ARITECH

2X-F Series Fire Alarm Control Panel Installation Manual

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Version This document covers control panels with firmware version 2.0 or later.

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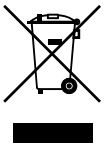
European Union directives 1999/5/EC (R&TTE directive): Hereby, UTC Fire & Security declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.



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Contact information For contact information, see www.utcfireandsecurity.com.

Content

Important information

Introduction

This is the installation manual for the 2X-F Series Fire Alarm Control Panels. Read these instructions and all related documentation entirely before installing or operating this product.

Firmware compatibility

Information in this document covers control panels with firmware version 2.0 or later. This document must not be used as a guide to installation, configuration, or operation of control panels with an earlier firmware version.

To check the firmware version of your control panel, see the Revision report in the Reports menu.

Limitation of liability

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

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.

Chapter 1
Introduction

Summary

This chapter provides an introduction to your control panel, the main controls, and the indicators.

Content

Product range

Fire alarm and repeater panels

The series includes the control panels shown below.

Table 1: Fire alarm and repeater panels

Model	Cabinet size [1]	Description
2X-F1	Large	One-loop addressable fire alarm control panel
2X-F1-S	Small	
2X-F1-FB	Large	One-loop addressable fire alarm control panel with fire routing and fire protection controls
2X-F1-FB-S	Small	
2X-F1-SC	Large	One-loop addressable fire alarm control panel with fire routing and fire protection controls [2]
2X-F1-SC-S	Small	
2X-F2	Large	Two-loop addressable fire alarm control panel
2X-F2-S	Small	
2X-F2-FB	Large	Two-loop addressable fire alarm control panel with fire routing and fire protection controls
2X-F2-FB-S	Small	
2X-F2-SC	Large	Two-loop addressable fire alarm control panel with fire routing and fire protection controls [2]
2X-F2-SC-S	Small	
2X-FR	Large	Addressable fire alarm repeater panel
2X-FR-S	Small	
2X-FR-FB	Large	Addressable fire alarm repeater panel with fire routing and fire protection controls
2X-FR-FB-S	Small	
2X-FR-SC	Large	Addressable fire alarm repeater panel with fire routing and fire protection controls [2]
2X-FR-SC-S	Small	

[1] See Chapter 5 “Technical specifications” on page 91 for cabinet dimensions
[2] Includes a fireman's key

Repeater functionality

All control panels in a fire network can be configured for repeater functionality. This includes fire alarm control panels, provided that they have a network board installed. For more information, see “Firenet configuration” on page 50.

Fire routing and fire protection control and indication

In this document, information on control and indication for fire routing and fire protection applies only to control panels that include those features.

Product compatibility

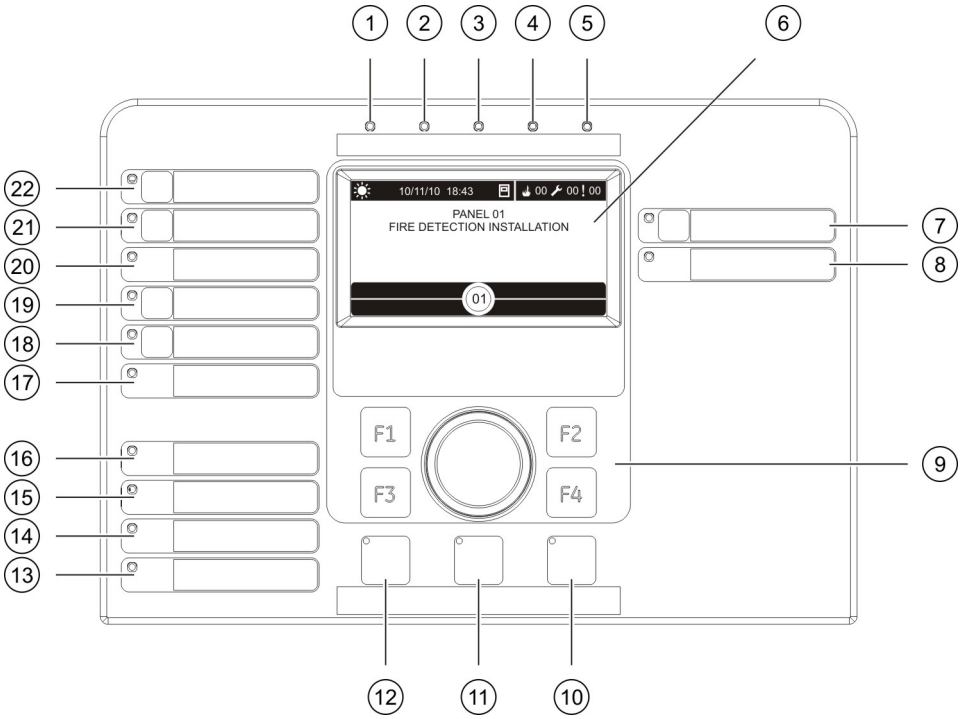
Products compatible with these control panels are listed in the supplied compatibility list. Only those products specified in the compatibility list are guaranteed to be compatible with these control panels. For further details contact your local supplier.

Control panel overview

This topic provides an introduction to the control panel user interface, LCD, operator controls, and indicators.

The user interface

Figure 1: The control panel user interface (with fire routing and fire protection controls)



1. Supply LED
2. General Test LED
3. General Disable LED
4. General Fault LED
5. Alarm LED
6. LCD
7. Sounder Delay button and LED
8. Sounder Fault/Disabled/Test LED
9. Jog dial and function buttons
10. Reset button and LED
11. Panel Silence button and LED
12. Sounder Start/Stop Button and LED
13. System Fault LED
14. Low Battery LED
15. Earth Fault LED
16. Supply Fault LED
17. Fire Protection Fault/Disabled/Test LED
18. Fire Protection Delay button and LED
19. Fire Protection On/Acknowledged button and LED
20. Fire Routing Fault/Disabled/Test LED
21. Fire Routing Delay button and LED
22. Fire Routing On/Acknowledged button and LED

For a detailed overview of front panel controls and indicators, see “Front panel controls and indicators” on page 5.

Front panel controls and indicators

The following table gives an overview of the front panel controls and indicators.

Operational features described here are not available to all users. More information on control panel operation and access restrictions can be found in the topic “User levels” on page 30.

