1X-E4 Series Installation Manual

P/N 501-415403-1-80 • REV 008 • ISS 19MAY26

Copyright © 2026 Kidde Commercial. All rights reserved.

Trademarks and patents

CleanMe and the 1X-E4 Series name and logo are trademarks of Kidde Fire Protection LLC.

Other trade names used in this document may be trademarks or registered trademarks of the manufacturers or vendors of the respective products.

Manufacturer

KGS Electronics Sp. z.o.o.,
Ul. Kolejowa 24. 39-100 Ropczyce, Poland.

Authorized EU manufacturing representative:
KGS Fire & Security B.V., Kelvinstraat 7, 6003 DH Weert, Netherlands.

Firmware compatibility

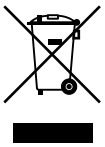
This document applies to 1X-E4 Series control panels with firmware version 2.3 or later.

Conformity

CE UK CA

European Union directives

2014/30/EU (EMC Directive): This device is in compliance with the essential requirements and other relevant provisions of Directive 2014/30/EU.



2012/19/EU (WEEE Directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: recyclethis.info.



2006/66/EC (Battery Directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: recyclethis.info.

Contact information and product documentation

For contact information or to download the latest product documentation, visit firesecurityproducts.com.

Content

Important information ii

Chapter 1 **Introduction 1**
Product range 2
Product compatibility 2
Operating modes 2

Chapter 2 **Installation 3**
Cabinet layout 4
Cabinet installation 5
Menu inserts 7
Connections 8

Chapter 3 **Configuration and commissioning 23**
The user interface 25
User levels 26
Configuration overview 28
Basic configuration 32
Advanced configuration 40
Expansion board configuration 53
Fire network and repeaters configuration 56
Commissioning 63

Chapter 4 **Maintenance 67**
System maintenance 68
Battery maintenance 69

Chapter 5 **Technical specifications 71**
Zone specifications 72
Input and output specifications 73
Power supply specifications 75
Mechanical and environmental specifications 76
Fire network specifications 76
Cabinet drawings and dimensions 77

Appendix A **Configuration presets 79**
Operating mode presets 80
Expansion board presets 82

Appendix B **Regulatory information 89**
European standards 90
European regulations for construction products 91

Index 93

Important information

This is the installation manual for 1X-E4 Series fire and evacuation control panels. Read these instructions and all related documentation entirely before installing or operating this product.

Firmware compatibility

Information in this document applies to control panels with firmware version 2.3 or later. This document must not be used as a guide to installation, configuration, or operation of control panels with an earlier firmware version. For instructions on how to check the firmware version of your control panel, see “Software, configuration, and serial number information” on page 51.

Limitation of liability

To the maximum extent permitted by applicable law, in no event will KGS Fire & Security be liable for any lost profits or business opportunities, loss of use, business interruption, loss of data, or any other indirect, special, incidental, or consequential damages under any theory of liability, whether based in contract, tort, negligence, product liability, or otherwise. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages the preceding limitation may not apply to you. In any event the total liability of KGS Fire & Security shall not exceed the purchase price of the product. The foregoing limitation will apply to the maximum extent permitted by applicable law, regardless of whether KGS Fire & Security has been advised of the possibility of such damages and regardless of whether any remedy fails of its essential purpose.

Installation in accordance with this manual, applicable codes, and the instructions of the authority having jurisdiction is mandatory.

While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, KGS Fire & Security assumes no responsibility for errors or omissions.

Product warnings and disclaimers

These products are intended for sale to and installation by qualified professionals. KGS Fire & Security cannot provide any assurance that any person or entity buying its products, including any “authorized dealer” or “authorized reseller”, is properly trained or experienced to correctly install fire and security related products.

For more information on warranty disclaimers and product safety information, please check https://firesecurityproducts.com/policy/product-warning/ or scan the QR code:

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Product symbols

The following symbols are used on the product.



This symbol indicates that caution is necessary when operating or maintaining the device or control close to where the symbol is placed.



This symbol indicates that the installation manual should be consulted when operating or maintaining the device or control close to where the symbol is placed.

Chapter 1
Introduction

Summary

This chapter provides an introduction to your control panel and the available operating modes.

Content

Product range 2
Product compatibility 2
Operating modes 2

Product range

Panels in the 1X-E4 Series are conventional fire and evacuation control panels. The series includes the models shown below.

Model	Description
1X-E4	Four-zone conventional fire alarm and evacuation control panel, supporting four evacuation areas without alarm counter
1X-E4-NL	Four-zone conventional fire alarm and evacuation control panel, supporting four evacuation areas with alarm counter

All models have been designed in accordance with EN 54-2, EN 54-4, and NEN 2575 standards. For further details, see Appendix B “Regulatory information” on page 89.

Product compatibility

Products compatible with these control panels are listed in the product compatibility list. Only those products specified in the compatibility list are guaranteed to be compatible.

To download the latest product compatibility list, visit firesecurityproducts.com.

Operating modes

Supported operating modes are shown in the table below. The default operating mode is NEN 2575 with four evacuation areas.

Table 1: Operating modes

Operating mode	**EN 54-13 option** [1]	Region
NEN 2575 4E (default)	Available [2]	European Union
NEN 2575 2E	Available	European Union
NEN 2575 1E	Available	European Union

[1] EN 54-13 supervision requires compatible system wiring and devices and must be enabled by the installer in the control panel configuration.
[2] Requires a 2010-1-SB expansion board to be installed (not supplied).

Two menu inserts are available to label the panel controls and indicators. In its default configuration, the panel does not use EN 54-13 zone supervision, and the corresponding insert has no Fault Output Fault/Disabled LED.

When the panel is configured for EN 54-13 zone supervision, the corresponding insert shows a Fault Output Fault/Disabled LED for use in the fault warning output supervision required by EN 54-13.

Chapter 2
Installation

Summary

This chapter explains how to install your control panel, and how to connect zones, fire and evacuation system devices, and the power supply.

Note: This product must be installed and maintained by qualified personnel adhering to the CEN/TS 54-14 standard (or the corresponding national standard) and any other applicable regulations.

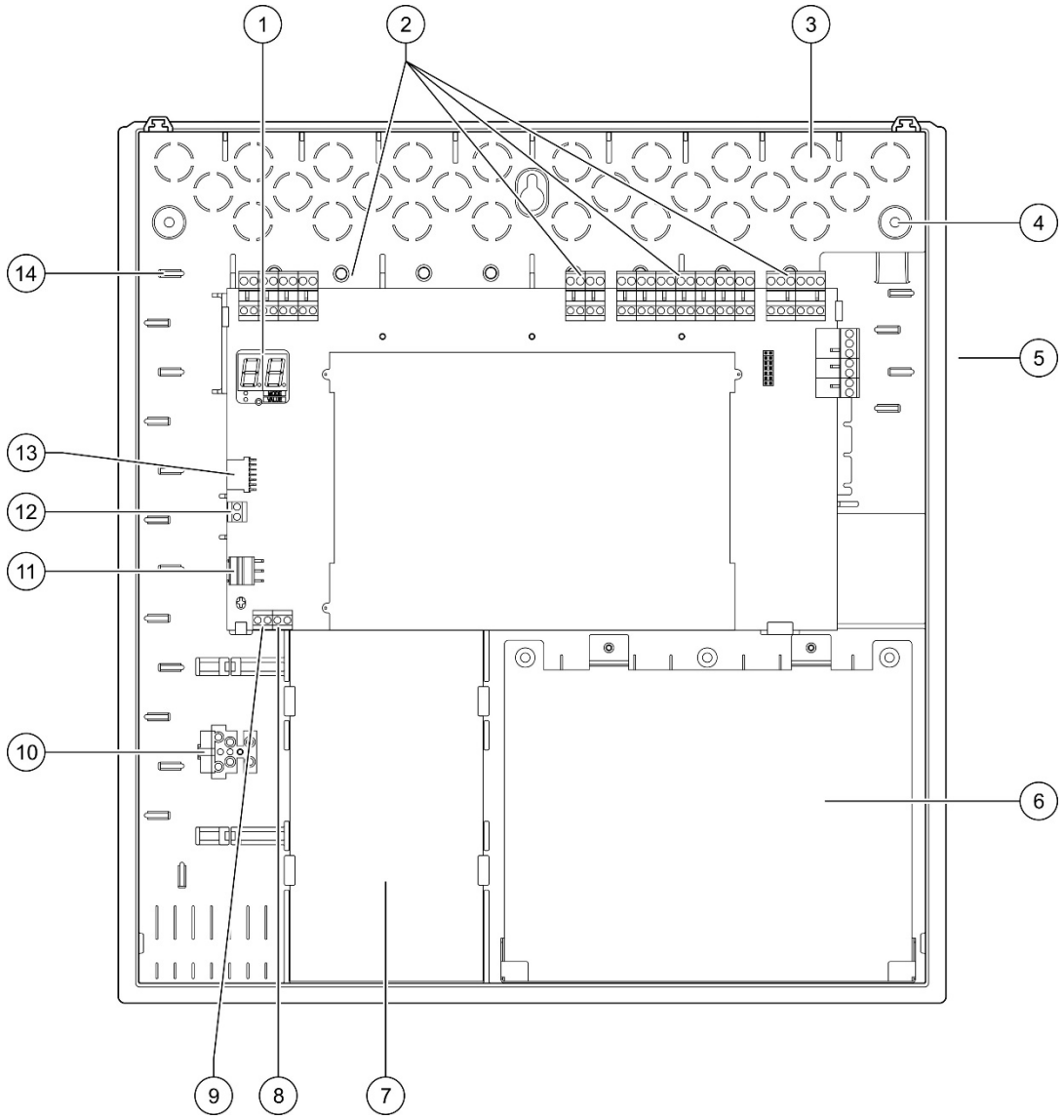
Content

Cabinet layout 4
Cabinet installation 5
- Preparing the cabinet 5
- Where to install the cabinet 5
- Fixing the cabinet to the wall 6

Menu inserts 7
Connections 8
- Recommended cables 8
- Overview of fire and evacuation system connections 9
- Connecting zones and zone devices 11
- Connecting inputs 13
- Connecting supervised outputs 15
- Connecting the mains power supply 18
- Selecting 115 or 230 VAC operation 19
- Connecting the batteries 20
- Powering auxiliary equipment (24 VDC auxiliary output) 20
- Connecting alarm and fault relays 21
- Connecting expansion boards 21
- Connecting a fire network 21

Cabinet layout

Figure 1: Cabinet layout for 1X-E4 Series control panels



1. Seven-segment display
2. Zone and system connectors
3. Cable knockouts
4. Mounting screw knockouts
5. Network board connector (on the back of the PCB)
6. Battery area
7. Power supply unit
8. Key connector
9. Alarm counter connector
10. Fuse terminal block
11. Power supply connector
12. Battery connector
13. Expansion board connector
14. Cable holder

Note: Only selected regional models have the key and alarm counter connectors.

Cabinet installation

Preparing the cabinet

Before installing the cabinet, remove the front cover, and then remove cable knockouts from the top, bottom, and rear of the cabinet as required.

Where to install the cabinet

Make sure the installation location is free from construction dust and debris, and immune to extreme temperature ranges and humidity. (See Chapter 5 “Technical specifications” on page 71 for more information on the operating temperature and relative humidity specifications.)

Allow for enough floor and wall space so the panel can be installed and serviced without any obstructions. The cabinet should be mounted so that the user interface is at eye level.

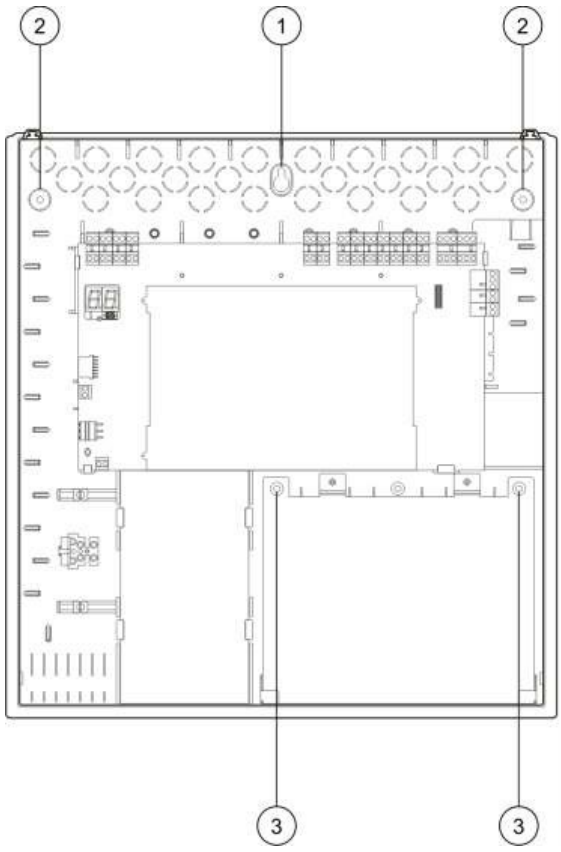
Note that the control panel must be assembled and installed according to the ordinances and codes that are in effect in your market or region.

Fixing the cabinet to the wall

The requirements for nylon wall plugs and screws are shown in the following table.

Model	Screws	Wall plugs
Four-zone evacuation control panel	M4 × 30 (4X)	Ø 6 mm (4X)

Figure 2: Mounting hole locations



To fix the control panel cabinet to the wall:

1. Mark drill points on the wall, using the cabinet as a template.
2. Drill all required holes and insert a 6 mm wall plug into each.
3. Insert screw (1) half way and hang the cabinet onto this screw.
4. Insert screws (2) and tighten.
5. Insert screws (3) and tighten.
6. Tighten screw (1).

Menu inserts

The last step in installing the cabinet is to apply the menu insert that corresponds to the intended system configuration.

The default configuration does not use EN 54-13 zone supervision. For this configuration, use the printed insert identified as NEN 2575.

If the panel will be configured to use EN 54-13 zone supervision, the corresponding insert includes a label for the Fault Output Fault/Disabled LED. Use the printed insert identified as NEN 2575 - EN 54-13.

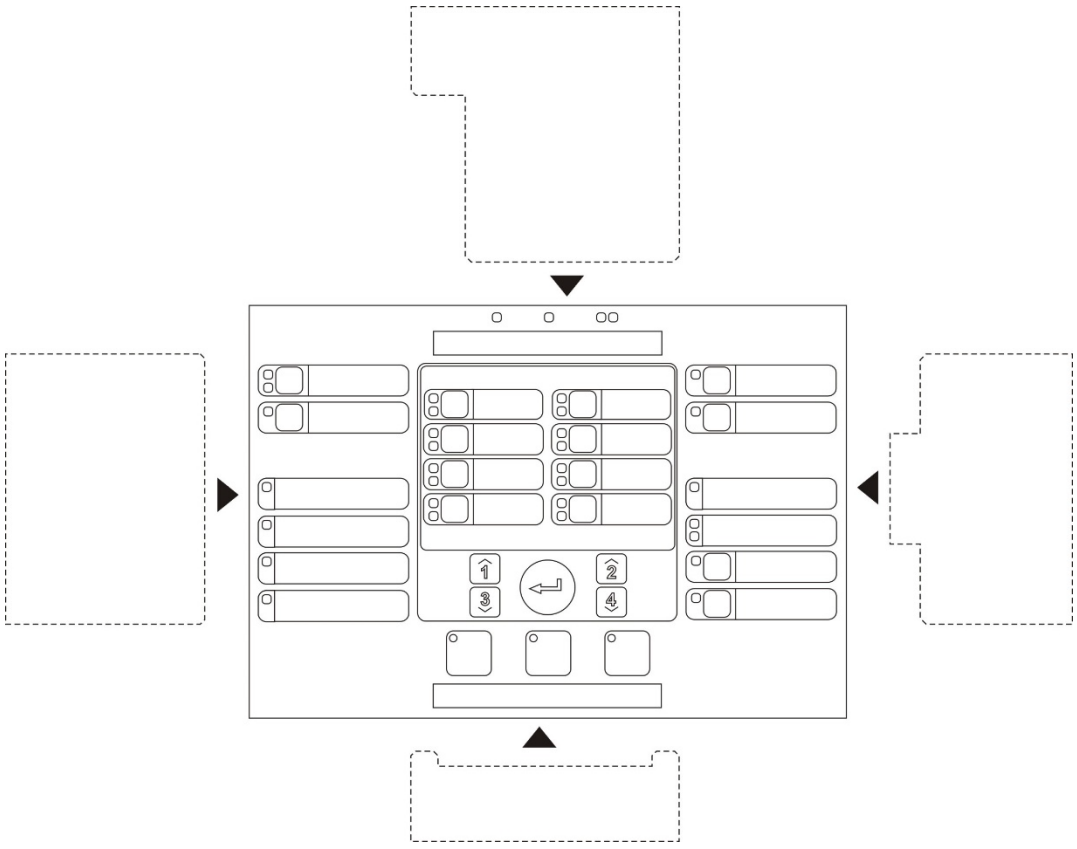
To apply the menu inserts:

1. Add the detection zone names and evacuation area names to the top insert segment.

   Detection zone names go in the left column. Evacuation area names go in the right column, above the preprinted LED label text.
2. Detach the four insert segments from the sheet.
3. Remove the control panel cover.
4. Insert each segment in the appropriate slot, as shown in Figure 3 below.

