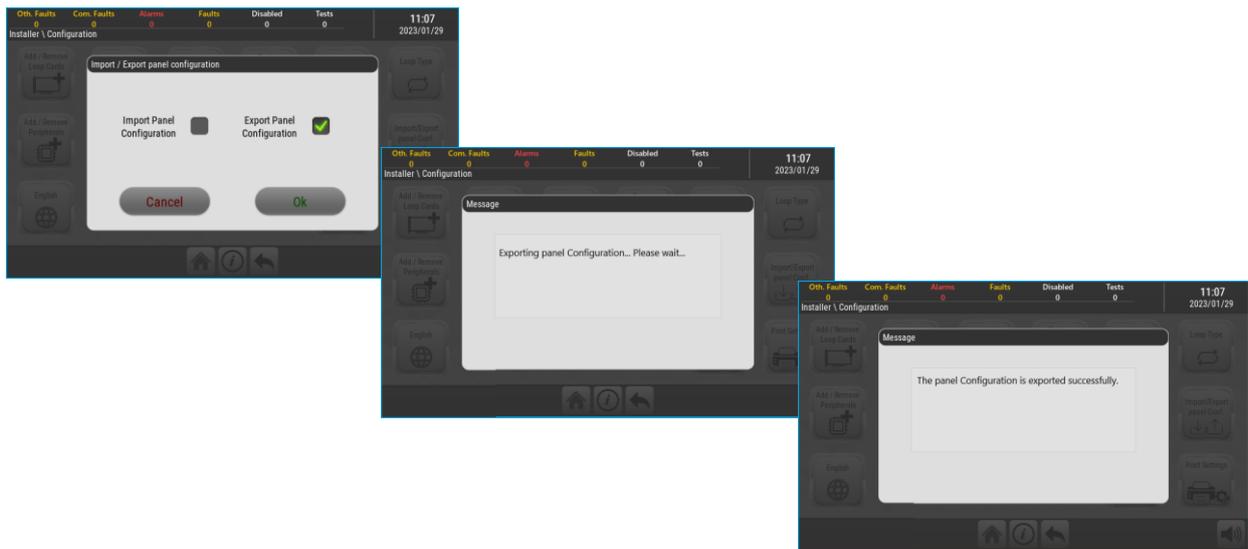
Transferring settings from the USB flash drive to the control center:



Using the Configuration menu and the "Add/Remove Peripherals" section, the network card settings can be configured.

By checking the iPanel Card option, the panel network will be activated.

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From the settings section, enter the number of panels in the network and the panel ID. You can also enable or disable receiving events and commands from the network, and then power off the panel.



By selecting the SensWatch checkbox, the panel establishes communication with the SensWatch interface module; you can then enable or disable this link.

By selecting the Repeater checkbox, communication with repeaters is activated. Make sure to select only the repeaters that are actually connected; otherwise, the absence of a physical device on the line may increase data transfer time.

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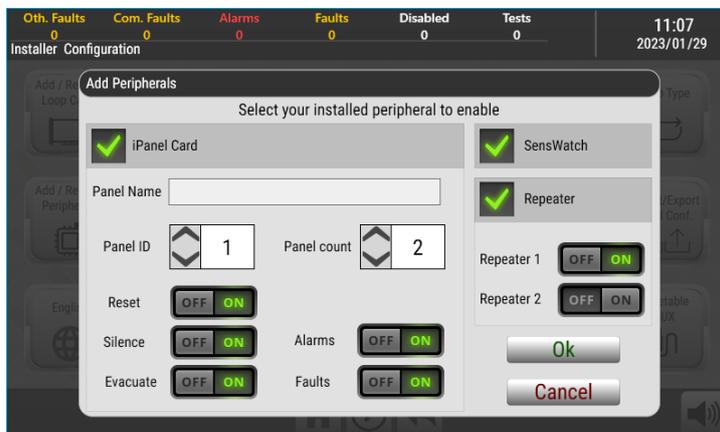
By utilizing the "Export Events" option, all existing panel events can be saved in CSV Excel format on a USB flash drive.





Using the "Silent for Test" option, you can mute the panel's internal buzzer during commissioning. After commissioning is complete, this option must be disabled.

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# Adding Expansion Loop Cards and Optional Components

- Adding a Loop Card

First, place the 5x2 male header pin that comes with the loop card onto one of the provided two female headers on the loop card in a way that, when placed on the bottom loop card, the empty female header is aligned with the male header on the bottom loop card. Replace the screws on the loop board with the spacer screws provided with the new loop card and secure them onto the bottom board.

Now, the new loop card, with the male header pin attached to it, ready to be placed in its position, should be carefully placed on the bottom loop card or on the main panel board if there is no bottom loop card. Ensure that, in addition to fitting the four holes of the card onto the spacers, the free pins of the header pin are correctly placed on the empty female header of the bottom loop card or the main board. After this step, from the top side of the loop card, with a slight hand pressure, ensure that the header pins are properly seated in the female header beneath. Finally, by tightening the four screws onto the spacers at the corners of the loop card, secure the loop card in its place.