Table 2: Front panel controls and indicators

Control/LED	LED colour	Description
Supply LED	Green	Indicates that the system is powered up.
General Test LED	Yellow	Indicates that one or more features or devices are being tested.
General Disable LED	Yellow	Indicates that one or more features or devices are disabled.
General Fault LED	Yellow	Indicates a general fault. The fault LED for the corresponding device or feature also flashes.
Alarm LED	Red	Indicates a fire alarm. A flashing LED indicates that the alarm was activated by a detector. A steady LED indicates that the alarm was activated by a manual call point.
Fire Routing On/Acknowledged button and LED	Red	Cancels a previously configured delay as it counts down and activates fire routing. A flashing LED indicates that fire routing has been activated. A steady LED indicates that the fire routing signal has been acknowledged by the remote monitoring equipment.
Fire Routing Delay button and LED	Yellow	Enables or disables a previously configured fire routing delay. Cancels a delay as it counts down and activates fire routing. A steady LED indicates that a delay is configured and enabled. A flashing LED indicates that a delay is counting (fire routing is activated when the configured delay elapses or when the delay is cancelled).
Fire Routing Fault/Disabled/Test LED	Yellow	Indicates a fire routing fault, disablement, or test. A flashing LED indicates a fault. A steady LED indicates a disablement or a test.
Fire Protection On/Acknowledged button and LED	Red	Cancels a previously configured delay as it counts down and activates fire protection. A flashing LED indicates that fire protection has been activated. A steady LED indicates that the fire protection signal has been acknowledged by the remote monitoring equipment.

Control/LED	LED colour	Description
Fire Protection Delay button and LED	Yellow	Enables or disables a previously configured fire protection delay. Cancels a delay as it counts down and activates fire protection. A steady LED indicates that a delay is configured and enabled. A flashing LED indicates that a delay is counting (fire protection is activated when the configured delay elapses or when the delay is cancelled).
Fire Protection Fault/Disabled/Test LED	Yellow	Indicates a fire protection fault, disablement, or test. A flashing LED indicates a fault. A steady LED indicates a disablement or a test.
Sounder Delay button and LED	Yellow	Enables or disables a previously configured sounder delay. Cancels a delay as it counts down and activates sounders. A steady LED indicates that a sounder delay is configured and enabled. A flashing LED indicates a delay is counting (sounders are activated when the configured delay elapses or when the delay is cancelled).
Sounder Fault/Disabled/Test LED	Yellow	Indicates a sounder fault, disablement, or test. A flashing LED indicates a fault. A steady LED indicates a disablement or a test.
Supply Fault LED	Yellow	Indicates a power supply fault. A flashing LED indicates a battery fault. A steady LED indicates a mains or mains fuse fault.
Earth Fault LED	Yellow	Indicates an earth isolation fault.
Low Battery LED	Yellow	Indicates that the control panel is running on battery power and that the remaining charge may be insufficient to guarantee continued operation.
System Fault LED	Yellow	Indicates a control panel system failure.
Sounder Start/Stop button and LED	Red	The LED indicates what happens when the button is pressed: If the LED is on (flashing or steady), pressing the button silences the sounders. If the LED is off, pressing the button activates the sounders (if the control panel status and operating mode allow manual activation of sounders). The LED also indicates the status of the sounders: • Steady indicates that sounders are active (or will be activated shortly) • Flashing indicates that a delay is counting (sounders are activated when the configured delay elapses or when the delay is cancelled) • Off indicates that the sounders are off (or will be deactivated shortly)

Control/LED	LED colour	Description
		Notes To prevent the immediate silencing of sounders when an alarm is first reported, the Sounder Start/Stop button may be temporarily blocked when a configured sounder delay is counting down. For more information, see “Sounders silence disable time” on page 81. Depending on the size of the installation, processing commands to start or stop sounders may take a few seconds to travel through the system. This is why, for example, the LED may be steady but sounders may not initially be audible.
Panel Silence button and LED	Yellow	Silences the control panel buzzer. A steady LED indicates that the buzzer has been silenced.
Reset button and LED	Yellow	Resets the control panel and clears all current system events. A steady LED indicates that the control panel can be reset in the current user level.

Output group LED indications

The control panel can be configured to have several sounder, fire routing, or fire protection output groups. Some groups may use the same indicators. When such groups have the same status, that status is indicated. In the case of conflicting status, the highest priority status is displayed.

The following examples illustrate this operation.

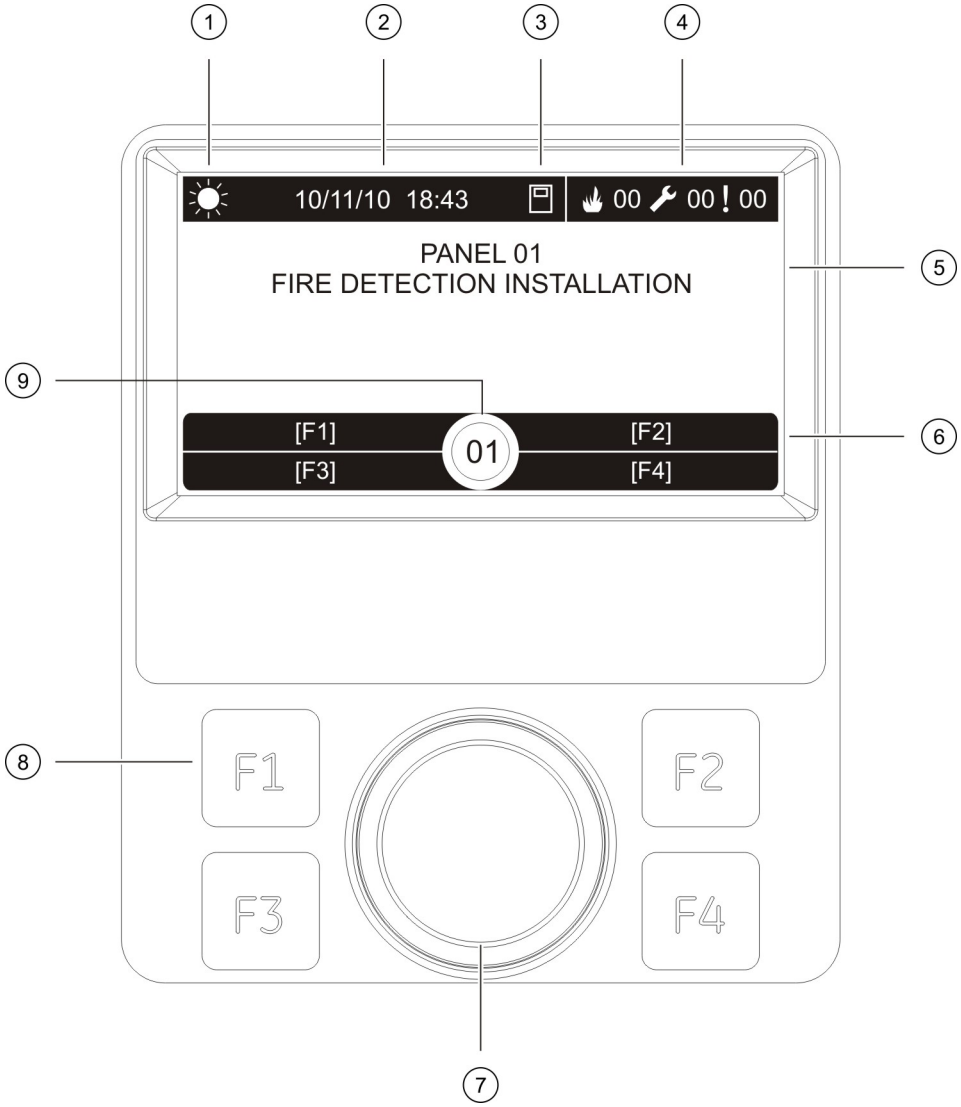
There are three sounder output groups, the first in fault status, the second in delayed status, and the third in activated status. The sounder indications display the fault status of the first group, the delay status of the second group, and the activated status of the third group.