   Make sure that the inserts are positioned correctly.
5. Replace the control panel cover.

Figure 3: Applying the menu inserts



Connections

WARNING: Electrocution hazard. To avoid personal injury or death from electrocution, do not make any control panel or system connections while the control panel is connected to the mains power supply.

Recommended cables

Recommended cables for optimal system performance are shown in the table below.

Table 2: Recommended cables

Cable	Cable description	Maximum cable length
Mains cable	3 x 1.5 mm²	N/A
Input, output, auxiliary 24V, relay, expansion board	12 to 26 AWG (3.31 to 0.13 mm²) Twisted-pair (max. 40 Ω / 500 nF)	2 km
Zone circuit cable (mixed zone)	12 to 26 AWG (3.31 to 0.13 mm²) Twisted-pair (max. 40 Ω / 500 nF)	2 km
Zone circuit cable (automatic or manual zones)	12 to 26 AWG (3.31 to 0.13 mm²) Twisted-pair (max. 55 Ω / 500 nF)	2 km
Fire network cable	Twisted-pair, Cat 5 12 to 26 AWG (3.31 to 0.13 mm²)	1.2 km

Note: Other types of cable may be used subject to site-specific EMI conditions and installation testing.

Use 20 mm cable glands to ensure clean and secure connections at the control panel cabinet. All cables should be fed through the cable guides in the cabinet housing to eliminate movement.

Overview of fire and evacuation system connections

Standard, EN 54-13, active end-of-line, and intrinsically-safe system connections are shown in the following figures.

Figure 4: Standard system connections, no EN 54-13 requirement

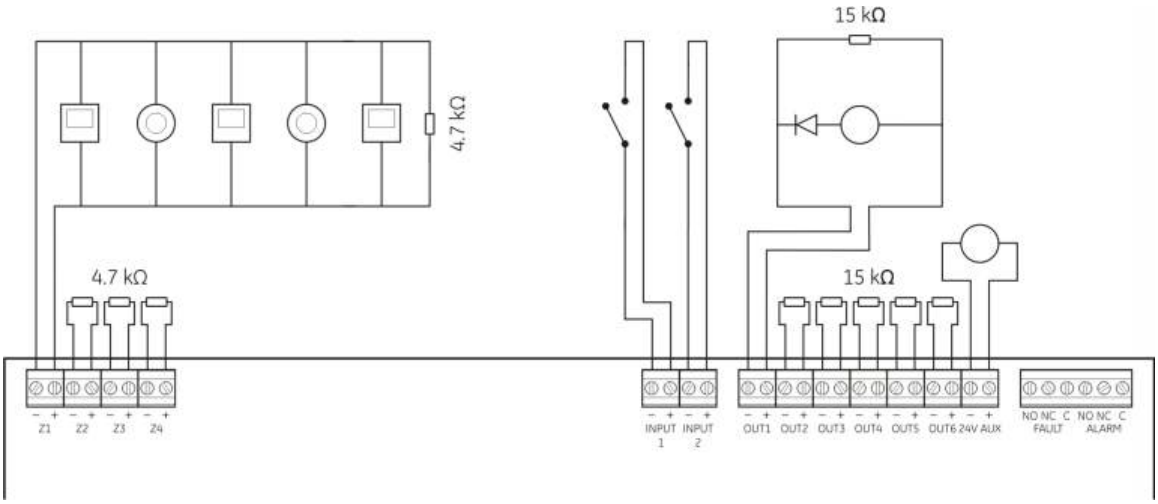


Figure 5: Standard system connections, for EN 54-13 compliance

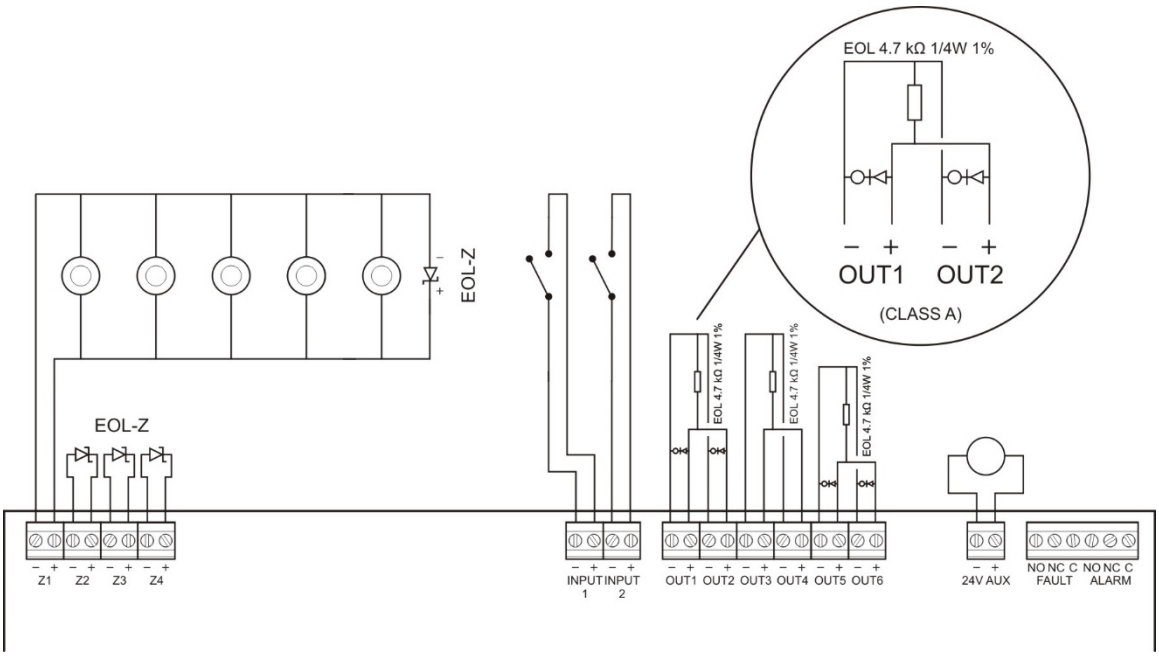
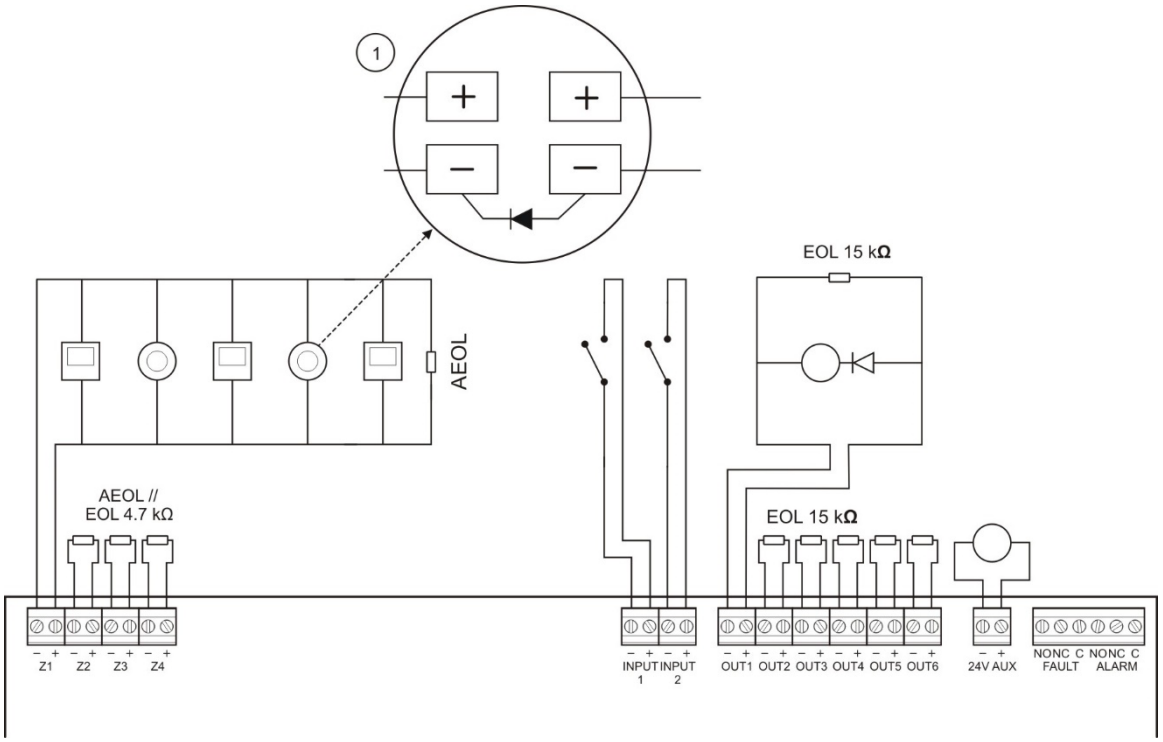
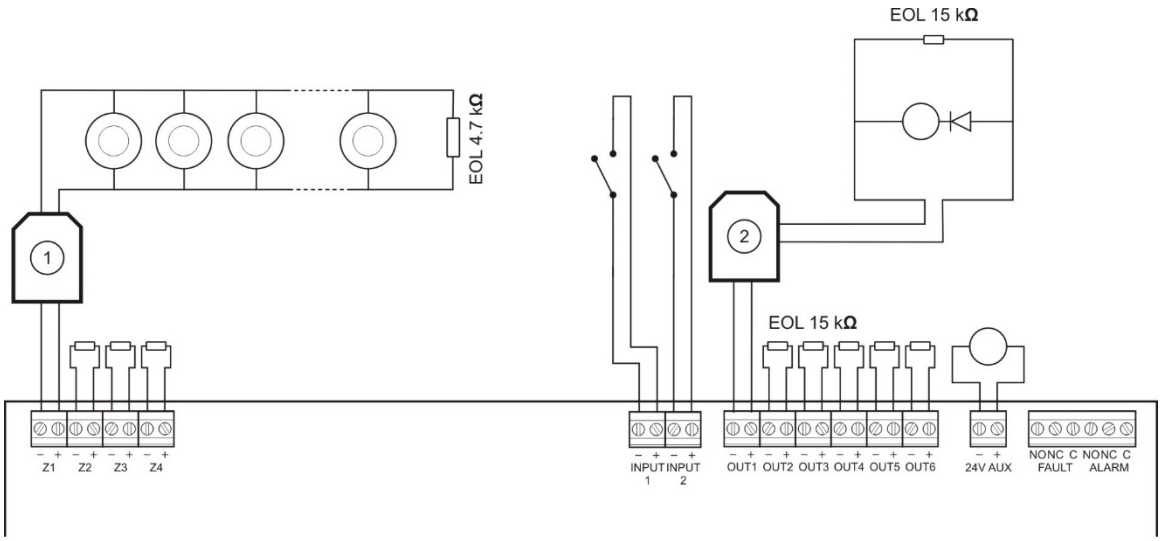


Figure 6: Active end-of-line system connections



1. A diode must be connected on the detector base. (Consult your detector installation manual for more details).

Figure 7: Intrinsically-safe system connections



1. Galvanic barrier for intrinsically-safe conventional detectors.
2. Galvanic barrier for intrinsically-safe fire notification devices.

Connecting zones and zone devices

Connecting zones

Connect zone wires as shown in Figure 4, Figure 5, Figure 6, and Figure 7 above. Line resistance is shown in Table 3 below.

Table 3: Line resistance

Zone type	Line resistance	
	Standard and active end-of-line	EN 54-13 and intrinsically-safe
Mixed	40 Ω max.	Not supported [1]
Automatic	55 Ω max.	50 Ω max.
Manual	55 Ω max.	50 Ω max.

[1] Mixed zones are not permitted in installations requiring EN 54-13 or intrinsically-safe configuration.

To measure the line resistance:

1. Create a short circuit at the end of the zone line.
2. Measure the resistance between the positive and negative lines with a multimeter.

Note: The default zone detection settings for each operating mode can be found in Appendix A “Configuration presets” on page 79. To change the zone detection setting, see “Advanced configuration” on page 40.

Terminating zones

Zone termination is required at all times, whether the zone is used or not. The type of termination depends on the installation, as shown in Table 4 below.

Table 4: Zone terminations

Installation type	Zone termination
Standard and intrinsically-safe zones	4.7 kΩ end-of-line resistor
EN 54-13 zones	EOL-Z end-of-line device (polarity sensitive)
Active EOL	Active end-of-line device

Note: Unused zones must be terminated with an active end-of-line device or configured as passive end-of-line and terminated with a 4.7 kΩ, 5%, 1/4 W end-of-line resistor.

Connecting detectors

Connect detectors as shown in Figure 4, Figure 5, Figure 6, and Figure 7 starting on page 9.

The panel supports conventional detectors. To guarantee optimal operation, use the detectors specified in the compatibility list. For more information on fire detectors, see Chapter 5 “Technical specifications” on page 71.

Connecting manual call points

Connect manual call points in parallel, as shown in Figure 4, Figure 5, Figure 6, and Figure 7 starting on page 9. Each zone circuit can support up to 32 manual call points.

Manual call points must have a resistance installed in series with the normally open (NO) contact to avoid short-circuit faults and to allow the control panel to identify the origin of the alarm (automatic or manual). Note that many of the MCPs in the compatibility list already include this resistor.

The resistance required will depend on the zone type as shown in Table 5 below.

Table 5: MCP resistances

Zone type	**Manual call point resistance** [1]		
	Standard / active end-of-line	**EN 54-13**	**Intrinsically safe**
Mixed	100 Ω	Not supported	Not supported
Manual	100 to 680 Ω	100 to 470 Ω	250 to 560 Ω

[1] Resistance must be rated at 1 W minimum.

Note: The default zone detection settings for each operating mode can be found in Appendix A “Configuration presets” on page 79. To change the zone detection setting, see “Advanced configuration” on page 40.

Connecting inputs

Input functionality

Each control panel has two inputs, marked INPUT1 and INPUT2. These circuits are connected as normally open and activated when closed.

Both inputs are configurable (see “Input configuration” on page 47). The default functionality of each input is defined by the panel operating mode and EN 54-13 configuration. See Table 6 below.