* Due to the importance of the correct fitting of the male header pin on the beneath female header, it is necessary to re-check the correctness of this issue visually at the end of the above steps before turning on the panel.

Please note that if these pins are not connected correctly, the possibility of damage to all cards and other components of the panel is very high.

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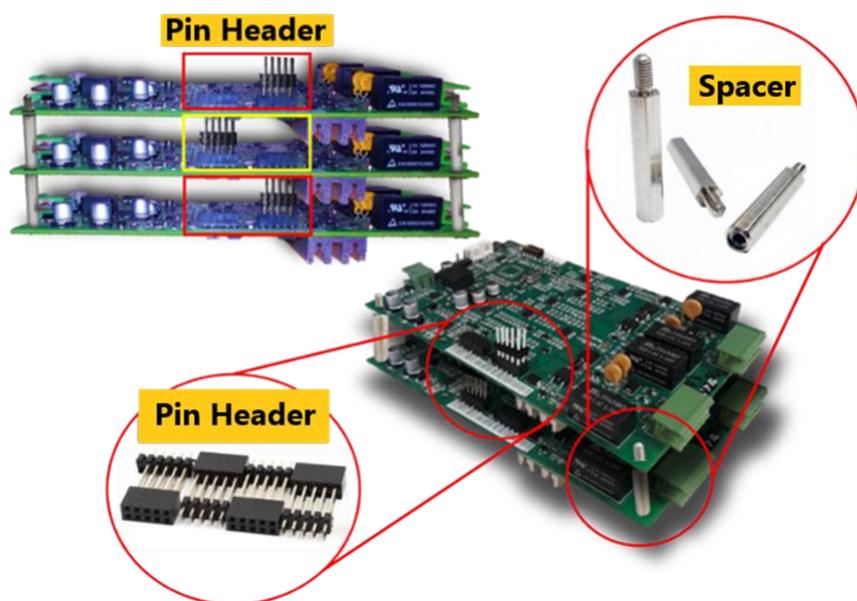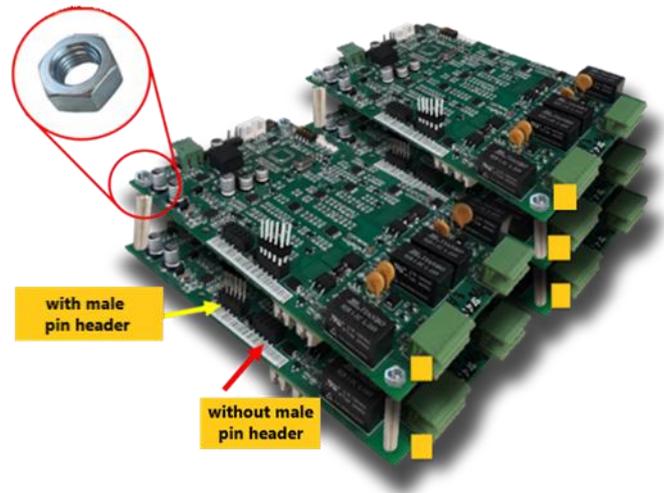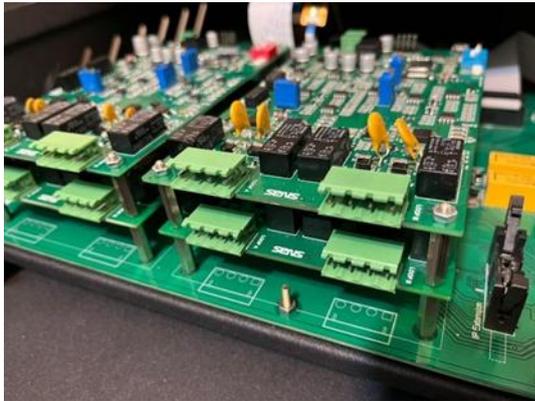
It is important to ensure that there are no conflicts with the existing panel cards before setting the address and loop card number. This can be done using the method described below.
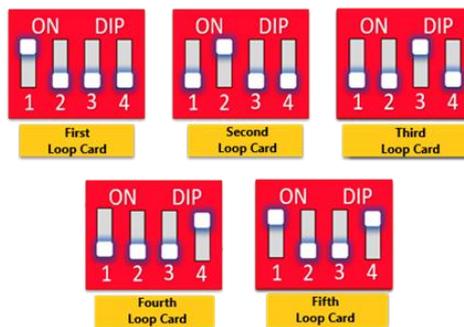


After ensuring the correct and non-repeated setting of addresses and numbers for all loop cards and powering up the panel, using the "Add/Remove Loop Cards" command from the "Configuration" menu at level 3 access, add the desired cards and loops to the control center. Then, you can proceed to the next installation and configuration steps, such as adding devices to each of the loops or defining zones, using the described methods manually from the "Device/Zone" menu or using the "Auto Detect" command.

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Also, according to the type of loop, open or closed type is selected from the Loop Type settings.



# Troubleshooting of the Addressable System

Since the control center and addressable devices communicate digitally, it is essential to carefully check the following aspects during the launching of the projects. This is crucial because troubleshooting becomes significantly more challenging after the system has been launched.