There are two fire routing output groups, the first is in activated status and the second is in acknowledged status. The fire routing indication displays the acknowledged status but not the activation status (the acknowledgement status takes priority).

For more information on output groups, see “Output groups” on page 71.

LCD controls and indicators

Figure 2: LCD controls and indicators



1. Day/night mode indicator
2. System date and time
3. Control panel network status (stand-alone, networked, repeater)
4. Current alarm, fault, and condition events counter
5. Message display area
6. Soft keys (menu options linked to function buttons F1, F2, F3, and F4)
7. Jog dial
8. Function buttons F1, F2, F3, and F4
9. Local control panel ID (in a fire network)

Icons displayed on the LCD

Icons displayed on the LCD are shown below.

Table 3: LCD icons and descriptions

Icon		Description
	Day mode (network)	This icon indicates that the primary sensitivity mode setting for control panels in the fire network is day mode.
	Day mode (control panel)	This icon indicates that the sensitivity mode for the local control panel is day mode. Other control panels in the fire network may have a different sensitivity mode setting.
	Night mode (network)	This icon indicates that the primary sensitivity mode setting for control panels in the fire network is night mode.
	Night mode (control panel)	This icon indicates that the sensitivity mode for the local control panel is night mode. Other control panels in the fire network may have a different sensitivity mode setting.
	Fire alarms	The number beside this icon indicates the number of zones with an active fire alarm. Alarm information for the first and last zones to report an alarm is displayed in the LCD message area.
	Faults	The number beside this icon indicates the number of active faults. Additional information is available by pressing F1 (Show Events).
	Conditions	The number beside this icon indicates the number of active system conditions. Additional information is available by pressing F1 (Show Events). For more information on system conditions, see “Summary of conditions” on page 10.
	Stand-alone	This icon indicates that the control panel is not connected to the fire network.
	Networked	This icon indicates that the control panel is connected to the fire network.
	Repeater	This icon indicates that the control panel is configured to operate as a repeater and is connected to the fire network.
	Detector alarm [1]	This icon indicates that the system has detected a detector alarm.
	Manual call point alarm [1]	This icon indicates that the system has detected a manual call point alarm.

[1] These icons appear in the message display area with the notification details.

Indication of remote and local events on the LCD

The local control panel ID is always displayed on the LCD (see Figure 2 on page 8).

If your control panel forms part of a fire network, the event notification includes the panel ID reporting the event as follows:

- If the panel ID matches the local ID, then the event relates to the local control panel
- If the panel ID does not match the local ID, then the event is reported by the remote control panel with the panel ID indicated

Repeater panels are installed only in fire networks and by default have a network board installed. Fire alarm control panels must have a network board installed to connect to a fire network.

Acoustic indicators

The control panel buzzer acts as an acoustic indicator to highlight system events.

Table 4: Panel buzzer tones

Indication	Description
The buzzer sounds continuously	Indicates a fire alarm or a system fault
The buzzer sounds intermittently (long tone) [1]	Indicates all other faults
The buzzer sounds intermittently (short tone) [1]	Indicates a condition

[1] A long tone is 50% ON and 50% OFF. A short tone is 25% ON and 75% OFF.

Summary of conditions

System events logged as conditions are shown below.

Table 5: System events logged as conditions

Condition	Description
Tests	A control panel feature or device is being tested
Disablements	A control panel feature or device is disabled
Sounder, fire routing, and fire protection delays	A sounder, fire routing, or fire protection delay is enabled or disabled
Loop device not configured	A loop device is detected that is not configured
Input activation	An input is activated (subject to configuration)
Output group activation	An output group is activated
New node in the fire network	A control panel has been added to the fire network

Condition	Description
Maximum loops exceeded in a network	The number of loops in a fire network exceeds the maximum allowed (32)
Maximum conventional zones exceeded in a network	The number of conventional zones in a fire network exceeds the maximum allowed (64)
Prealarm	A device (and corresponding zone) is in prealarm
Alert	A device is in alarm but the system is waiting for an additional alarm event to confirm the zone alarm
Configuration device connected	A control panel configuration session is initiated via an external device (PC, laptop etc.)
Date and time not set	The system started but the date and time are not set
Event log full	The control panel event log is full

In addition to the above, the following system status events are also added to the event log (but are not included in the control panel current events report).

Table 6: Other system status events added to the event log

Event	Description
General system events	The control panel is reset, the panel is silenced, a new date and time is set, the system is initiated etc.
User sessions	The date and time information for activation and termination of user sessions
Actions	An output group is activated or deactivated or a programmable system command is executed (via the configuration utility)
Rules activation	A rule is activated [1]
Conditions deactivation	A system condition is deactivated
Power supply faults eliminated	A previously logged power supply fault is resolved

[1] A rule consists of one or more states (combined by Boolean operators) that are configured to trigger specific system actions after a specific confirmation time. Rules are created using the configuration utility.