Table 6: Default input functionality for inputs 1 and 2

Operating mode	INPUT1	INPUT2
NEN 2575 (EN 54-13 disabled)	Fire routing inhibit delay	Delay off
NEN 2575 (EN 54-13 enabled)	Fire routing acknowledgement (type 1, 100 seconds)	Fault warning output (open supervision)

Connecting unsupervised inputs

Connect unsupervised input switches to INPUT1 and INPUT2, as shown in Figure 4 or Figure 5 on page 9. Nominal resistance values (including any cable resistance) are shown below.

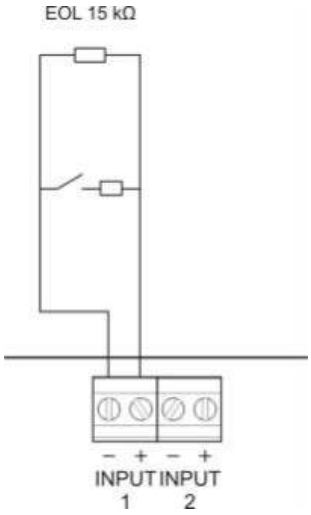
Table 7: Nominal resistance values for unsupervised inputs

Input function	Activated	Standby
Remote reset command	> 9 kΩ to ≤ 9 kΩ transition	N/A
Extended fire routing delay	≤ 9 kΩ	> 9 kΩ
Fire routing inhibit delay	≤ 9 kΩ	> 9 kΩ
Class change	≤ 9 kΩ	> 9 kΩ
Delays off	≤ 9 kΩ	> 9 kΩ

Connecting supervised inputs

Connect supervised input switches to INPUT1 and INPUT2, as shown in Figure 8 below.

Figure 8: Connecting supervised inputs



Nominal resistance values (including any cable resistance) are shown in Table 8 below.

Table 8: Nominal resistance values for supervised inputs

Input function	Input	Value [1]	State
Fire routing acknowledgement (type 1, 100 seconds)	1	≤ 220 Ω	Short circuit
		> 220 Ω to 8 kΩ	Active [2]
		> 8 kΩ to 10 kΩ	Fault [3]
		> 10 kΩ to 20 kΩ	Standby
		> 20 kΩ	Open circuit
Fault warning output: open circuit supervision [4]	2	≤ 9 kΩ	Standby
		> 9 kΩ	Fault (open)

[1] Values between each state may vary, depending on tolerance.
[2] For EN 54-13 compliance, the active impedance should be in the range of 220 Ω to 3.9 kΩ.
[3] High impedance fault.
[4] For the open circuit supervision of the fault warning output with the input, a 2010-FS EOL board must be installed. See “Connecting the fault warning output” on page 17.

Connecting supervised outputs

The evacuation control panel has six outputs, marked OUT1 through OUT6.

The outputs are supervised for open and short circuit faults.

Output class

The evacuation control panel outputs can be configured for Class A or Class B operation, depending on the supervision mode required. The default output configuration is Class B.

Table 9: Output classes and EN 54-13 supervision

Output class	EN 54-13 supervision	Description
Class B (default)	Disabled	For installations not requiring EN 54-13 compliance
Class A	Enabled	For installations requiring EN 54-13 compliance

For more information, see “EN 54-13 supervision mode” on page 35.

Output functionality

The function of each output is defined by the panel operating mode and output class configuration (the default is Class B). All outputs are overload protected.

Table 10: Class B output functionality (default)

Operating mode	OUT1	OUT2	OUT3	OUT4
NEN 2575 with four evacuation areas	Evacuation sounders for zone 1	Evacuation sounders for zone 2	Evacuation sounders for zone 3	Evacuation sounders for zone 4
NEN 2575 with two evacuation areas	Evacuation sounders for zone 1 or zone 2	Evacuation sounders for zone 1 or zone 2	Evacuation sounders for zone 3 or zone 4	Evacuation sounders for zone 3 or zone 4
NEN 2575 with one evacuation area	Evacuation sounders for any zone	Evacuation sounders for any zone	Evacuation sounders for any zone	Evacuation sounders for any zone

Table 11: Class A output functionality (for EN 54-13 compliance)

Operating mode	OUT1/OUT2	OUT3/OUT4	2010-1-SB [1] OUT1/OUT2	2010-1-SB [1] OUT3/OUT4	2010-1-SB [2] OUT3
NEN 2575 with four evacuation areas	Evacuation sounders for zone 1	Evacuation sounders for zone 2	Evacuation sounders for zone 3	Evacuation sounders for zone 4	Fault warning
NEN 2575 with two evacuation areas	Evacuation sounders for zone 1 or zone 2	Evacuation sounders for zone 1 or zone 2	N/A	N/A	Fault warning
NEN 2575 with one evacuation area	Evacuation sounders for any zone	Evacuation sounders for any zone	N/A	N/A	Fault warning

[1] 2010-1-SB required in preset 94
[2] 2010-1-SB required in mode 35

Output termination

Output termination is required at all times, whether the output is used or not. The type of termination depends on the output class, as shown in Table 12 below.

Table 12: Termination required for output classes

Output class	Output termination
Class B (default)	All outputs require a 15 kΩ end-of-line resistor for termination. If an output is not used, the end-of-line resistor must be installed across the unused output terminals (see Figure 4 on page 9).
Class A (EN 54-13)	All outputs require a 4.7 kΩ, 1/4W, 1% end-of-line resistor for termination. If an output group (OUT1/2, OUT3/4) is not used, the end-of-line resistor must be installed across the unused output terminals (see Figure 5 on page 9).

See “Input and output specifications” on page 73 for details on voltage and current ratings.

Output polarity

All outputs are polarity sensitive. Observe polarity or install a 1N4007 diode or equivalent to avoid inverted activation issues.

Connecting sounders or other notification devices to supervised outputs

Depending on the operating mode, up to four sounder or notification device circuits can be connected. See Table 10 on page 15.

Connecting fire routing equipment to supervised outputs

Connect fire routing equipment as shown in Table 13 below.

Table 13: Connecting fire routing equipment

Operating mode	Output class	Fire routing (automatic)	Fire routing (manual)
NEN 2575 (EN 54-13 disabled)	Class B	OUT5	OUT6
NEN 2575 (EN 54-13 enabled)	Class A	OUT5, OUT6	OUT5, OUT6

Note: Fire routing in EN 54-13 operating modes makes no distinction between automatic and manual alarms. If this feature is required, install a 2010-1-SB expansion board and use separate outputs for each alarm type.

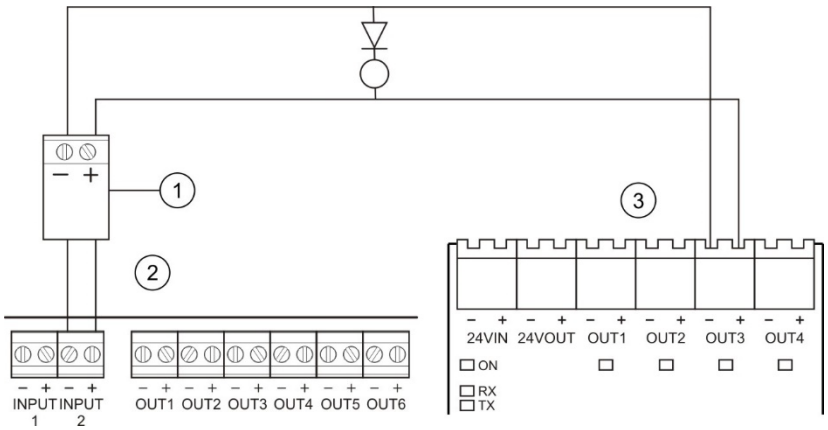
Connecting the fault warning output to external equipment

Caution: This connection is mandatory to comply with EN 54-2 Clause 8.9 (Fault Warning Routing Equipment).

Note: This feature is only available in EN 54-13 mode with a 2010-1-SB supervised expansion board configured to preset 35. See “Expansion board presets” on page 82.

Connect the external equipment to the OUT3 output on the 2010-1-SB supervised board. The wiring must be returned back to the control panel to the 2010-FS-EOL user supervisory board connected to INPUT2, as shown below.

Figure 9: Connecting to fault warning output



1. 2010-FS-EOL user board
2. Control panel PCB connectors
3. 2010-1-SB expansion board connectors

Connecting the mains power supply

Note: To avoid unwanted arcing, connect the mains power supply before connecting the batteries.

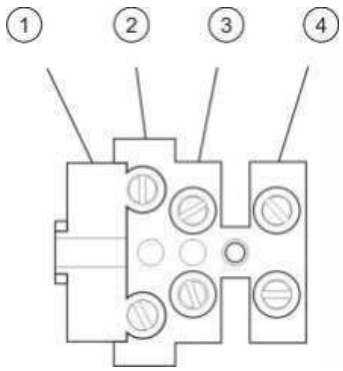
The control panel can be operated at 110 V at 60 Hz or 230 V at 50 Hz (+10% or −15%).

Mains power should be sourced directly from a separate circuit breaker in the building electrical supply distribution board. This circuit should be clearly marked, have a bipolar disconnect device, and only be used for fire detection equipment.

Feed all mains cables through the appropriate cable knockouts and connect them to the fuse terminal block as shown in Figure 10 below.

Keep mains cables separate from other cabling to avoid potential short circuits and interference. Always secure mains cables to the cabinet to prevent movement.

Figure 10: Connecting the mains power supply



1. Mains fuse
2. Live
3. Earth
4. Neutral

For fuse specifications, see Chapter 5 “Technical specifications” on page 71.

Selecting 115 or 230 VAC operation

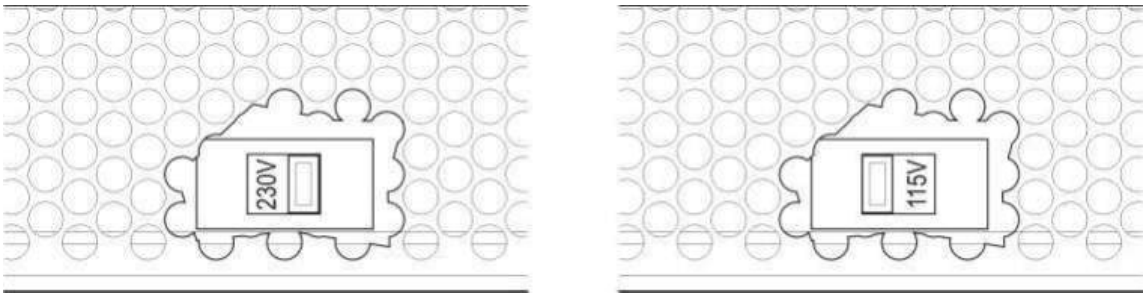
WARNING: Electrocution hazard. To avoid personal injury or death from electrocution, remove all sources of power and allow stored energy to discharge before installing or removing equipment.

Power switching for 115 or 230 VAC operation is automatic for two- and four-zone control panels and no configuration is required.

The default power setting is 230 VAC. For 115 VAC operation, use a small screwdriver to change the power setting switch, located on the side of the power supply unit, as shown in Figure 11 below.

Caution: Risk of equipment damage. An incorrect power setting can destroy the power supply.

Figure 11: Selecting 115 or 230 VAC operation



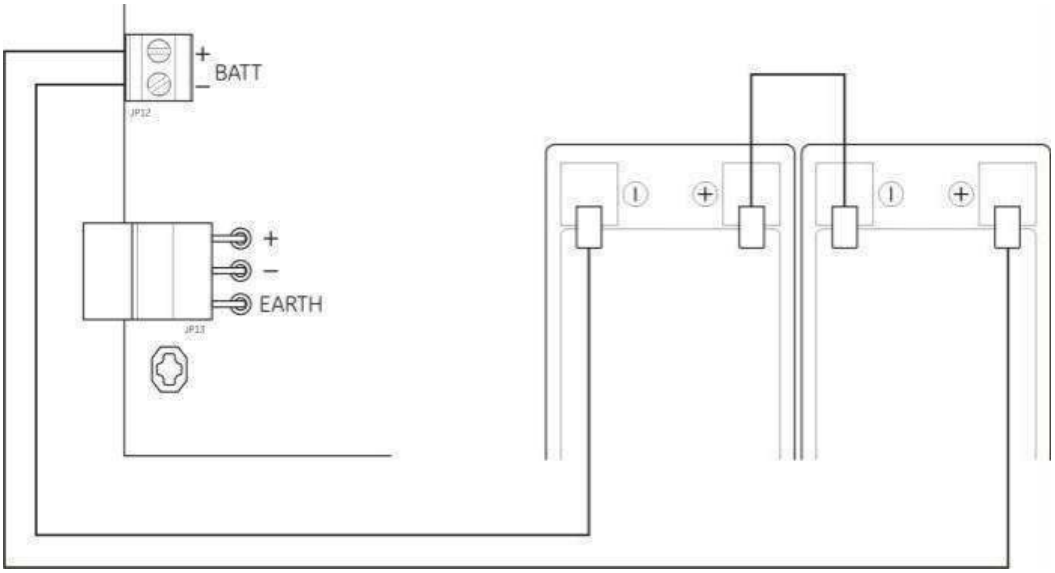
Connecting the batteries

The control panel requires two 12 V, 7.2 or 12 Ah rechargeable, sealed, lead-acid batteries (see “Compatible batteries” on page 69).

Batteries must be installed in series, at the base of the control panel cabinet. Use the battery lead and bridge provided and connect batteries to the BATT connector on the control panel PCB, as shown below. Polarity must be observed.

Note: If the control panel indicates a Supply Fault, then the batteries may need to be replaced. See “Battery maintenance” on page 69.

Figure 12: Connecting the batteries



Caution: Risk of equipment damage. No other equipment may be connected to the BATT connector.

Powering auxiliary equipment (24 VDC auxiliary output)

Connect auxiliary equipment that requires 24 VDC power to the 24 AUX terminals as shown in Figure 4 on page 9. The 24 VDC auxiliary output is supervised for short circuit and voltage output level.

WARNING: Never use the auxiliary output to power expansion boards connected to the same control panel as this might damage the control panel hardware.

Connecting alarm and fault relays

Connect the alarm and fault equipment to the ALARM and FAULT relays.

Each potential-free relay output is activated in an alarm or fault situation respectively. The fault relay output is activated (a short circuit between the common (C) and normally closed (NC) terminals of the relay) when there is no fault.

The maximum contact rating for each relay circuit is 2 A at 30 VDC.

Connecting expansion boards

Caution: Risk of equipment damage. Always disconnect the control panel from the mains power supply before installing an expansion board.

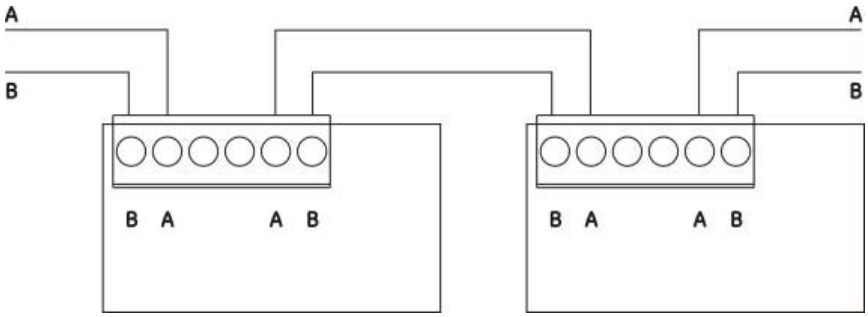
See your expansion board installation sheet for detailed installation information.

Connecting a fire network

Note: See the *2010-1-NB Network Board Installation Sheet* for detailed installation and connection information.

Each 2010-1-NB network board has two ports. Each port is connected (point to point) to the corresponding ports of the network board in another control panel.