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- Verify the physical integrity of loop circuits using a multimeter and measure the output voltage of the loop in the return path.

- Ensure correct addressing of devices, avoiding repeated address conflict.

- Check for lack of earth fault (shielded cable).

- Pay attention to the type of wire used; it must be a non-flammable cable with aluminum shielding and a minimum thickness of 1.5×2 mm.

- Use standard wire end connectors and ensure proper wire connections.

- Inspect the integrity of connections on device bases.

- Verify that the terminal screws are not loose.

- Check all connections.


## Possible Issues and Their Solutions

- Failure to Identify an Addressable Device:

Test the device's functionality, ensure correct addressing with the address programmer, check the connections of device bases, and measure the voltage of unidentified device wires.

- Failure to Identify Addressable Devices in the Loop:

Check the connections and ensure that the forward and return cabling is correct. Also, verify the connections and check the nearest isolators for the unidentified devices

- Lost Com. Error or failure to identify devices with different addresses in a loop

If this error occurs and the zone output voltage is less than 18 volts, inspect the wiring route and devices to make sure there are no shortcuts, misconnections or damaged devices.

- Identifying the defective part after setting up the addressable system:

    - When undefined errors occur in a loop, the line voltage in the middle of the loop and the non-fire state should be measured. If at less than 500 meters, the voltage is less than 15 volts, it indicates a short circuit or defect in one or more parts in that loop.

    - If an address of the devices is repeatedly given as Lost Com fault and then resolved, the following situations may have occurred:
        1. Its addressable device has an issue.
        2. The terminal may not connect properly.
        3. There might be a repeated address in the loop.

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o Issues related to power panel or battery charging:

If the green Power indicator is off, ensure it is connected to the main power. Otherwise, check the output voltage of the power supply. This voltage should be within the range of 28 to 31 volts. If not, review the wires and connections between the power supply and the board.

In the image where the Battery Fault indicator is on, an error in battery detection has occurred. In this case, first, check the battery connections, and then check the battery voltage. If the battery voltage is between 22 to 30 volts and a faulty battery is still detected, the battery may be physically damaged or defective and needs replacement.

If the Earth Fault indicator is on, it indicates that there is an error in the earth connection. To resolve this issue, please ensure that the grounding wire is correctly connected and there is no connection to the body. Additionally, any unintended connections between boards and the body caused by wires, tools, or other objects should be carefully checked.

# Maintenance and Inspection of the Fire Alarm System

According to standard 19684-1, fire alarm systems should be inspected periodically.

- **Daily Inspection**

Fire alarm systems should be inspected daily to check indicators and displays for any incidents.

- **Weekly Inspection**
  - Perform relevant tests according to the user manual to ensure the panel, sensors, and indicators function properly.
  - Fire alarm call points during working hours should be checked weekly. This should happen at a specific time every week, and residents should be informed to report any issues with signal audibility. This weekly test should be conducted periodically.
  - The duration of each activated fire alarm should not exceed one minute in normal conditions.

- **Monthly Inspection**

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In addition to weekly tests, the emergency generator must be run under load for at least one hour by simulating the normal power cutoff during monthly visits. It is important to check the main power and indicators' functionality, as well as battery connections.

- Quarterly Inspection

  o In quarterly inspections, in addition to previous tests, a thorough review of the manual should ensure proper attention to any recorded errors.

  o Investigate false alarms and take necessary actions.

  o Panel performance should be assessed by activating at least one detector or call point on the circuit and verifying the panel's response and error resolution.

  o All auxiliary functions of the panel should be checked.

  o Error simulations should be performed, and the panel's response to errors and their resolution should be evaluated.

  o Fire simulation should be performed, and the panel's performance should be assessed.

- Annual Inspection:

  o In annual inspections, all detectors should be visually checked for damage and functionality.

  o All call points should be checked and activated, and their functionality verified.

  o All smoke, heat, and multi-sensor detectors should be tested with auxiliary tools and fire simulations to ensure the panel and the fire alarm systems' performance.

  o Visual alarm devices should be inspected to verify visibility and surface cleanliness.

  o Audio fire alarms should be inspected for sound quality and recognizability by residents.

  o Cables and wiring should be visually checked.

  o It is essential to review the backup power supply capacity based on the relevant datasheet to check the manufacturing and expiration dates of the battery and replace it if necessary.

- Device Servicing

Inspecting and servicing fire alarm devices play a crucial role in the proper functioning of fire alarm systems. Therefore, it is recommended that this task be carried out by trained technicians approved by SENS.

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# Summary

In this manual, an attempt has been made to comprehensively cover everything necessary for users to install and use the WISE addressable control panel properly. Therefore, it is recommended that every user in connection with the addressable control panel reads this manual. It is self-evident that any deviation from the instructions provided in this manual during different stages of panel usage, resulting in damage to the panel or user, is beyond the company's responsibility.

Furthermore, the manufacturer reserves the right to constantly update this manual and recommends using the most recent version of the user guide.

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