Chapter 2
Installation

Summary

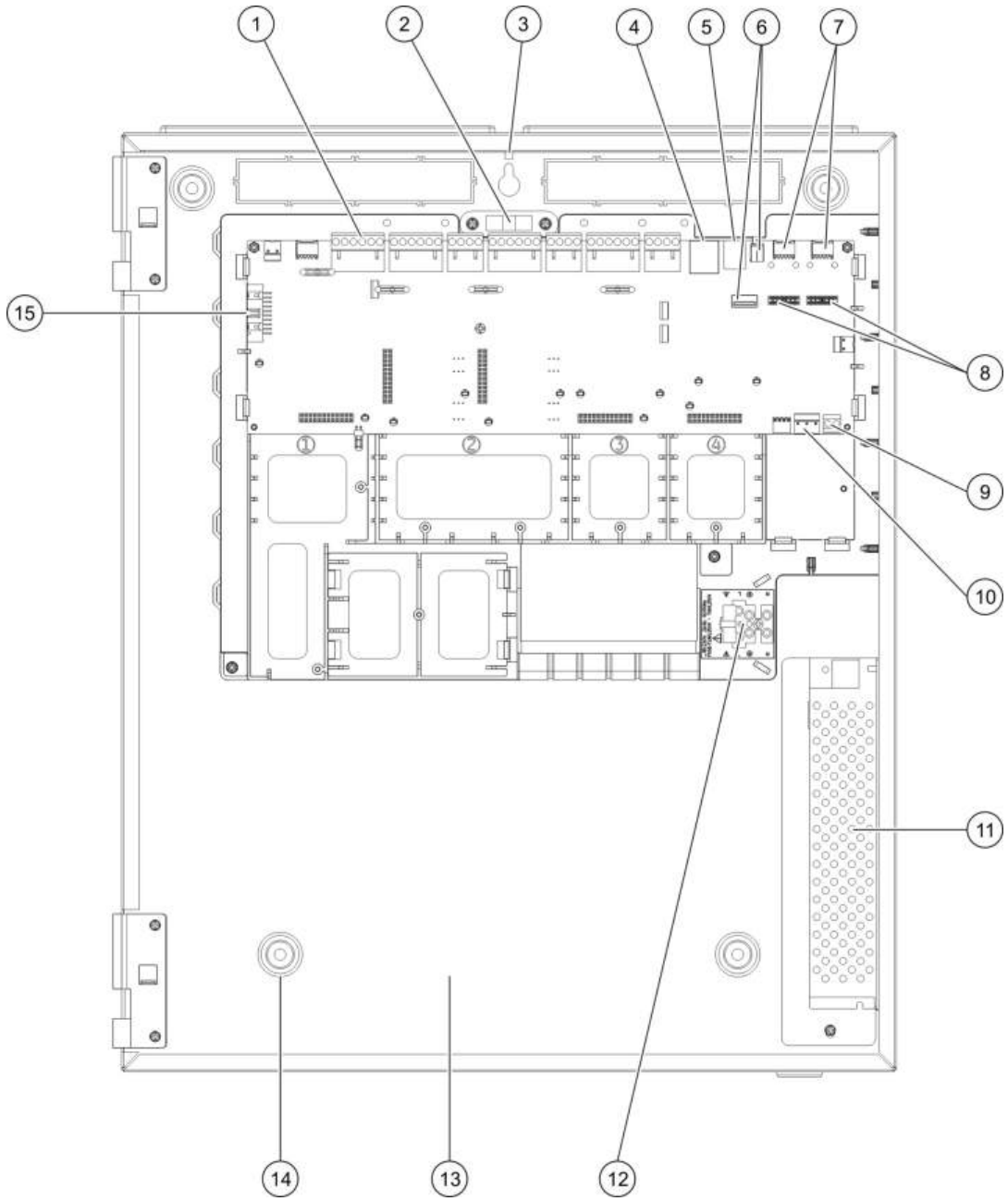
This chapter provides detailed installation and connection information for your control panel.

Caution: 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

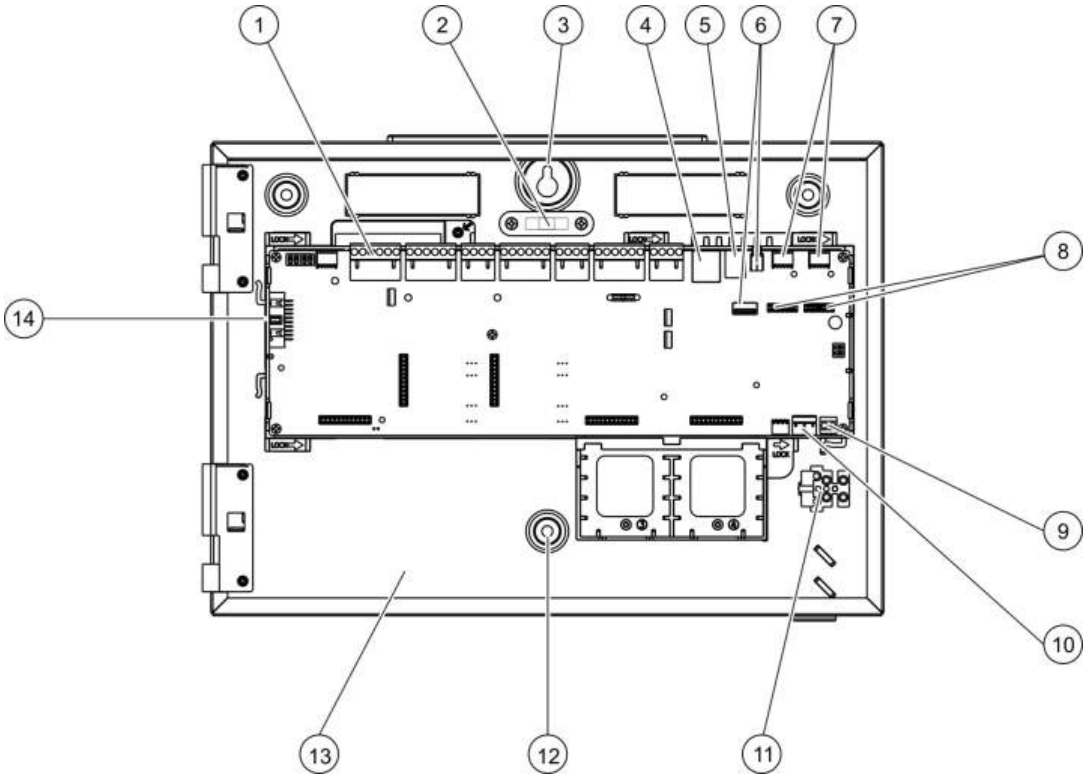
Cabinet and PCB layout

Figure 3: Large cabinet and PCB layout (two-loop control panel)



1. Loop and fire system connectors
2. Spirit level
3. Earth stud
4. Ethernet connector
5. USB type B connector
6. USB type A connectors
7. COM0 and COM1 serial ports
8. COM0 and COM1 interface connectors
9. Battery connector
10. Power supply connector
11. Power supply
12. Mains terminal block and fuse
13. Battery area
14. Mounting holes
15. User interface connector

Figure 4: Small cabinet and PCB layout (two-loop control panel)



1. Loop and fire system connectors
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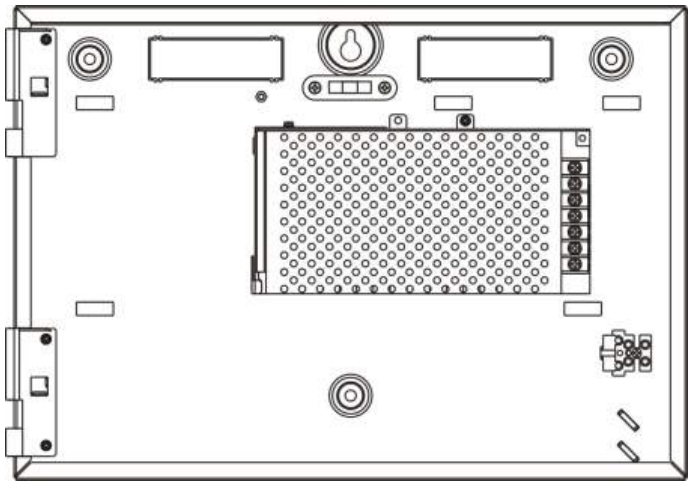
7. COM0 and COM1 serial ports
8. COM0 and COM1 interface connectors
9. Battery connector
10. Power supply connector
11. Mains terminal block and fuse
12. Mounting holes
13. Battery area
14. User interface connector

Figure 5: Small cabinet with main PCB and chassis removed to show power supply



Cabinet installation

Where to install the control panel

Install the control panel in a location that is free from construction dust and debris, and immune to extreme temperature ranges and humidity. See Chapter 5 “Technical specifications” on page 91 for more information on the operating temperature and relative humidity specifications.