Figure 13: Network board connections



Two wiring options are possible:

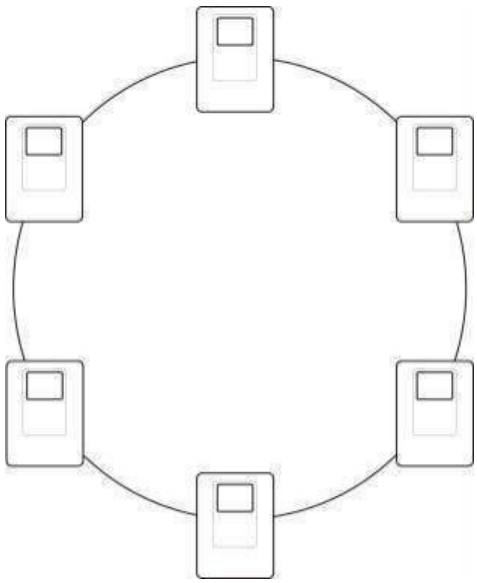
- Ring configuration
- Bus configuration

Ring configuration

Ring network configuration is recommended as it provides for redundancy in the transmission path.

For ring configuration (Class A), use both ports to connect all network boards or control panels to form a ring, as shown below.

Figure 14: Fire network ring configuration



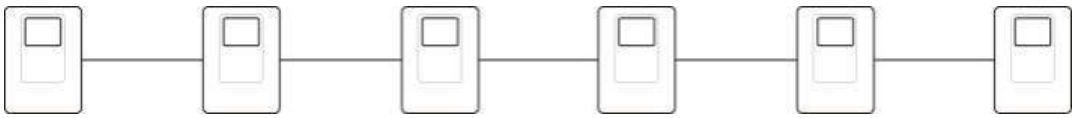
Bus configuration

Note: To be compliant with EU regulations, use this network configuration only in cases where the detection zones and mandatory EN 54-2 output functions (sounder and fire routing outputs) are not remote between panels.

Bus network configuration is not normally recommended, as it does not provide for redundancy in the transmission path.

For bus configuration (Class B), connect control panels as shown below.

Figure 15: Fire network bus configuration



Chapter 3
Configuration and commissioning

Summary

This chapter includes information on how to configure and commission the control panel. Configuration is divided in basic configuration and advanced configuration options.

Content

The user interface 25
- User interface for evacuation control panels 25

User levels 26
Configuration overview 28
- Configuration controls 28
- Common configuration tasks 30

Basic configuration 32
- The basic configuration menu 32
- Basic default configuration 34
- EN 54-13 supervision mode 35
- Panel mode 36
- Fire routing delay 37
- Extended fire routing delay 38
- Adding expansion boards 39
- Adding a fire network board 39

Advanced configuration 40
- The advanced configuration menu 40
- Sounder operation during a zone test 42
- Sounder re-sound 43
- Zone configuration 44
- Zone delay 45
- Zone type 46
- Input configuration 47
- Changing user level passwords 49
- Auxiliary 24 V reset 50

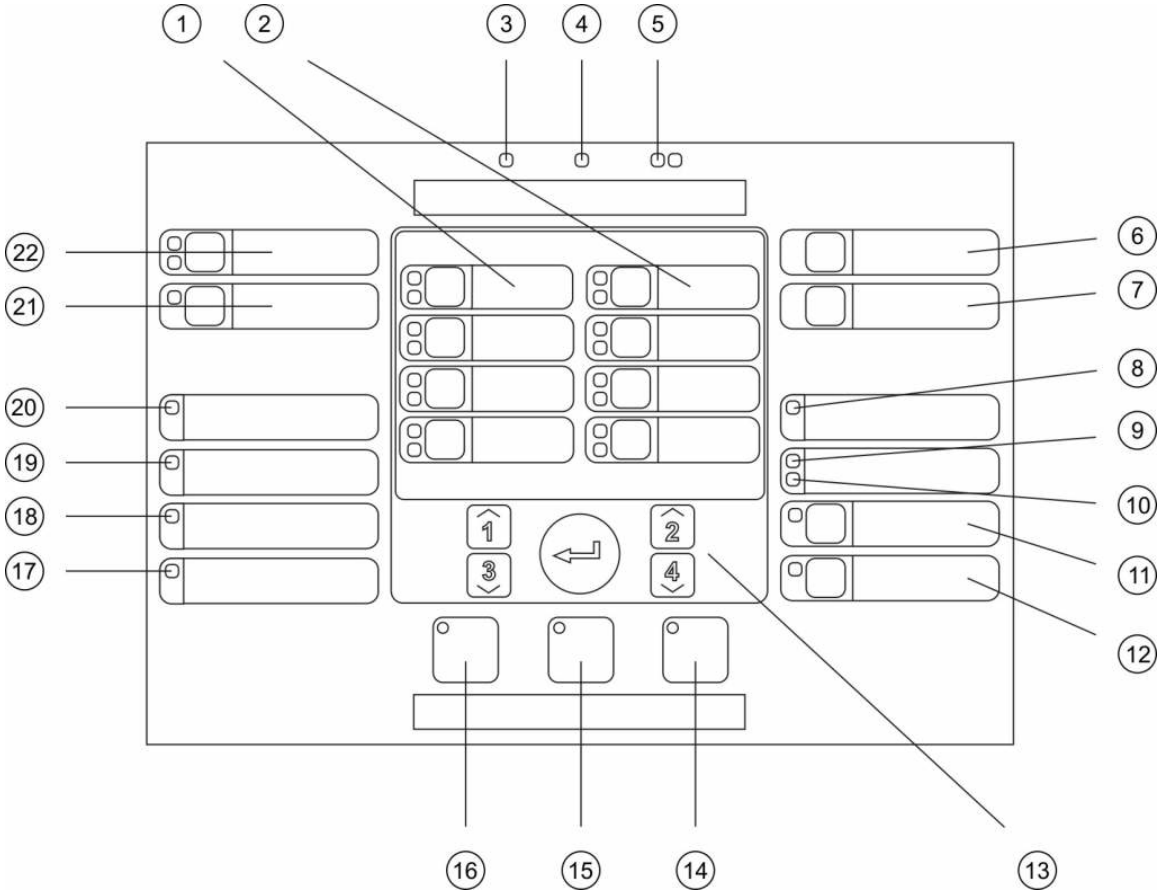
Software, configuration, and serial number information 51
Expansion board configuration 53
Adding an expansion board 53
Expansion board configuration 53
Fire network and repeaters configuration 56
Basic configuration options 57
Advanced configuration options 59
Commissioning 63
Before commissioning the control panel 63
Commissioning the control panel 64
Functional tests 66
Response times 66

The user interface

Consult the operator manual for details on the different controls and indications provided by the control panel.

User interface for evacuation control panels

Figure 16: User interface for evacuation control panels



1. Zone buttons and LEDs
2. Evacuation Area buttons and LEDs
3. Supply LED
4. General Fault LED
5. General Fire Alarm LEDs
6. All Sounders Stop button
7. Confirm button
8. Network Fault LED
9. Service Detector LED
10. Expansion I/O Fault/Disabled LED
11. General Disable button and LED
12. General Test button and LED
13. Configuration controls
14. Reset button and LED
15. Panel Silence button and LED
16. All Sounders Start button and LED
17. System Fault LED
18. Out of Service LED
19. Earth Fault LED
20. Supply Fault LED
21. Fire Routing Delay button and LED
22. Fire Routing On/Acknowledge button and LEDs

Configuration options

Configuration options may result in changes to interface buttons and LEDs. See Table 14 below.

Table 14: Configured changes to interface buttons and LEDs

Item	NEN 2575	NEN 2575 with EN 54-13
9	Service Detector	Fault Output Fault/Disabled

User levels

For your safety, access to some features of this product are restricted by user levels. The access privileges of each user level are described below.

The configuration tasks described in this chapter can only be performed by an installer user level, either basic or advanced. These user levels are reserved for the installation contractors authorized and responsible for the system installation and configuration.

Public user

The public user level is the default user level.

This level allows basic operating tasks, such as responding to fire alarms or fault warnings at the control panel, or manually activating evacuation areas. No password is required.

Operator user

The operator user level allows additional operating tasks that command the system or perform maintenance functions. It is reserved for authorized users who have been trained to operate the control panel.

Consult the operation manual for more details on the functions available for public user and operator user levels.

Basic installer user

This user level is intended to quickly configure basic installation options that cover most applications.

Advanced installer user

This user level is intended for installers that require configuring very specific applications where all the advanced features provided by the control panel are required. This level is also required for installers that require minor customizations after configuring a basic installation.

Passwords and indications for each user level are described in “User level passwords and indications” below.

User level passwords and indications

The default user level passwords and the corresponding LED and seven-segment display indications are shown in the table below. The seven-segment display is only visible when the control panel cover is removed. See Figure 1 on page 4.

Table 15: User level passwords and indications

User level	Password	LED	Default display	Custom display
Public	None	None	None	None
Operator	2222	The Reset LED is steady	None	None
Basic installer	3333	The Reset LED is flashing		
Advanced installer	4444	The Reset LED is flashing		

Note: If you have used advanced configuration options to set a custom input configuration, zone delay, zone configuration, or zone type, then the seven-segment display defaults to the custom display operating mode. See “Panel mode” on page 36 for details.

Configuration overview

To facilitate rapid configuration of the most common tasks, configuration is divided into basic and advanced levels.

For basic configuration options, see “Basic configuration” on page 32. For advanced configuration options see “Advanced configuration” on page 40.

Note: The reset and panel silence functions are not available in configuration mode. To reset the control panel or silence the internal buzzer, first exit configuration mode. See “Common configuration tasks” on page 30 for instructions on exiting from configuration mode.

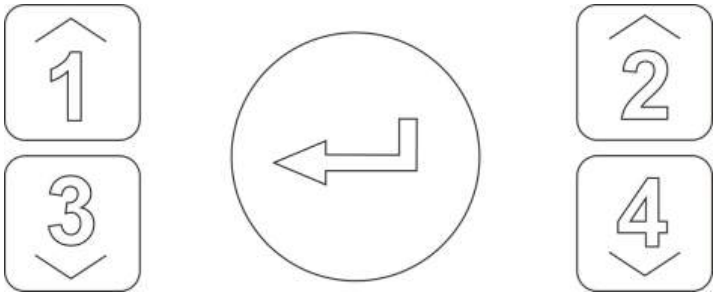
Configuration controls

The control panel is configured using the front panel configuration controls and the seven-segment display. The configuration controls are also used to enter the user level password.

The configuration controls

The configuration controls are located on the control panel interface.

Figure 17: Front panel configuration controls



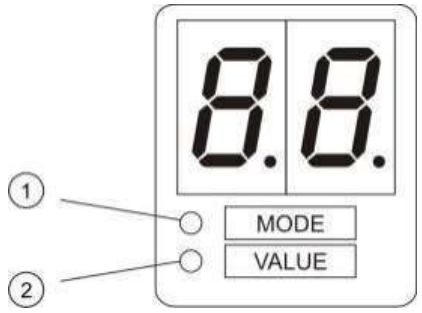
Button	Function
1	Scrolls to the next configuration menu on the seven-segment display.
2	Scrolls to the next configuration value for the active menu on the seven-segment display.
3	Scrolls to the previous configuration menu on the seven-segment display.
4	Scrolls to the previous configuration value for the active menu on the seven-segment display.
Enter	Confirms a menu selection or a value selection entry. [1]

[1] Panels configured as repeaters in a fire network normally display the status of several panels. Pressing this button for 3 seconds provides a temporary display of local panel status.

The seven-segment display

The seven -segment display is only visible when the control panel cover is removed (see Figure 1 on page 4).

Figure 18: The seven-segment display



1. Mode LED
2. Value LED

Table 16: Mode and value LEDs

LED	Indications
Mode	Select a *menu* using buttons 1 and 3 when this LED is steady. — or — Select a *submenu* using buttons 1 and 3 when this LED is flashing.
Value	Select a *value* using buttons 2 and 4 when this LED is steady

Common configuration tasks

To enter configuration mode:

1. Remove the control panel cover so that the seven-segment display is visible.
2. Enter a valid Installer user level password (3333 for basic configuration or 4444 for advanced configuration).
3. Press Enter.

When first entering configuration mode, the Mode LED on the seven-segment display is steady. For other indications see Table 16 on page 29.

To select a menu:

1. Select the required menu using the menu selection buttons (1 and 3).
2. Press Enter.

When a configuration menu has been selected, the Value LED on the seven-segment display is steady.

To select a value:

1. Select the required value using the value selection buttons (2 and 4).
2. Press Enter.

To exit configuration mode and save your changes:

1. Press Panel Silence.
2. Press Enter.

— or —

1. Set the display as shown below, and then press Enter.



The Panel Silence LED flashes to confirm that a configuration change has been applied.

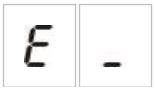
Note: Make all the configuration changes required before exiting configuration mode and saving your changes.

To exit configuration mode without saving your changes:

1. Press Reset

— or —

1. Set the display as shown below, and then press Enter.



The control panel will exit configuration mode after 5 minutes if no button is pressed.

Visual indications for current value and selected value

Current and selected values are indicated as follows.

Table 17: Visible indications for values

Status	Indication
Current value	Both decimal points on the display are steady
New selected value	Both decimal points on the display are flashing
Other value	Both decimal points on the display are off

To restore the previous configuration:

1. Set the display as shown below, and then press Enter.



To restore the factory configuration:

1. Set the display as shown below, and then press Enter.



Basic configuration

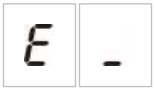
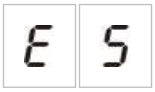
The default password for basic configuration is 3333. After entering the password, the first displayed menu will be Basic default configuration (indicating basic installer user level). For more information see “User level passwords and indications” on page 27.

The basic configuration menu

Configuration options for this menu are shown in the table below. More information for each option is included in the related topic.

Table 18: The basic configuration menu

Display	Menu	Values
	Basic default configuration	See topic
	EN 54-13 supervision	ON/OFF
	Panel mode	NEN 2575 4E NEN 2575 2E NEN 2575 1E Custom
	Fire routing delay	00 to 10 minutes
	Extended fire routing delay	00 to 10 minutes
	Add an expansion board [1]	00 to 04 modules
	Fire network identifier [2]	00 to 32
	Restore previous configuration	N/A
	Restore factory configuration	N/A

Display	Menu	Values
	Exit without saving	N/A
	Exit and save	N/A

[1] Additional menu options are available if one or more expansion boards are installed. See “Expansion board configuration” on page 53.
[2] Additional menu options are available if the panel is configured for connection to a fire network (i.e. the fire network identifier is not 00). This requires an optional fire network board. See the topics “Connecting a fire network” on page 18 and “Fire network and repeaters configuration” on page 46.

Basic default configuration

Use this menu to select common operating mode configuration presets. The default setting is 41.

To select an operating mode configuration preset:

1. Set the display as shown below, and then press Enter.



2. Select a value using the value selection buttons (2 and 4).

   See Table 19 below for descriptions of the presets.

3. Press Enter.
4. Save your changes.

A selected list of operating mode configuration presets is shown below. For a detailed list of all available configuration presets and characteristics, see Appendix A “Configuration presets” on page 79.

Table 19: Common operating mode configuration presets (EN 54-13 disabled)

Display	Operating mode	Zone end-of-line	Zone type
41 (default)	4E (four evacuation areas)	Passive	Odd zones: Automatic Even zones: Manual
43	2E (two evacuation areas)	Passive	Odd zones: Automatic Even zones: Manual
45	1E (one evacuation area)	Passive	Odd zones: Automatic Even zones: Manual

The operating mode is indicated by the first digit in the display and the configuration type by the second digit. If a custom configuration has been applied (via the advanced configuration menu), then the second digit is a zero, as shown below.