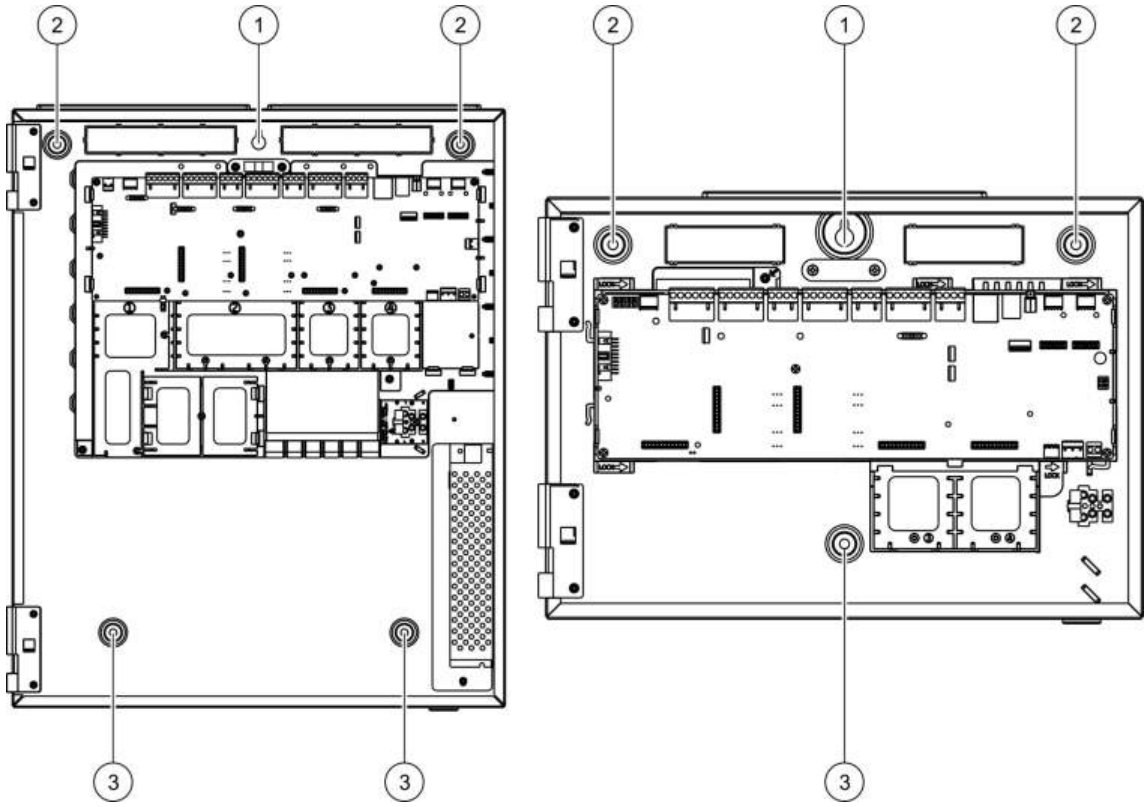
Provide enough floor and wall space to allow the control panel to be installed and serviced without any obstructions.

The cabinet should be mounted so that the user interface is at eye level.

Fixing the cabinet to the wall

Fix the cabinet to the wall using five M4 × 30 screws and five Ø 6 mm wall plugs, as shown in Figure 6 below.

Figure 6: Mounting hole locations



To fix the cabinet to the wall:

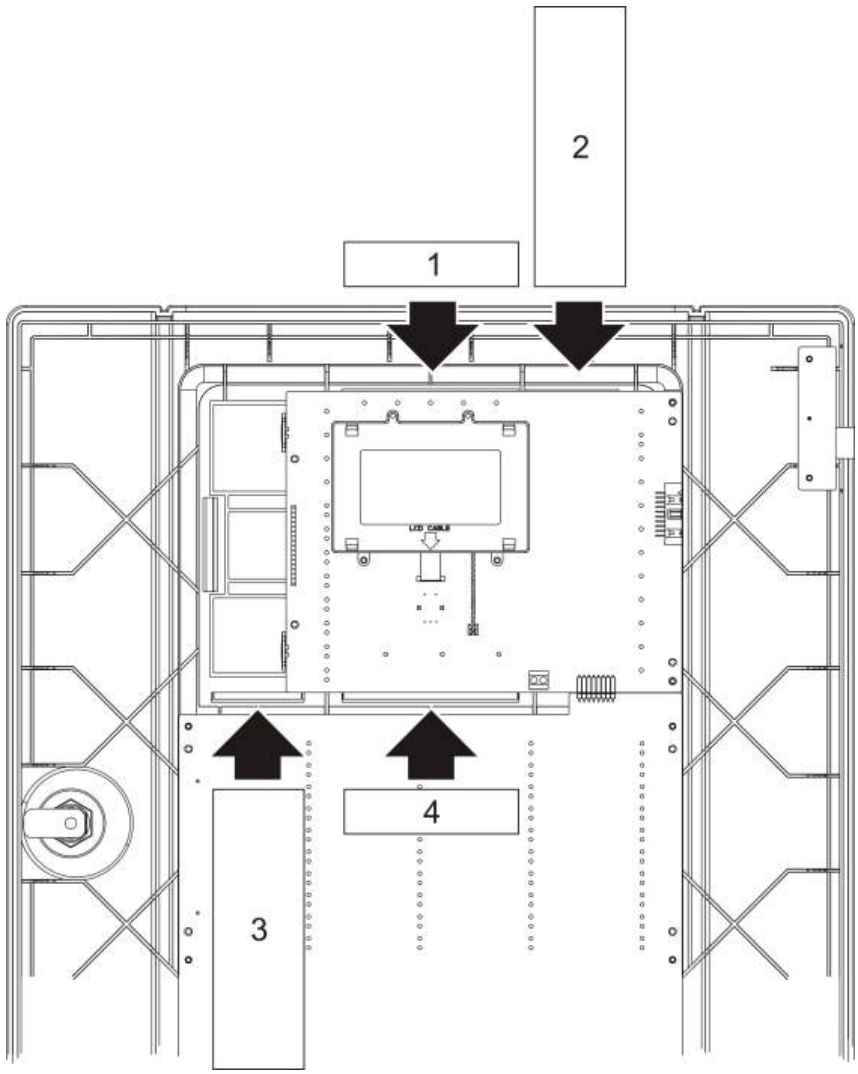
1. Hold the cabinet to the wall at the required installation height.
2. Ensure that the cabinet is level using the built-in spirit level and mark drill points on the wall.