Display	Configuration
41	NEN 2575 four evacuation areas preset configuration
43	NEN 2575 two evacuation areas preset configuration
45	NEN 2575 one evacuation area preset configuration
40	NEN 2575 custom configuration

EN 54-13 supervision mode

Use this menu to select the zone supervision mode (EN 54-13 supervision enabled or disabled). By default EN 54-13 zone supervision is disabled.

To configure the supervision mode:

1. Set the display as shown below, and then press Enter.

   The Sounder and Fire Routing Fault/Disable/Test LEDs and all zone LEDs flash quickly to indicate that the supervision mode configuration menu is active.
2. Select the supervision mode using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Default setting. EN 54-13 zone supervision is disabled and all outputs are configured as Class B.
	EN 54-13 zone supervision is enabled and all outputs are configured as Class A.

Panel mode

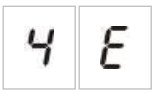
Use this read-only menu to view the operating mode of the control panel.

To view the operating mode:

1. Set the display as shown below, and then press Enter.



Display indications for each operating mode are shown below.

Display	Operating mode
	NEN 2575 four evacuation areas
	NEN 2575 two evacuation areas
	NEN 2575 one evacuation area
	Custom

See Appendix A “Configuration presets” on page 79 for presets and default settings for each operating mode.

Custom operating mode

A custom operating mode will be indicated if any of the following zone configuration settings are changed from the operating mode preset values:

- Zone delay
- Zone configuration
- Zone type
- Input configuration

The seven-segment display will alternate the custom and base operating mode indications, as shown above.

Fire routing delay

Use this menu to configure a fire routing delay of up to 10 minutes in operating modes where the feature is available. The default fire routing delay is 1 minute.

To configure a delay:

1. Set the display as shown below, and then press Enter.

   The Fire Routing Delay LED flashes fast to indicate that the fire routing delay configuration menu is active.
2. Select a delay value from 00 to 10 minutes using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

Once configured the delay must be enabled at Operator user level.

To enable a configured delay:

1. Exit Installer user level.
2. Enter the Operator user level password.
3. Press the Fire Routing Delay button.

A steady Fire Routing Delay LED indicates that the delay is enabled.

Fire routing delay operation

The delay applies to the activation of fire routing (if configured) only if *all* of the following are true:

- The delay is enabled
- The initiating device (detector or manual call point) is installed in an automatic zone (or the initiating device is a detector installed in a mixed zone)
- The initiating device is configured in a zone with delays configured (by default)
- A fire routing inhibit delay input is not activated (if configured)
- Any input using the *delays off* function must not be active

If the delay is not enabled, the control panel activates fire routing (if configured) immediately after the detection of the fire alarm.

Extended fire routing delay

Use this menu to configure an extended fire routing delay of up to 10 minutes in operating modes where the feature is available. The default extended fire routing delay is 3 minutes.

To configure an extended delay:

1. Set the display as shown below, and then press Enter.

   The Fire Routing Delay LED flashes fast to indicate that the fire routing delay configuration menu is active.
2. Select a delay value from 00 to 10 minutes using the value selection buttons (2 and 4).

   This value must be greater than the configured fire routing delay.
3. Press Enter.
4. Save your changes.

Once configured the delay is enabled at the same time as the standard fire routing delay.

A steady Fire Routing Delay LED indicates that all configured fire routing delays are enabled.

Extended fire routing delay operation

The same conditions required to apply a fire routing delay are applicable to apply an extended fire routing delay (i.e. delay enabled, automatic alarm in a zone with delays configured, no fire routing inhibit delay input activated, and no input using the delays off function activated).

If the conditions exist to apply the delay, fire routing and extended fire routing delays elapse concurrently when a fire alarm event is reported. After an alarm condition, the fire routing delay is the active delay to activate fire routing.

The extended fire routing delay becomes the active delay to activate fire routing when sounders are stopped (by pressing the All Stop button) and remain stopped when the standard fire routing delay time has elapsed.

The extended fire routing delay becomes the active delay to activate fire routing when an extended fire routing delay switch (connected to an input configured accordingly) is activated while the standard fire routing delay elapses.

Adding expansion boards

For information on how to add an expansion board to the system and how to configure it, see “Expansion board configuration” on page 53.

Adding a fire network board

For information on how to add a fire network board to the system and how to configure it, see “Fire network and repeaters configuration” on page 56.

Advanced configuration

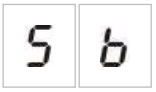
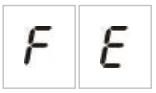
The default password for advanced configuration is 4444. After entering the password, the first displayed menu is Advanced default configuration (indicating the advanced installer user level). For more information see “User level passwords and indications” on page 27.

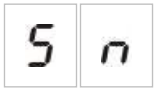
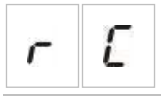
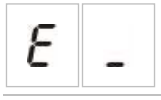
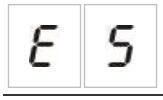
The advanced configuration menu

Configuration options for this menu are shown in Table 20 below. More information for each option is included in the related topic.

Note: All configurable options included in “Basic configuration” on page 32 are also available from the advanced configuration menu.

Table 20: The advanced configuration menu

Display	Menu	Values
	Advanced default configuration	Configuration presets, as defined in “Basic default configuration” on page 34
	EN 54-13 supervision	ON/OFF
	Panel mode	NEN 2575 4E NEN 2575 2E NEN 2575 1E Custom
	Sounder operation during a zone test	ON/OFF
	Sounder re-sound	ON/OFF
	Fire routing delay	00 to 10 minutes
	Extended fire routing delay	00 to 10 minutes
	Add an expansion board	00 to 04 modules
	Fire network identifier	00 to 32
	Firmware version	Read-only
	Configuration version	Read-only

Display	Menu	Values
	Configuration time stamp	Read-only
	Configuration date stamp	Read-only
	Zone configuration	Passive EOL Active EOL Unlatched Passive EOL with CleanMe Active EOL with CleanMe Intrinsically-safe
	Zone delay	ON/OFF
	Zone type	Mixed Automatic Manual
	Input configuration	Remote reset Delays off Fire routing extended delay Fire routing inhibit delay Class change Fault warning output open supervision Fire routing acknowledgement (type 1) Fire routing acknowledgement (type 2)
	User level 2 password	0 to 4444
	User level 3 basic password	0 to 4444
	User level 3 advanced password	0 to 4444
	Control panel PCB serial number	Read only
	Auxiliary 24 V reset	ON/OFF
	Restore previous configuration	N/A
	Restore factory configuration	N/A
	Exit without saving	N/A
	Exit and save	N/A

Sounder operation during a zone test

Use this menu to configure the sounder operation during a zone test. The default setting for all operating modes is ON.

To configure the sounder operation during a zone test:

1. Set the display as shown below, and then press Enter.

   The All Sounders Start LED flashes fast to indicate that the sounder operation during a zone test configuration menu is active.
2. Select a value using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

The available settings for this feature are shown below.

Display	Description
	The internal buzzer and sounders sound for 5 seconds when an alarm is activated in a zone test.
	The internal buzzer and sounders do not sound when an alarm is activated in a zone test.

Sounder re-sound

Use this menu to configure the sounder re-sound, on or off. This determines sounder operation in a fire alarm event when sounders have been silenced and a new alarm event is reported. The default setting is ON.

To configure the sounder re-sound:

1. Set the display as shown below, and then press Enter.

   The All Sounders Start LED flashes fast to indicate that the sounder re-sound configuration menu is active.
2. Select a value using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

The available settings for this feature are shown below.

Display	Description
	The sounders re-sound if a new fire alarm event is reported from a different zone.
	The sounders do not re-sound if a new fire alarm event is reported from a different zone.

Note: For new fire alarm events in the same zone, sounders will always re-sound if the first alarm is reported by a detector and the new alarm is reported by a manual call point.

Zone configuration

Use this menu to configure zone settings for each zone in your fire alarm and evacuation system. The default setting for each operating mode is included in Appendix A “Configuration presets” on page 79.

To configure the zone:

1. Set the display as shown below, and then press Enter.



2. Select the zone (for example, zone 1), and then press Enter.



   The Zone fault/test/disable LED flashes fast to indicate that the corresponding zone configuration menu is active.

3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Passive end-of-line
	Active end-of-line [1]
	Passive end-of-line with CleanMe [1]
	Active end-of-line with CleanMe [1]
	Intrinsically-safe zone [1][2]

[1] Option not available if EN 54-13 supervision is enabled.
[2] By default, even zones are configured as manual and odd zones are set as automatic.

Zone delay

Use this menu to configure zone delays (on or off), for each zone in your fire alarm and evacuation system. If the zone delay is ON, for alarms reported from this zone, any output activation (fire routing and expansion board outputs) will consider delay before activation. The default setting for all zones is ON.

For a stand-alone control panel, you specify the zone using the zone number.

When the control panel is in a fire network, unique zone numbers are created by defining a unique starting number for the first zone in each panel. For example, if the first zone is numbered 101, then zone 04 will have the number 104.

In a fire network, if the control panel is configured to activate with remote zones, you can enter “others” to select the delay for remote zones.

See the topic “Fire network and repeaters configuration” on page 56 for further details.

To configure the zone delay:

1. Set the display as shown below, and then press Enter.

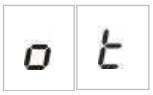
   

2. Select the zone (for example, zone 1), and then press Enter.

   — or —

   Select “others” to select the remote zones.

   The Zone alarm LED flashes fast to indicate that the corresponding zone configuration menu is active.

3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Configured delays are applied when the alarm is reported from this zone.
	Configured delays are not applied. Outputs activate immediately when the alarm is reported from this zone.

Zone type

Use this menu to configure the zone type for each zone in your fire alarm and evacuation system. The default setting for each operating mode is included in Appendix A “Configuration presets” on page 79.

To configure the zone type:

1. Set the display as shown below, and then press Enter.

2. Select the zone (for example, zone 1), and then press Enter.

   The red Zone LED flashes fast to indicate that the corresponding zone configuration menu is active.

3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Mixed zone. The control panel automatically distinguishes between an automatic alarm (generated by a detector) and a manual alarm (generated by a manual call point fitted with a 100 Ω resistor). [1]
	Automatic zone. All fire alarms are treated as reported by a detector, even if the fire alarm is reported by a manual call point in the zone.
	Manual zone. All fire alarms are treated as reported by a manual call point, even if the fire alarm is reported by a detector in the zone.

[1] This option is not available if EN 54-13 is enabled or an intrinsically-safe zone is configured.

Input configuration

Use this menu to configure the functionality of INPUT1 and INPUT2. The default setting for each input is included in Appendix A “Configuration presets” on page 79.

To configure an input:

1. Set the display as shown below, and then press Enter.

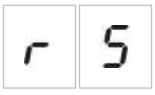


2. Select the input (for example, INPUT1), and then press Enter.



3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Remote reset. Input activation (transition) commands reset.
	Delays off Input activation (transition) deactivates delays (equivalent to night mode). Input deactivation (transition) activates delays (equivalent to day mode).
	Extended fire routing delay Input active configures extended fire routing delay.
	Fire routing inhibit delay Input active deactivates fire routing delays.
	Class change Sounders are activated while the input is active
	Fault warning output open supervision An inactive input indicates the fault warning output has an open circuit wiring fault.

Display	Description
	Fire routing acknowledgement (type 1, 100 seconds) [1] [2] An active input indicates acknowledge after fire routing is active. An active input in other condition generates a fire routing fault.
	Fire routing acknowledgement (type 2, 240 seconds) [1] [2] An active input indicates acknowledge after fire routing is active. An active input in other condition generates a fire routing fault.

[1] Can be configured for only one input per control panel.
[2] Supervision for wiring open and short conditions is available. A 15 kΩ end-of-line is required.

Changing user level passwords

Use the corresponding menu option (shown below) to change the default user level passwords.

	Operator user level password
	Basic installer user level password
	Advanced installer user level password

To change the first two digits of a user level password:

1. Set the display for the desired user level password, and then press Enter.
2. Set the display as shown below, and then press Enter.

3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

To change the last two digits of a user level password:

1. Set the display for the desired user level password, and then press Enter.
2. Set the display as shown below, and then press Enter.

3. Select a value using the value selection buttons (2 and 4).
4. Press Enter.
5. Save your changes.

Auxiliary 24 V reset

Use this menu to configure the auxiliary 24 V reset setting, on or off. The default setting is OFF.

To configure the 24 V reset:

1. Set the display as shown below, and then press Enter.



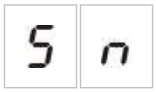
2. Select a value using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

The available settings for this feature are shown below.

Display	Description
	Resetting the control panel resets the AUX 24V output.
	Resetting the control panel does not reset the AUX 24V output.

Software, configuration, and serial number information

Use the corresponding menu option (shown below) to display software, configuration, and serial number information. These details may be required for troubleshooting and technical support.

	Firmware version (control panel, expansion board or fire network board)
	Configuration version
	Configuration time stamp
	Configuration date stamp
	Serial number (control panel, expansion board or fire network board)

The following submenus are available for firmware version and serial number menus.

Display	Description
	Display the firmware version or serial number for the control panel
	Display the firmware version or serial number for expansion board A
	Display the firmware version or serial number for expansion board B
	Display the firmware version or serial number for expansion board C
	Display the firmware version or serial number for expansion board D
	Display the firmware version or serial number for the network board

To check the firmware version:

1. Set the display as shown below, and then press Enter.



2. Select a value (control panel, expansion board or fire network board) using the value selection buttons (2 and 4).
3. Press Enter.
4. The firmware version is displayed in three consecutive segments, as shown below.

Segment	Description	Example
	Is the major release identifier	
	Is the minor release identifier	
	Is the version cycle number	

In the above example, the reading is for firmware version 1.1.7.

Expansion board configuration

Adding an expansion board

Use this menu, available from the basic or advanced configuration menus, to configure the number of installed expansion boards. The default value is 00.

Up to four expansion boards can be installed in the evacuation control panel.

Note: To maintain regulatory compliance, only three expansion boards can be installed when a fire network board is installed.

To add an expansion board:

1. Set the display as shown below, and then press Enter.

   The Expansion I/O Fault/Disabled LED flashes fast to indicate that the module configuration menu is active.
2. Select a value using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

Expansion board configuration

Expansion board labels

For configuration purposes expansion boards are labeled A and B (for two- and four-zone control panels) or A, B, C, and D (for eight-zone control panels).

The label for a given module is defined by its position (left to right) in the control panel cabinet, The first expansion board installed is module A, the second B, etc.

See your expansion board installation sheet for installation instructions.

Expansion board function and delay configuration

Once an expansion board is installed and added to the control panel configuration, the following additional configuration options appear on the basic and advanced configuration menus.

Note: These configuration options are repeated for each of the installed expansion boards (A, B, C, and D).

Table 21: Expansion board A configuration options

Display	Description	Value
	Module A function	01 to 94 [1]
	Module A output 1 delay	00 to 10 minutes
	Module A output 2 delay	00 to 10 minutes
	Module A output 3 delay	00 to 10 minutes
	Module A output 4 delay	00 to 10 minutes

[1] Available values depend on the type of expansion board installed and the supervision selected. See Appendix A “Configuration presets” on page 79.

Expansion board function

Use this menu to configure the expansion board function. The default value depends on panel configuration. For most configurations, the default value is 01. For evacuation panels configured for EN 54-13, the default is 05. For the available presets, see Appendix A “Configuration presets” on page 79.

To configure the expansion board function:

1. Set the display as shown below, and then press Enter.

   The Expansion I/O Fault/Disabled LED on the control panel interface and the ON LED on the expansion board flashes fast to indicate that the module function configuration menu is active.
2. Select a value from 01 to 94 using the value selection buttons (2 and 4).
3. Press Enter.
4. Save your changes.

Expansion board output delay

Use this menu to configure an expansion board output delay of up to 10 minutes, where the feature is available.

To configure an expansion board output delay:

1. For output 1 on expansion board A, set the display as shown below, and then press Enter.

   The Expansion I/O Fault/Disabled LED on the control panel interface and the Activated LED on the expansion board flashes fast to indicate that the module delay menu is active.
2. Select a value from 00 to 10 using the value selection buttons (2 and 4).
3. Press Enter.
4. Repeat steps 1 to 3 as required for each output (1 to 4) on each installed module (A, B, C, and D) where a delay is required.
5. Save your changes.

Fire network and repeaters configuration

This section describes how to configure a fire network of conventional control panels in order to:

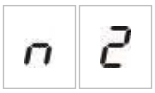
- Connect repeaters (any conventional control panel can be configured to operate as a repeater)
- Create a fire network of conventional control panels, when you need additional conventional zones in your system
- Create a network including compatible addressable control panels, to add more features to your fire alarm and evacuation system (e.g. logging events, complex output activation controlled by the addressable system, remote monitoring)

When a conventional panel is connected to a fire network it normally displays the status of one or more panels in the network (depending on repeater configuration settings). To display information for only that panel, press the Enter key for 3 seconds to provide a temporary, 30-second display of the local status indications.

Basic configuration options

The following table shows the options for creating basic fire network (firenet) configurations.

Table 22: Basic configuration options for the fire network

Display	Description	Value
	Firenet identifier for the panel (the panel node number in the network)	00 to 32 00 = Stand-alone (no networking) Default: 00
	Firenet number of nodes (the number of nodes in the network) [1]	02 to 32 Default: 02
	Firenet initial zone number [2]	0001 to 9999 The number has four digits. Identified by position, these are: 1234. Press Up to enter the first two digits of the number (positions 1 and 2). Press Down to enter the last two digits of the number (positions 3 and 4).
	— or —	
	Firenet initial panel number to be repeated [2]	01 to 32 Default: 01

[1] Basic configuration uses consecutive numbers beginning with 1 and ending with the number entered here. Advanced configuration allows the use of specific, nonsequential node numbers. When the system has an advanced, custom pattern of node numbers, the displayed value for nn is “Cu”.
[2] Depending on the advanced setting Firenet repeater type (nr), this setting configures the initial zone repeated or the initial panel repeated.

A *basic fire network* is either a panel and a repeater, or an eight-zone virtual panel composed of two four-zone panels.

To configure a basic fire network:

1. Activate networking by selecting the node number in the fire network.

   The value of nI changes from 0 to 1 for the control panel, and from 0 to 2 for the repeater panel.

   If nI is not 0 (networking activated), a network fault is reported if the network card is not present.

   The Network Fault LED blinks every 10 seconds to indicate that the panel is connected to the network without faults.

2. Select the number of control panels in the network.

   This is not required when you have two panels (i.e. a panel and a repeater).

   If you select 5, panel IDs 1 to 5 will have to be present so as not to have a network fault indication.

   Use advanced settings if you need to configure a network with other node IDs and you need specific control and repeater settings.

3. Select the initial zone in the fire network.

   This is not required if the two panels will use the same zone numbers starting with zone 1 (i.e. a panel and a repeater).

Zones are global. A remote zone event in a zone number which is also used in the local control panel will generate a response as if the event was generated by a local zone. Example: In a four-zone evacuation panel with initial zone 10, zones 10, 11, 12, and 13 are available and any event in zones 10, 11, 12, or 13 in any other control panel in the network will have the same effect on the panel as a local event in these zones.

Therefore, change this setting if you want to keep activations and indications independent in different control panels. Example: In a virtual evacuation panel with eight detection zones, panel one (the first four-zone panel) can keep the default initial zone number, 1. But for panel two (the second four-zone panel) you would change the initial zone number from 1 to 5. Panel one would have zones 1, 2, 3, and 4. Panel two would have zones 5, 6, 7, and 8.

Note that this setting can be used to configure control panels to repeat the status of control panels in the fire network with the zone LEDs. Consult fire network advanced configuration settings for further details.

Basic fire network configuration will have the default fire network settings or the ones previously configured in the advanced fire network configuration options.

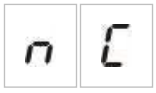
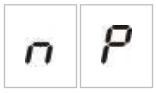
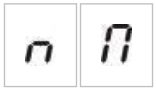
Default fire network settings are as follows:

- Both control panels will control each other (a control panel and repeater panel).
- The network topology will be class B.
- The repeater will repeat zones, not control panels.
- The control panel will repeat faults in the repeater panel.
- The control panel will enter alarm and generate activations with remote zones.
- The control panel will control its outputs (no addressable system in the network).

Advanced configuration options

The following table shows the options (available to an advanced configuration user) for creating an advanced fire network configuration.

Table 23: Advanced configuration options for the fire network

Display	Description	Value
	Firenet identifier	0 to 32 0: Stand-alone (no networking) Default: 0
	Firenet number of nodes [1]	2 to 32 Default: 2
	Firenet initial zone number when the firenet repeater type (nr) = 2n	0001 to 9999 The number has four digits. Identified by position, these are: 1234. Press Up to enter the first two digits of the number (positions 1 and 2). Press Down to enter the last two digits of the number (positions 3 and 4).
	— or —	
	Firenet initial panel number to be repeated when the firenet repeater type (nr) = Pn	01 to 32 Default: 01
	Firenet global controls	On/ OFF Default: On
	Firenet loop class	A/ B Default: B
	Firenet process remote zones	On/ OFF Default: On
	Firenet repeater type	2n = Zones Repeater Pn = Panels Repeater Default: 2n
	Firenet map	Submenu: 1 – 32 Values: On/OFF Default: ON for nodes 1 and 2, OFF for the rest

Display	Description	Value
	Firenet repeater map	Submenu: 1 – 32 Values: On/OFF Default: ON for nodes 1 and 2, OFF for the rest
	Firenet remote output control	On/ OFF Default: OFF

[1] The basic configuration setting can be replaced by a customized set of specific panels for communication, called a firenet map (nM), and a set of panels to be repeated, called a firenet repeater map (rM). If the configuration is changed by modifying nM or rM, the value displayed for firenet number of nodes (nn) is Cu, indicating a custom network configuration.

Configuring firenet and repeater maps

If the control panels in the system do not have all the node IDs numbered consecutively (starting from 1) or if the control panels do not repeat information from all other panels, then configure the nM (Firenet map) and rM (Firenet repeater map).

Firenet map (nM) configuration

Any control panel in the fire network can be configured to show remote zone events and react as if the events were coming from the local zones, for the zones that are within the range of the panel. The range of zones in the panel is determined with the initial zone (offset) and the control panel type. The global zone numbers can be 1 to 9999.

This means that, for a four-zone evacuation panel, the initial zone number can range from 1 to 9996. A four-zone evacuation panel with an initial zone number of 100 has zones 100 through 103.

The firenet map (nM) defines all the control panels that communicate with the configured panel. This lets you create subnetworks in the fire network. For example, if you have four panels in a fire network as follows:

- Panel ID 1 with nM active for nodes 1 and 2
- Panel ID 2 with nM active for nodes 1 and 2
- Panel ID 20 with nM active for nodes 20 and 32
- Panel ID 32 with nM active for nodes 20 and 32

Panels 1 and 2 will see each other in one sub-network and panels 20 and 32 will be each other in a different sub-network. Only a firenet wiring open-loop fault for class A networks will be shared between the two sub-networks.

Repeater map (rM) configuration

Any control panel in the fire network can repeat the information of other nodes that form part of its firenet map.

A unique panel or several panels can be repeated at the same time (including addressable panels) by defining the repeater map.

By default, the basic setting to establish the number of nodes (nn) will set the control panel to activate in the repeater map (rM) the same control panels in the firenet map. (i.e. The control panels by default will repeat all the information of all other control panels in the fire network.)

The indications will show the logic OR function of the local indication together with the same indication on other remote panels being repeated. If control panels show different status, the control panel with higher priority takes precedence (i.e. if control panel 1 has fire routing on delay and control panel 2 fire routing on, the indication of a third panel repeater will show fire routing on).

All indications received that are not available in the repeater panel for display will be ignored.

Examples:

- A conventional repeater panel can repeat an analogue panel and many indications are not available for display.
- A two-zone fire control panel could be configured to repeat a four-zone evacuation panel. Zones 3 and 4 from the evacuation panel will not be available for display.

Conventional systems can be configured to repeat control panels status information instead of zones status information, in the zone LED indications. Consult the Repeater type configuration (nr) setting.

Selecting control panel commands

Select the control panel commands (e.g. reset, silence/resound sounders, panel silence, cancelling delays) that will be local or global. This is sent to all other control panels in its firenet map.

By default, nC is set to Yes so that controls are local but also sent to the network.

Note: Local or global controls does not apply to disable/enable and test commands. These are always local and sent to the control panels being repeated. This feature provides more flexibility to configure disable/enable and test of zones, sounders, fire routing and fire protection.

Examples: If we disable zone 1 in control panel 1 and control panel 1 repeats control panel 2, the zone 1 in control panel 2 will also be disabled (shared zone completely disabled). If we disable zone 1 in control panel 1 but control panel 2 is not repeated, zone 1 in panel 2 will not be disabled. (This allows disabling only part of the shared zone).

Selecting the loop class

Select the loop class (nL) to configure the panel according to the wiring topology selected: class A (ring) or class B (bus).

Class A is recommended to provide redundancy in communication path. Class B can only be used for repeaters without control requirements.

By default, the basic settings use class B for basic repeater functionality.

Selecting processing for remote zones in alarm

Select the setting to process (or not process) remote zones in alarm (nP).

This setting lets you decide whether the control panel enters alarm and reacts accordingly or not, with any remote zone outside its range of zones. This option lets you:

- Create large conventional systems (e.g. 10, 12, 16 or more zones) where each node has different global zones to indicate only the local zone in alarm
- Create systems where alarm indications have to be local to the panel (nP should be inactive)

By default, process remote zone alarms (nP) is active (ON).

Specify the firenet repeater type

Select the firenet repeater type setting (nr) if you want to use the repeater to display panel status instead of zone status information. (nr = Pn).

When the control panel is configured to repeat the status of other panels, the zone indications display global panel status information: the red zone LED will indicate the panel ID in the network is in alarm (automatic or manual) and the yellow zone LED will indicate the panel ID is in fault, disable or test.

By default, zone repeaters are used (nr = 2n)

Select remote output control

Set firenet remote output control (nO) ON if you want an addressable compatible control panel in the fire network to command the outputs of the conventional panel (sounders, fire routing, fault warning output, and expansion board outputs) with advanced programming options.

Consult the addressable control panel documentation (including its configuration utility software) if you require this type of advanced configuration.

If the control panel is configured for remote output control, it will no longer activate outputs based on its own logic and will only activate outputs with commands coming from the fire network.

This mode of operation is fail-safe i.e. if the control panel detects a fire network fault, the outputs will activate with the local logic or the remote commands.

By default, firenet remote output control is off for standalone applications or pure conventional fire networks where the control panel controls its outputs.

Commissioning

Before commissioning the control panel

Before commissioning the control panel, make sure that:

- The control panel has been correctly installed
- The mains power is 110 VAC or 230 VAC, is connected correctly, and complies with all requirements described in “Connecting the mains power supply” on page 18
- There are no short or open circuits in any of the zone circuits
- All zones have the correct end-of-line termination, as described in “Terminating zones” on page 11
- All manual call points have the correct resistance for alarm identification, as described in “Connecting manual call points” on page 12
- Polarity is observed for all sounder circuits and that all end-of-line resistors are installed, as described in “Connecting sounders or other notification devices to supervised outputs” on page 16
- Any optional equipment installed (fire routing, alarm, and fault relays, etc.) is correctly connected
- The batteries are connected correctly, and comply with all requirements described in “Connecting the batteries” on page 20
- All fire alarm and evacuation system configuration complies with the corresponding operating mode and local regulations

Commissioning the control panel

Once all installation, connection, and configuration requirements have been checked as described above, the control panel can be powered up.

Normal startup

After starting up the control panel, normal status (standby) is indicated as follows:

- The Supply LED is steady
- The Fire Routing Delay LED is steady (if a delay has been enabled)

If any other indicators are on, check your installation thoroughly before proceeding.

Fault startup

In accordance with EN 54-2, the control panel has a special startup sequence used after an internal fault has been detected by the control panel.

This is indicated as follows:

- The General Fault LED flashes fast
- The System Fault LED flashes slow

When this happens:

1. Enter the Operator user level password.
2. Press the Reset button to reset the control panel.

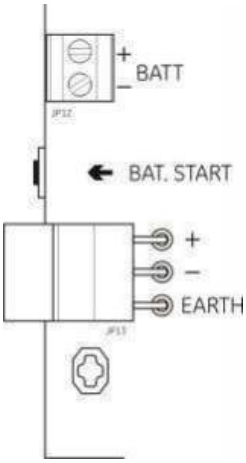
If the fault status persists after reset, the control panel aborts the startup sequence and turns on the System Fault LED.

When this happens, check all control panel connections and configuration, as described in “Before commissioning the control panel” on page 63.

Battery startup

To power up the control panel from the batteries, press the battery start button on the control panel PCB (marked as BAT. START, see Figure 19 below). Keep the button pressed for approximately 5 seconds.

Figure 19: Battery startup button



Functional tests

Create a short and open circuit in the zone to test fault reporting for each.

Activate a manual call point to test manual alarm reporting. The control panel should override any configured delays and activate alarm notification devices and fire routing (where applicable) immediately.

Activate a detector to test automatic alarm reporting. The control panel should initiate any configured delays and activate alarm notification devices and fire routing (where applicable) once the delay time has elapsed.

Using a multimeter, verify that the fault relay is activated when a fault is reported and that the alarm relay is activated when an alarm is reported.

Activate all sounders by pressing the All Sounders Start button and the Confirm button to test evacuation alarm reporting.

Response times

Response times for standard events are as follows.

Table 24: Response times for standard events

Event	Response time
Alarm	Less than 3 seconds
Zone fault	Less than 30 seconds
Sounder fault	Less than 30 seconds
Fire routing fault	Less than 30 seconds
Expansion board fault	Less than 100 seconds
Network fault	Less than 100 seconds
Earth fault	Less than 100 seconds
Battery charger fault	Less than 100 seconds
No batteries found fault	Less than 3 minutes
Mains fault	Less than 3 minutes
Out of service fault	Less than 100 seconds
Fuse/protection fault	Less than 3 minutes
System fault	Less than 100 seconds
Battery high resistance fault	Less than 4 hours

Chapter 4
Maintenance

Summary

This chapter includes information on fire alarm and evacuation system maintenance and battery maintenance.

Content

System maintenance 68
- Quarterly maintenance 68
- Annual maintenance 68
- Cleaning the control panel 68

Battery maintenance 69

System maintenance

Perform the following maintenance tasks to ensure that the fire alarm and evacuation system works correctly and complies with all required European regulations.

Note: Before performing any tests, ensure that fire routing (if configured) is disabled or that the fire brigade has been notified.

Quarterly maintenance

Test at least one device per zone and verify that the control panel responds to all fault and alarm events. The control panel power supply and battery voltage should be checked.

Annual maintenance

Test all system devices and verify that the control panel responds to all fault and alarm events. All electrical connections must be visually inspected to make sure that they are securely fastened, that they have not been damaged, and that they are appropriately protected.

Cleaning the control panel

Keep the outside and inside of the control panel clean. Carry out periodic cleaning using a damp cloth for the outside. Do not use products containing solvents to clean the control panel. Do not clean the inside of the cabinet with liquid products.