3. Drill all required holes and insert a 6 mm wall plug into each.
4. Insert a screw in position (1) and hang the cabinet onto this screw.
5. Insert screws in positions (2) and tighten.
6. Insert screws in position (3) and tighten.
7. Tighten screw in position (1).

Adding the menu inserts

Add the control panel interface menus as shown below. The inserts are numbered from 1 to 4, and are inserted at the location indicated (with the printed area facing the front of the control panel).

Figure 7: Adding the menu inserts



Connections

Recommended cables

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

Table 7: Recommended cables

Cable	Cable requirements	Maximum cable length
Mains cable	3 × 1.5 mm^2	N/A
Loop cable	Twisted-pair (52 Ω and 500 nF max.) [1] 0.13 to 3.31 mm² (12 to 26 AWG)	2 km with KAL21 cable [2]
Fire network cable	Twisted-pair, CAT5 0.13 to 3.31 mm² (12 to 26 AWG)	1.2 km
Ethernet cable	Shielded CAT5	100 m
USB cable	Standard USB cable with A-B connectors	10 m
External printer cable	Accessory cable 2010-2-232-C30 [3]	3 m

[1] 26 Ω per wire.
[2] Maximum cable length depends on the type of cable used and the loop load.
[3] 2010-2-232-IB interface board is also required for external RS-232 device connections.

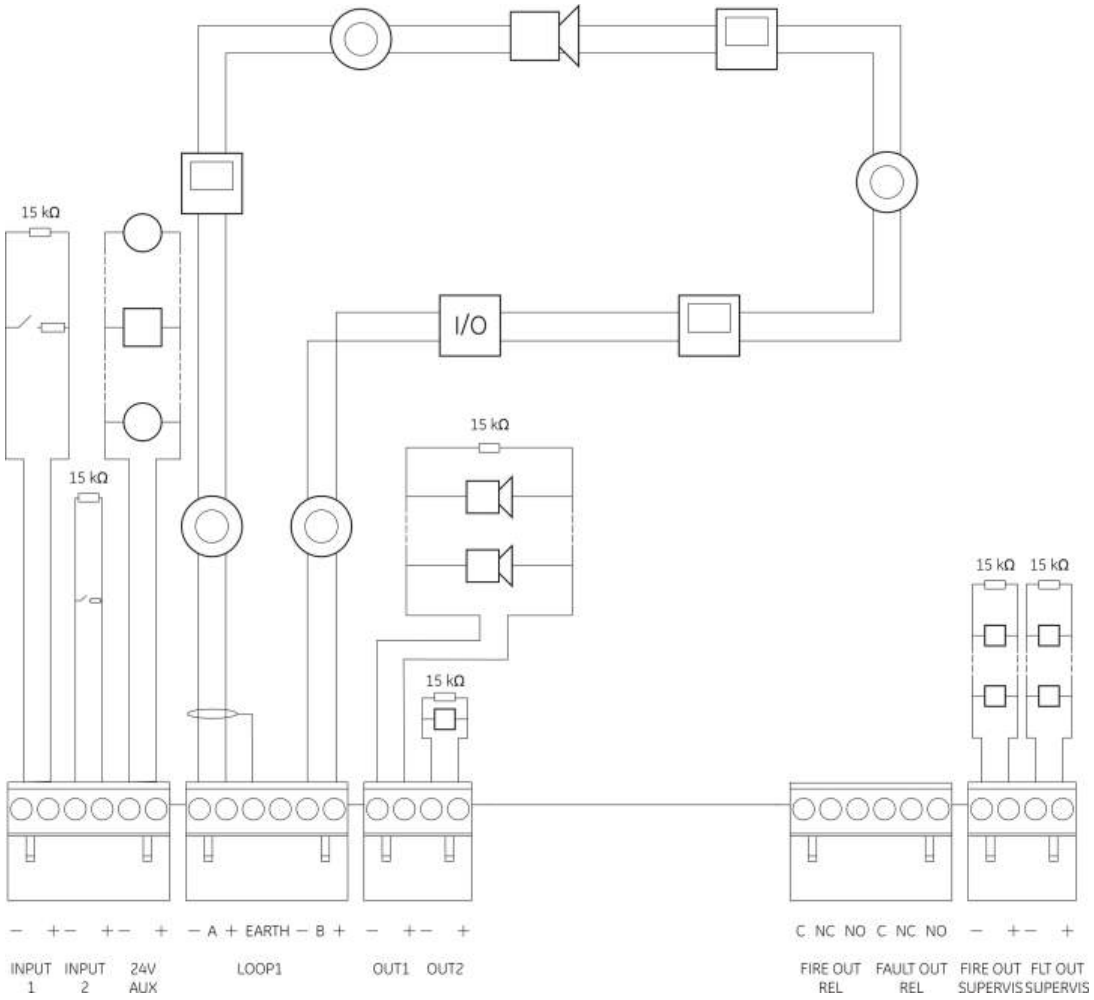
Other types of cable may be used subject to site-specific electromagnetic interference (EMI) conditions and installation testing.

Securing cables

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

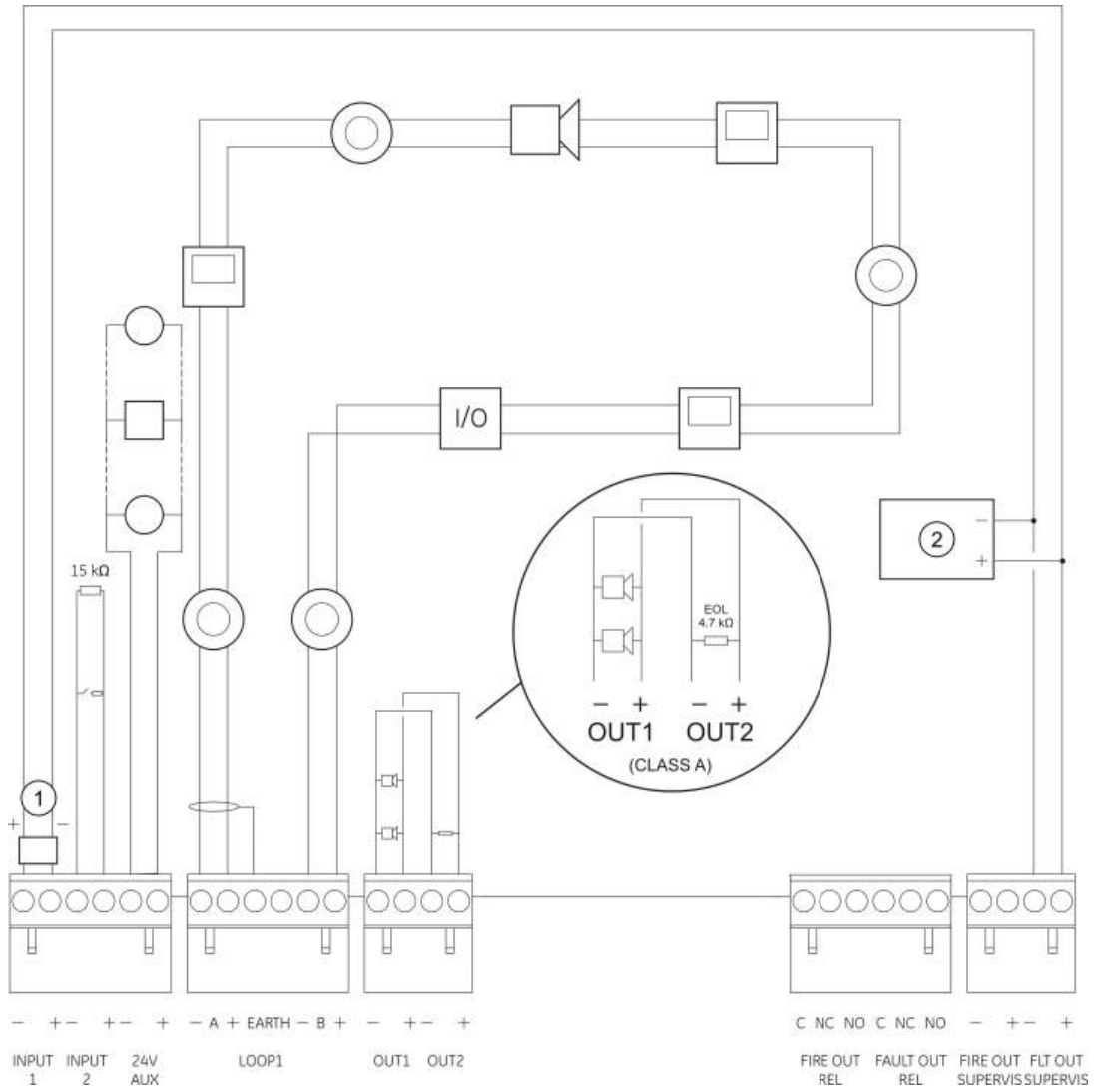
Overview of fire system connections

Figure 8: Overview of typical fire system connections with a single Class A loop



For input activation characteristics, see “Connecting inputs” on page 22.

Figure 9: Overview of EN 54-13 fire system connections with a single Class A loop



1. 2010-FS-EOL end-of-line device
2. Fault indicating equipment

Connecting loops

Loop guidelines

For best results, follow these guidelines when connecting loops:

- Install at least one isolator per loop (we recommend one for every 32 devices).
- Keep loop cabling away from high-voltage cables (or any other source of interference).
- Star, stub, and T-tap configurations are not recommended.
- Install loop devices with a high current consumption as close as possible to the control panel.

- Ensure that the loop cable complies with the cable specifications outlined in “Recommended cables” on page 18.
- If using shielded loop cable, ensure that the shield is continuous (connected through to each loop device). To prevent earth loops caused by electromagnetic interference, only one cable shield should be connected to earth, as shown in Figure 8 on page 19.

Class A loop connection

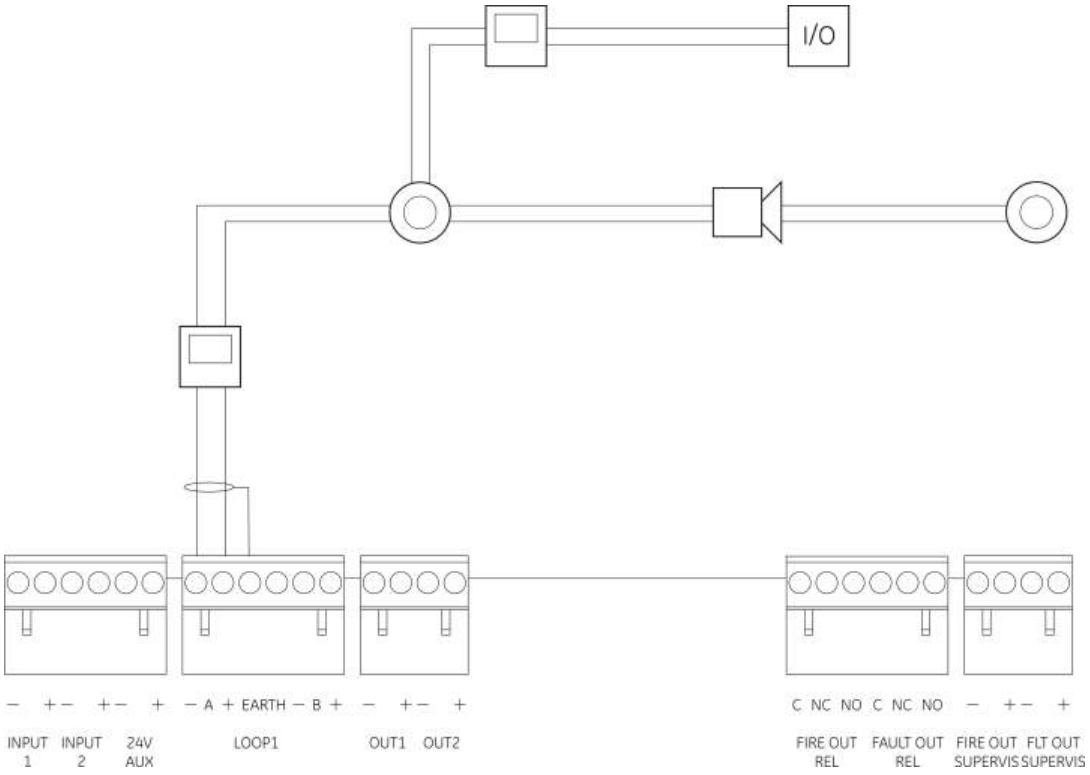
Connect Class A loops as shown in Figure 8 on page 19. Class A loops are supervised for open and short circuits. Terminate unused Class A loops A (+) to B (+) and A (−) to B (−).

Class B loop connection

Caution: Class B loops do not comply with EN 54-13 requirements. Never install more than 32 devices on a Class B loop.

Connect Class B loops as shown in Figure 10 below. Connection may be made to either the A connectors (as shown) or to the B connectors, but not to both. Class B loops are supervised for short circuit.

Figure 10: Class B loop connection



Connecting loop devices

Each loop can support up to 128 devices. For detailed loop device installation information, see your device installation sheet.

Connecting inputs

Input functionality

Each control panel has two supervised inputs, marked INPUT1 and INPUT2. For input configuration, see “Field configuration” on page 60.

Connecting inputs

Connect input switches to INPUT1 and INPUT2, as shown in Figure 8 on page 19. For input supervision (open and short circuit), install a 15 kΩ resistor.