Battery maintenance

Compatible batteries

The control panel requires two 12V, 7.2 or 12 Ah rechargeable sealed lead-acid batteries. Compatible batteries for this product are:

- BS127N-A (7.2 Ah)
- BS130N (12 Ah)
- Fiamm FG20721/2 (7.2 Ah)
- Fiamm FG21201/2 (12 Ah)
- Yuasa NP7-12 (7.0 Ah)
- Yuasa NP12-12 (12 Ah)

Troubleshooting batteries

Battery supply and battery fuse faults are indicated by a flashing Supply Fault LED. If this LED is flashing, check the following:

- That the battery cables are in good condition
- That the battery cables are connected securely and correctly at the battery and at the control panel PCB

If the cables are in good condition and all connections are correct, then the batteries should be replaced immediately.

Replacing batteries

Batteries must be replaced periodically as recommended by the battery manufacturer. The useful life of the battery is approximately four years. Avoid the total discharge of the batteries. Always use the recommended replacement batteries.

To replace the batteries:

1. Disconnect and remove the existing batteries from the cabinet.
2. Install and connect the replacement batteries using the bridge provided. Observe correct polarity.
3. Dispose of the batteries as required by local or regional regulations.

Chapter 5
Technical specifications

Summary

This chapter includes technical specifications for your fire alarm and evacuation control panel.

Content

Zone specifications 72
Input and output specifications 73
Power supply specifications 75
Mechanical and environmental specifications 76
Fire network specifications 76
Cabinet drawings and dimensions 77

Zone specifications

Table 25: General zone specifications

Zone circuit output voltage	
Nominal	22 VDC
Maximum	24 VDC
Minimum	18 VDC
Maximum current consumption per zone circuit	65 mA
Default zone circuit configuration	Passive end-of-line
Zone circuit termination	
NEN 2575	4.7 kΩ end-of-line resistor Active end-of-line device
EN 54-13	EOL-Z end-of-line device
Intrinsically safe	4.7 kΩ end-of-line resistor
Number of detectors per zone circuit	
Aritech Dx700 series	20 max.
Other detectors [1]	32 max. [2][3]
Number of manual call points per zone circuit	32 max. [4]

[1] Systems using other detectors are not EN 54-13 compliant.
[2] Or as defined by local standards.
[3] Provided that the detectors meet the required zone specifications given here.
[4] Figures based on EN 54-2. The maximum number of devices may differ for other standards.

Table 26: Mixed zone specifications [1]

Max. resistance per zone circuit	40 Ω
Max. capacitance per zone circuit	500 nF
Nominal impedance	
Detector	160 Ω to 680 Ω ±5%
Manual call point	100 Ω ±5%
Detector alarm reference range	
Zone voltage	6.5 V to 14 V
Zone impedance	145 Ω to 680 Ω
Manual call point alarm reference range	
Zone voltage	3 V to 6.5 V
Zone impedance	75 Ω to 144 Ω
Short circuit reference range	
Zone voltage	< 3 V
Zone impedance	< 55 Ω
Open circuit reference range	
Zone impedance	> 8 kΩ
Zone device current consumption	≤ 2.6 mA

[1] Mixed zones are not allowed on installations requiring EN 54-13 compliance or intrinsically-safe zones

Table 27: Automatic and manual zone specifications

	Standard / active end-of-line	**EN 54-13**	**Intrinsically safe** [1]
Resistance per zone circuit	55 Ω max.	50 Ω max.	55 Ω max.
Capacitance per zone circuit	500 nF max.	500 nF max.	500 nF max.
Nominal alarm impedance	100 to 680 Ω ±5%	100 to 520 Ω ±5%	250 to 560 Ω ±5%
Alarm reference range			
Zone voltage	3 to 14 V	3.1 to 16.9 V	12.8 to 17 V
Zone impedance	75 to 680 Ω	90 to 900 Ω	160 to 900 Ω
Short circuit reference range			
Zone voltage	< 3 V	< 3.1V	< 11.9 V
Zone impedance	< 55 Ω	< 50 Ω	< 80 Ω
Open circuit reference range			
Zone impedance	> 8 kΩ	N/A	> 11 kΩ
Zone device current draw	≤ 2.6 mA	N/A	< 1.81 mA
Zone voltage	20.6 to 23.5 V	19.2 to 23.5 V	> 21.3 V
High impedance fault	N/A	16.9 to 17.2 V	N/A

[1] Values are referenced to the IS zone input terminals

Input and output specifications

Table 28: Unsupervised inputs

Cable resistance	
Activation input value	≤ 9k Ω ±10%
Deactivation input value	> 9k Ω ±10%
Input type	Unsupervised, activated with a passive impedance (usually a relay contact)
Sourced current	1 mA max. (for activation with short circuit contact)
Voltage between terminals	28 V max. (for deactivation with open circuit)

Table 29: Supervised inputs [1]

Cable resistance	
Short circuit	≤ 220 Ω
Active [2]	< 220 Ω to 8 kΩ
High-impedance fault	< 8 kΩ to 10 kΩ
Standby	< 10 kΩ to 20 kΩ
Open circuit	> 20 kΩ
Sourced current	1 mA max. (for activation with short-circuit contact)
Voltage between terminals	28 V max. (for deactivation with open circuit)

[1] Fire routing acknowledgement inputs
[2] For EN 54-13 compliance, the active impedance should be from 220 Ω to 3.9 kΩ

Table 30: Output specifications

Output termination	
Class B outputs (default)	15 kΩ 5% end-of-line resistor
Class A outputs	4.7 kΩ 1/4W 1% end-of-line resistor
Sounder/fire routing/fault warning outputs [1]	
Supervised	For open and short circuit
Current per output	500 mA max. at 25ºC 385 mA max. at 40ºC
Voltage in standby (EN 54-13 disabled)	−11.5 VDC max.
Voltage in standby (EN 54-13 enabled)	−8.4 VDC max.
Voltage in alarm	+21 VDC min. +28 VDC max.
Alarm relay output	
Number of potential-free outputs	1
Commutation current	2 A at 30 VDC max.
Fault relay output	
Number of potential-free outputs	1
Commutation current	2 A at 30 VDC max.
Default state	Energized (fail to safe)
Auxiliary 24 VDC output	
Voltage	24 VDC nominal 28 VDC max. 21 VDC min.
Current	250 mA max.

[1] The number of available outputs depends on the control panel model, supervision type, and operating mode. See “Operating mode presets” on page 80 for more information.

Power supply specifications

Table 31: Mains supply specifications

Operating voltage	110 VAC / 60 Hz or 230 VAC / 50 Hz
Rated current 110 VAC 230 VAC	 3.15 A 1.5 A
Voltage tolerance	+10% / −15%
Mains fuse 110 VAC 230 VAC	 T 3.15A 250V T 2A 250V

Table 32: 24 VDC power supply specifications

DC voltage	24 V
Rated current	4 A
Current range	0 to 4 A
Rated power	100 W
Voltage tolerance	±2%

Table 33: Batteries and battery charger specifications

Battery rating	2X 7.2 Ah or 2X 12 Ah
Battery type	Sealed lead-acid
Battery charger voltage	27.3 V at 20ºC −36 mV/ºC
Battery charger current	0.7 A max.
Out of service voltage level	< 22.75 V
No operation voltage level	< 21 V
Battery internal resistance (Ri max.)	0.5 Ω

Table 34: Control panel current consumption specifications (EN 54-4) [1]

Min. current consumption (Imin) [2]	0.069 A
Max. current consumption in standby (Imax a)	0.39 A
Max. current consumption in alarm (Imax b)	2.78 A

[1] With a single power source.
[2] No faults, no battery charging, with standard resistive EOL.

Mechanical and environmental specifications

Table 35: Mechanical specifications

Cabinet dimensions (no cover)	421 × 100 × 447 mm
Weight without batteries	3.9 kg
Number of cable knockouts	20X Ø 20 mm at top of cabinet 2X Ø 20 mm at bottom of cabinet 26X Ø 20 mm at rear of cabinet
IP rating	IP30

Table 36: Environmental specifications

Operating temperature Storage temperature	−5 to +40ºC −20 to +70ºC
Relative humidity	10 to 95% noncondensing
Type class conditions	3K5 of IEC 60721-3-3

For detailed cabinet drawings and dimensions, see “Cabinet drawings and dimensions” on page 77.

Fire network specifications

Table 37: Fire network specifications

Maximum distance between control panels	1.2 km
Maximum capacity	32 nodes and 64 zones
Communication protocol	Proprietary peer-to-peer protocol based on RS-485

Cabinet drawings and dimensions

Figure 20: Cabinet with cover

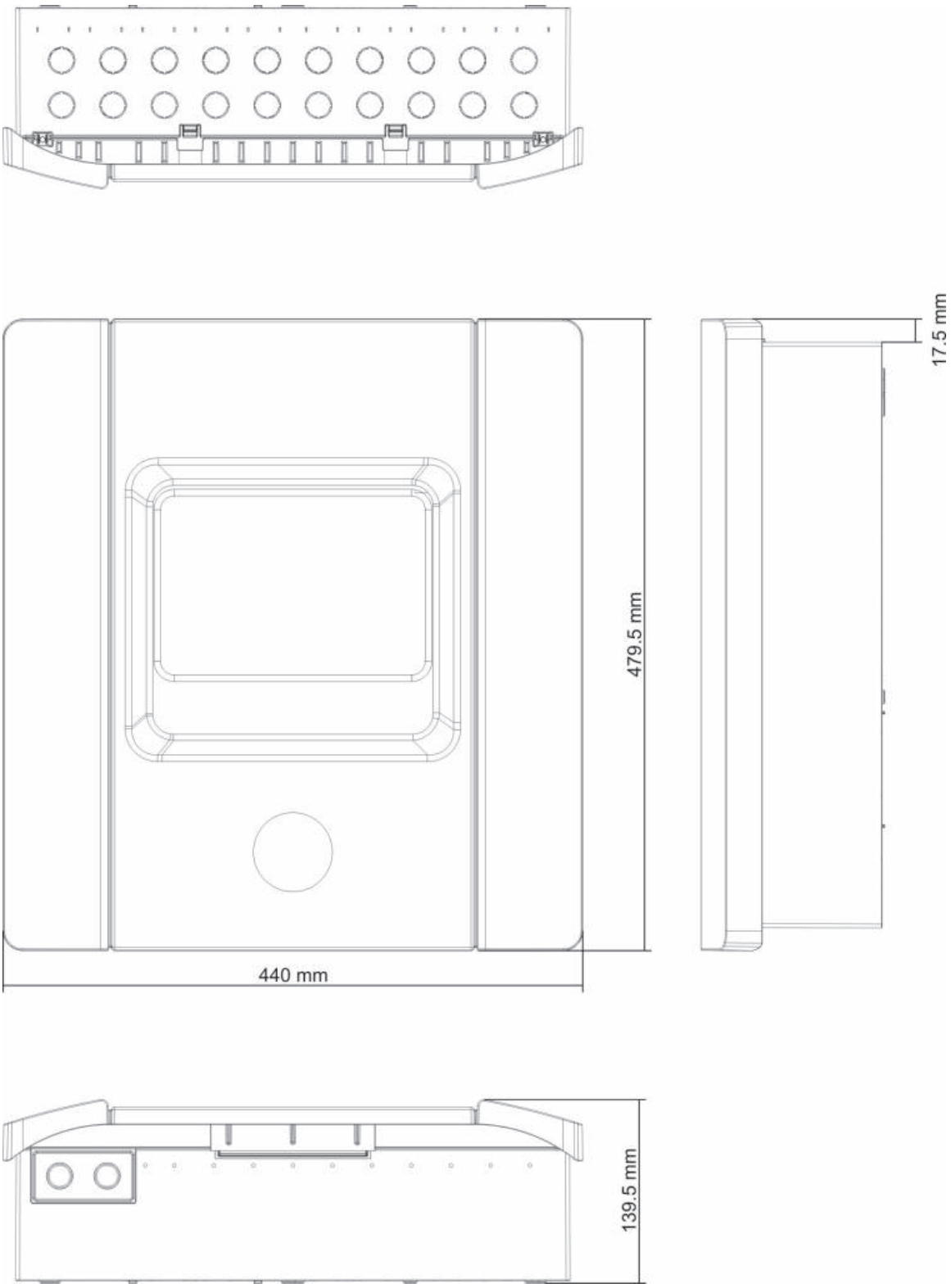
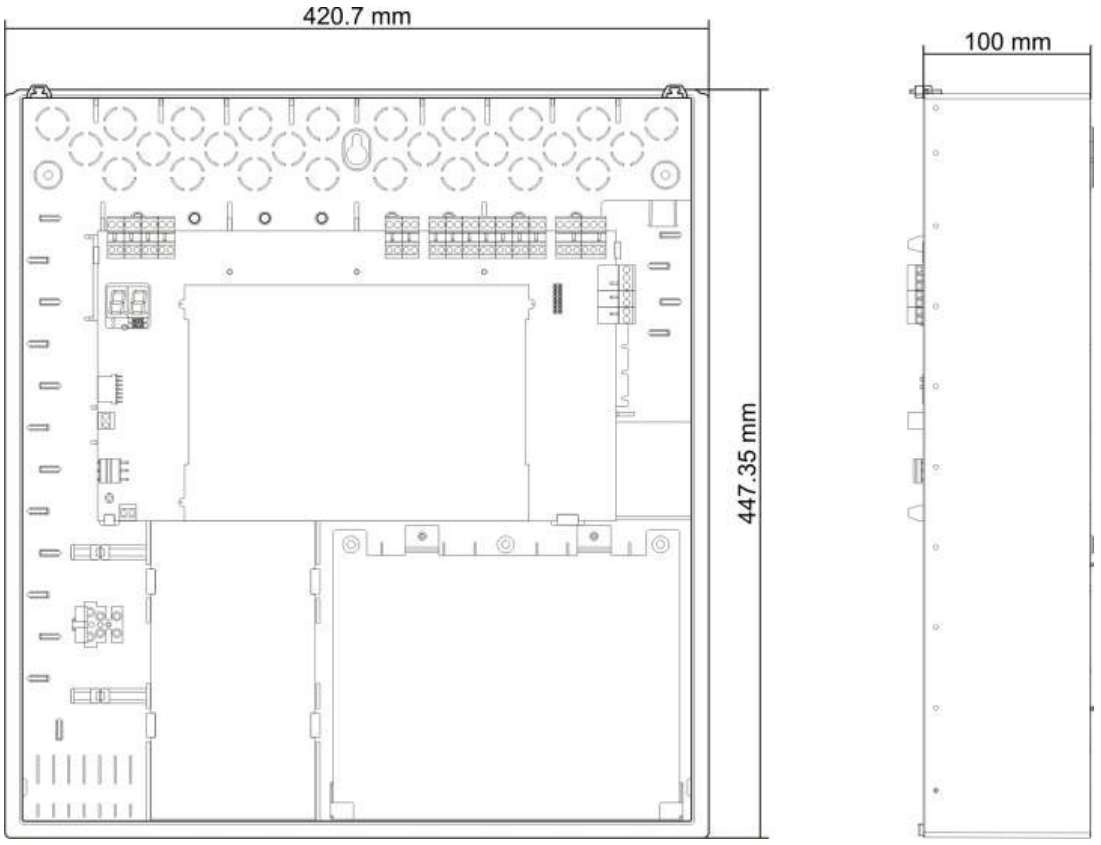


Figure 21: Cabinet without cover



Appendix A
Configuration presets

Summary

This appendix includes detailed information on operating mode and expansion board configuration presets.

Content

Operating mode presets 80
- NEN 2575 4E presets 80
- NEN 2575 2E presets 81
- NEN 2575 1E presets 81
- Additional configuration characteristics 82

Expansion board presets 82

Operating mode presets

NEN 2575 4E presets

Table 38: Configuration presets

Preset	41
Control panel	Four evacuation areas
EOL type	Passive
Output type	Class B
Evacuation sounder outputs	4
Fire routing outputs	2
Zone type	Odd: Automatic Even: Manual

Table 39: Inputs and outputs

Input/Output	**Standard**	**EN 54-13** [1]
INPUT1	Fire routing inhibit delay	Fire routing acknowledge type
INPUT2	Delays off	Fault warning open supervision
OUT1	Sounder circuit (activated by a fire alarm in zone 1)	Sounder circuit (activated by a fire alarm in zone 1)
OUT2	Sounder circuit (activated by a fire alarm in zone 2)	
OUT3	Sounder circuit (activated by a fire alarm in zone 3)	Sounder circuit (activated by a fire alarm in zone 2)
OUT4	Sounder circuit (activated by a fire alarm in zone 4)	
OUT5	Fire routing (activated by a automatic fire alarm device)	Fire routing (activated by automatic or manual fire alarm device)
OUT6	Fire routing (activated by a manual fire alarm device)	

[1] In this mode, EN 54-13 requires an additional 2010-1SB expansion board, configured with four separate outputs. An alarm in zone 3 will activate output 1 and output 2. An alarm in zone 4 will activate output 3 and output 4.

NEN 2575 2E presets

Table 40: Configuration presets

Preset	43
Control panel	T wo evacuation areas
EOL type	Passive
Output type	Class B
Evacuation sounder outputs	4
Fire routing outputs	3
Zone type	Odd: Automatic Even: Manual

Table 41: Inputs and outputs

Input/Output	Standard	EN 54-13
INPUT1	Fire routing inhibit delay	Fire routing acknowledge type1
INPUT2	Delays off	Fault warning open supervision
OUT1	Sounder circuit (activated by a fire alarm in zone 1 or 2)	Sounder circuit (activated by a fire alarm in zone 1 or 2)
OUT2	Sounder circuit (activated by a fire alarm in zone 1 or 2)	
OUT3	Sounder circuit (activated by a fire alarm in zone 3 or 4)	Sounder circuit (activated by a fire alarm in zone 3 or 4)
OUT 5	Fire routing (activated by a automatic fire alarm device)	Fire routing (activated by automatic or manual fire alarm device)
OUT 6	Fire routing (activated by a manual fire alarm device)	

NEN 2575 1E presets

Table 42: Configuration presets

Preset	45
Control panel	One evacuation area
EOL type	Passive
Output type	Class B
Evacuation sounder outputs	4
Fire routing outputs	2
Zone type	Odd: Automatic Even: Manual

Table 43: Inputs and outputs

Input/Output	Standard	EN 54-13
INPUT1	Fire routing inhibit delay	Fire routing acknowledge type1
INPUT2	Delays off	Fault warning open supervision
OUT1	Sounder circuit (activated by a fire alarm in zone 1 , 2, 3 or 4)	Sounder circuit (activated by a fire alarm in zone 1 , 2, 3, or 4)
OUT2	Sounder circuit (activated by a fire alarm in zone 1 , 2, 3 or 4)	
OUT3	Sounder circuit (activated by a fire alarm in 1 , 2, 3 or 4)	Sounder circuit (activated by a fire alarm in zone 3 or 4)
OUT4	Sounder circuit (activated by a fire alarm in 1 , 2, 3 or 4)	
OUT5	Fire routing (activated by a automatic fire alarm device)	Fire routing (activated by automatic or manual fire alarm device)
OUT6	Fire routing (activated by a manual fire alarm device)	

Additional configuration characteristics

Table 44: Additional configuration characteristics for all presets

Default fire routing delay	01
Default extended fire routing delay	03
Default zone delay	0n
Start/Restart sounders	Start sounders with or without a fire alarm

Note: For EN 54-13 configuration a supervised expansion board is required for fault warning outputs. An additional (optional) supervised expansion board may be installed for individual automatic and manual fire routing outputs.

Expansion board presets

The following tables include the display settings for relay and supervised output expansion board configuration presets.

Table 45: Expansion board zone configuration with EN 54-13 supervision disabled

Display	Zone	Output	Delay
01	1	1	Yes
	2	2	Yes
	3	3	Yes
	4	4	Yes
05	1	1	Yes
		2	Yes
	2	3	Yes
		4	Yes
06	3	1	Yes
		2	Yes
	4	3	Yes
		4	Yes
13	1 or 2	1	Yes
	3 or 4	2	Yes
	5 or 6	3	Yes
	7 or 8	4	Yes
15	1 and 2	1	Yes
	3 and 4	2	Yes
	5 and 6	3	Yes
	7 and 8	4	Yes
17	1, 2, 3, or 4	1	Yes
		2	Yes
	5, 6, 7, or 8	3	Yes
		4	Yes
18	1 and 2	1	Yes
		2	Yes
	3 and 4	3	Yes
		4	Yes
20	1 or 2	1	Yes
		2	Yes
	3 or 4	3	Yes
		4	Yes

Table 46: Expansion board event configuration with EN 54-13 supervision disabled

Display	Event	Output	Delay
24	Alarm	1 to 4	No
25	Fault	1 to 4	No
26	Alarm	1 to 2	No
	Fault	3 to 4	No
27	Alarm	1	No
	Fault	2	No
	Buzzer on	3	No
	Reset	4	No
29	Fault [1]	1 to 4	No
30	Alarm	1 to 2	No
	Fault [1]	3 to 4	No
31	Alarm	1	No
	Fault [1]	2	No
	Buzzer on	3	No
	Reset on	4	No
33	Buzzer on	1	No
		2	No
	Reset on	3	No
		4	No
33	Buzzer on	1	No
		2	No
	Reset on	3	No
		4	No
34 [2]	Fire Routing (Auto)	1	No
		2	No
	Fire routing (Manual)	3	No
		4	No
35 [2]	Fire routing	1	No
		2	No
	Fault warning output [3]	3	No
	Fault [1]	4	No

Display	Event	Output	Delay
36 [4]	Remote RB/SBx.01 output activation [4]	1	No
	Remote RB/SBx.02 output activation [4]	2	No
	Remote RB/SBx.03 output activation [4]	3	No
	Remote RB/SBx.04 output activation [4]	4	No

[1] Fail-safe mode: output is active when there is no fault.
[2] These presets are only available for 2010-1-SB supervised expansion boards.
[3] Fault warning output open supervision (subject to input configuration).
[4] Configuration 36 is only possible when the Network Remote Output Control option (nO) is set and it is then configured by default. RB/SBx is the expansion board x. For evacuation panels, x can be 1, 2, 3 or 4.

Table 47: Expansion board sounder circuit configuration with EN 54-13 supervision disabled [1]

Display	Events	Output	Delay
90	Sounders evacuation output 1	1	No
		2	No
	Sounders evacuation output 2	3	No
		4	No
91	Sounders evacuation output 1	1	No
		2	No
		3	No
		4	No
92	Sounders evacuation output 2	1	No
		2	No
		3	No
		4	No
93	Sounders evacuation output 1	1	No
	Sounders evacuation output 2	2	No
	Sounders evacuation output 3	3	No
	Sounders evacuation output 4	4	No

Display	Events	Output	Delay
94	Sounders evacuation output 3	1	No
		2	No
	Sounders evacuation output 4	3	No
		4	No

[1] Each evacuation area is linked to the respective evacuation area button and LED in the user interface.

Table 48: Expansion board zone configuration with EN 54-13 supervision enabled

Display	Zone	Outputs	Delay
05	1	1 and 2	Yes
	2	3 and 4	Yes
06	3	1 and 2	Yes
	4	3 and 4	Yes
17	1, 2, 3, or 4	1 and 2	Yes
	5, 6, 7, or 8	3 and 4	Yes
18	1 and 2	1 and 2	Yes
	3 and 4	3 and 4	Yes
20	1 or 2	1 and 2	Yes
	3 or 4	3 and 4	Yes

Table 49: Expansion board event configuration with EN 54-13 supervision enabled

Display	Event	Outputs	Delay
24	Alarm	1 and 2	No
		3 and 4	No
25	Fault	1 and 2	No
		3 and 4	No
26	Alarm	1 and 2	No
	Fault	3 and 4	No
29	Fault [1]	1 and 2	No
		3 and 4	No
30	Alarm	1 and 2	No
	Fault [1]	3 and 4	No
33	Buzzer on	1 and 2	No
	Reset on	3 and 4	No

Display	Event	Outputs	Delay
34 [2]	Fire routing (auto)	1 and 2	No
	Fire routing (manual)	3 and 4	No
35 [2]	Fire routing	1 and 2	No
	Fault warning output [3]	3	No
	Fault [5]	4	No
36 [4]	Remote RB/SBx.01-02 output activation	1 and 2	No
	Remote RB/SBx.03-04 output activation	3 and 4	No

[1] Fail-safe mode: output is active when there is no fault.
[2] These presets are only available for 2010-1-SB supervised expansion boards.
[3] Fault warning output open supervision (subject to input configuration).
[4] Configuration 36 is only possible when the Network Remote Output Control option (nO) is set and it is then configured by default. RB/SBx is the expansion board x. For evacuation panels, x can be 1, 2, 3 or 4.
[5] Not compliant to EN 54-13.

Table 50: Expansion board sounder circuit configuration with EN 54-13 supervision enabled [1]

Display	Events	Output	Delay
90	Sounders evacuation output 1	1 and 2	No
	Sounders evacuation output 2	3 and 4	No
91	Sounders evacuation output	1	No
		2	No
		3	No
		4	No
92	Sounders evacuation output 2	1	No
		2	No
		3	No
		4	No
94	Sounders evacuation output 3	1	No
		2	No
	Sounders evacuation output 4	3	No
		4	No

[1] Each evacuation area is linked to a respective indication, button and functionality in the user interface

Appendix B
Regulatory information

Summary

This appendix contains regulatory information that applies to your control panel.

Content

European standards 90
European regulations for construction products 91

European standards

European standards for fire control and indicating equipment

The 1X-E4 Series fire and evacuation control panels have been designed in accordance with European EN 54-2, EN 54-4, and NEN 2575 standards.

In addition, all models comply with the following EN 54-2 optional requirements.

Table 51: EN 54-2 optional requirements

Option	Description
7.8	Output to fire alarm devices [1]
7.9.1	Output to fire alarm routing equipment
7.9.2	Alarm confirmation input from fire alarm routing equipment
7.11	Delays to outputs
7.13	Alarm counter [2]
8.4	Total loss of the power supply
8.9	Output to fault warning routing equipment [3]
10	Test condition

[1] Inputs and outputs on the optional 2010-1-SB expansion board do not support the optional requirement of EN 54-2 clause 7.8 and should not to be used for fire alarm devices.
[2] Applies only to models with the suffix NL.
[3] NEN 2575 with EN 54-13 supervision operating mode only

European standards for electrical safety and electromagnetic compatibility

These control panels have been designed in accordance with the following European standards for electrical safety and electromagnetic compatibility:

- EN 62368-1
- EN 50130-4
- EN 61000-6-3
- EN 61000-3-2
- EN 61000-3-3

EN 54-13 European compatibility assessment of system components

These control panels form part of a certified system as described by the EN 54-13 Standard when installed and configured for EN 54-13 operation as described by the manufacturer in the corresponding installation documentation.

Contact your installation or maintenance contractor to determine whether your fire alarm and evacuation system is compliant with this standard.

European regulations for construction products

This section provides a summary on the declared performance according to the Construction Products Regulation (EU) 305/2011 and Delegated Regulations (EU) 157/2014 and (EU) 574/2014.

For detailed information, see the product Declaration of Performance (available at firesecurityproducts.com).

Conformity	CE UKCA
Notified/Approved body	2831 0832
Manufacturer	KGS Electronics Sp. z.o.o. Ul. Kolejowa 24. 39-100 Ropczyce, Poland. Authorized EU manufacturing representative: KGS Fire & Security B.V., Kelvinstraat 7, 6003 DH Weert, Netherlands.
Year of first CE marking	19
Year of first UKCA marking	22
Declaration of Performance number	360-3100-1099
Product identification	See model number on product identification label
Intended use	See the product Declaration of Performance
Declared performance	See the product Declaration of Performance

Index

A

adding a fire network board, 39
adding an expansion board, 53
adding expansion boards, 39
advanced configuration, 40
advanced configuration menu, 40
advanced configuration options, 59
advanced installer user, 26
advisory messages, iii
annual maintenance, 68
auxiliary 24 V reset, 50

B

basic configuration, 32
basic configuration menu, 32
basic configuration options, 57
basic default configuration, 34
basic installer user, 26
battery maintenance, 69
battery startup, 65
before commissioning the control panel, 63
bus configuration, 22

C

cabinet drawings and dimensions, 77
cabinet installation, 5
cabinet layout, 4
changing user level passwords, 49
cleaning the control panel, 68
commissioning, 63
commissioning the control panel, 64
common configuration tasks, 30
compatible batteries, 69
configuration controls, 28
configuration overview, 28
configuring firenet and repeater maps, 60
connecting a fire network, 21
connecting alarm and fault relays, 21
connecting detectors, 12
connecting expansion boards, 21
connecting fire routing equipment to supervised outputs, 17
connecting inputs, 13
connecting manual call points, 12
connecting sounders or other notification devices to supervised outputs, 16
connecting supervised inputs, 14
connecting supervised outputs, 15
connecting the batteries, 20
connecting the fault warning output to external equipment, 17
connecting the mains power supply, 18
connecting unsupervised inputs, 13
connecting zones, 11
connecting zones and zone devices, 11
connections, 8
custom operating mode, 36

E

EN 54-13 supervision mode, 35
European regulations for construction products, 91
European standards, 90
expansion board configuration, 53
expansion board function, 54
expansion board function and delay configuration, 53
expansion board labels, 53
expansion board output delay, 55
expansion board presets, 82
extended fire routing delay, 38
extended fire routing delay operation, 38

F

Fault Output Fault/Disabled LED, 7
fault startup, 64
fire network and repeaters configuration, 56
fire network specifications, 76
fire routing delay, 37
fire routing delay operation, 37
fixing the cabinet to the wall, 6
functional tests, 66

I

important information, ii
input and output specifications, 73
input configuration, 47
input functionality, 13

L

limitation of liability, ii

M

mechanical and environmental specifications, 76
menu inserts, 7

N

NEN 2575 1E presets, 81
NEN 2575 2E presets, 81
NEN 2575 4E presets, 80
normal startup, 64

O

operating mode presets, 80
operating modes, 2
operator user, 26
output class, 15
output functionality, 15
output polarity, 16
output termination, 16
overview of system connections, 9

P

panel mode, 36
power supply specifications, 75
powering auxiliary equipment, 20
preparing the cabinet, 5
product compatibility, 2
product range, 2
public user, 26

Q

quarterly maintenance, 68

R

recommended cables, 8
replacing batteries, 69
response times, 66
ring configuration, 22

S

select remote output control, 62
selecting 115 or 230 VAC operation, 19
selecting control panel commands, 61
selecting processing for remote zones in alarm, 62
selecting the loop class, 62
Service Detector LED, 7
seven-segment display, 29
software compatibility, ii
software, configuration, and serial number information, 51
sounder operation during a zone test, 42
sounder re-sound, 43
specify the firenet repeater type, 62
system maintenance, 68

T

terminating zones, 11
troubleshooting batteries, 69

U

user interface, 25
user interface for evacuation control panels, 25
user level passwords and indications, 27
user levels, 26

V

visual indications for current value and selected value, 31

W

where to install the cabinet, 5

Z

zone configuration, 44
zone delay, 45
zone specifications, 72
zone type, 46