If an input is not used, the 15 kΩ end-of-line resistor must be installed across the unused terminals to avoid an open circuit fault on the input.

Input activation characteristics

Input activation characteristics are shown in the table below.

Table 8: Input activation characteristics

State	Activation value
Active	60.2 Ω ≤ active value ≤ 8 kΩ
Normal	10 kΩ ≤ value ≤ 20.2 kΩ
Short circuit	≤ 60.2 Ω
High impedance fault	8 kΩ < value < 10 kΩ
Open circuit	≥ 20.2 kΩ

Connecting outputs

Control panel outputs are shown in the table below.

Table 9: Control panel outputs

Output	Description	Supervision
24V AUX	Used to supply power to auxiliary equipment. The output can be configured as resettable and to shut down when there is no mains power.	Short circuit, voltage level
OUT1, OUT2 etc.	Configurable outputs (the default configuration is sounder output). The number of configurable outputs depends on the control panel model (see the topic below). Note: these outputs comply with EN 54-13 requirements when configured as Class A outputs.	Short circuit, open circuit

Output	Description	Supervision
FIRE OUT SUPERVIS [1]	This fire output is activated when the control panel is in alarm status. Note: this output does not comply with EN 54-13 requirements.	Short circuit, open circuit
FIRE OUT RELAY	This relay output is activated (a short circuit between the common (C) and normally open (NO) terminals of the relay) when there is an alarm.	Not supervised
FAULT OUT SUPERVIS [1]	This fault output is activated when the control panel is not reporting a fault. Note: this output complies with EN 54-13 requirements when the 2010-FS-EOL end-of-line device is installed.	Short circuit, open circuit
FAULT OUT RELAY	The fault relay output is activated (a short circuit between the common (C) and normally open (NO) terminals of the relay) when there is no fault.	Not supervised

[1] For activation voltage, see Chapter 5 “Technical specifications” on page 91.

Output termination

All outputs (except the 24V AUX output) must be terminated. Termination requirements are shown in the table below.

Table 10: Termination requirements

Output Class	Output termination
Class B (for typical installations)	15 kΩ
Class A (for EN 54-13 installations)	4.7 kΩ [1]

[1] Installed in parallel with one of the output terminals. See Figure 9 on page 20.

If an output is not used, the 15 kΩ end-of-line resistor must be installed across the unused terminals to avoid an open circuit fault on the output. Unused outputs must be configured as Class B.

End-of-line components for outputs are included in the accessory kit provided with your control panel.

Note: Output termination differs for typical and EN 54-13 installation types. Take care to install the correct termination for your installation.

Output polarity

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

Connecting auxiliary equipment

Connect auxiliary equipment to 24V AUX as shown in Figure 8 on page 19.

Configurable outputs

The number of configurable outputs depends on the control panel model and output class configuration, as shown below.

Table 11: Configurable outputs for panels

Control panel	Configurable outputs (Class B)	Configurable outputs (Class A)
One-loop panel	2 (OUT1 and OUT2)	1 (OUT1/OUT2)
Two-loop panel	4 (OUT1 to OUT4)	2 (OUT1/OUT2 and OUT3/OUT4)
Two-loop panel with loop expansion board	8 (OUT1 to OUT8)	4 (OUT1/OUT2, OUT3/OUT4, OUT5/OUT6, and OUT7/OUT8)

Note: Repeater panels have no configurable outputs.

Configurable options for each output are:

- Sounder output (default setting)
- Fire routing output
- Fire protection output
- Program options
- Fire output
- Fault output

For output configuration see “Field configuration” on page 60.

Connecting configurable outputs

Connect Class B configurable outputs as shown in Figure 8 on page 19. Connect Class A configurable outputs as shown in Figure 9 on page 20.

When connecting sounders or beacons, use only those included in the compatibility sheet supplied with your control panel.

Connecting fire and fault outputs

Connect the FIRE OUT SUPERVIS and FAULT OUT SUPERVIS outputs as shown in Figure 8 on page 19. A 15 kΩ end-of-line resistor is required.

Connecting the mains power supply

Caution: Connect the mains power supply before connecting the batteries.

The control panel can be operated at 110 VAC 50/60 Hz or 240 VAC 50/60 Hz (+10%/−15%).

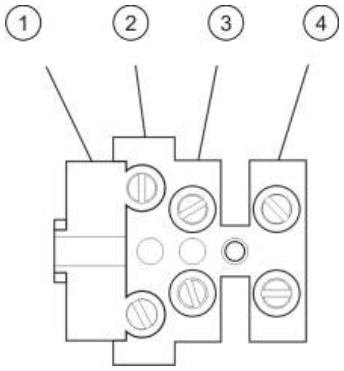
Mains power should be sourced directly from a separate circuit breaker in the building electrical supply distribution board. This circuit should be clearly marked, should have a bipolar disconnect device, and should only be used for fire detection equipment.

Feed all mains cables through the appropriate cable knockouts and connect them to the fuse terminal block as shown in Figure 11 below.

Caution: If the control panel has a network board installed, the mains cable must enter the cabinet from the bottom for proper operation.

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 11: Connecting the mains power supply



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

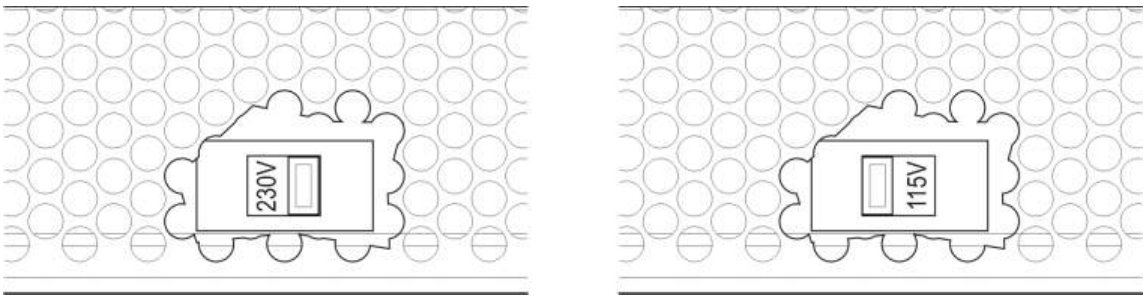
For fuse specifications, see Chapter 5 “Technical specifications” on page 91.

Selecting 115 or 230 VAC operation

Caution: An incorrect power setting can damage the power supply. Always disconnect the control panel from the mains supply before changing the power setting.

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 12 on page 25.

Figure 12: Selecting 115 or 230 VAC operation



Connecting the batteries

The control panel requires two 12 V, rechargeable, sealed lead-acid batteries with 7.2, 12, or 18 Ah capacity (see “Battery maintenance” on page 89).

Batteries are located inside the control panel cabinet and must be installed in series. Polarity must be observed.

Connect batteries to the BAT connector on the control panel PCB. No other equipment may be connected to the BAT connector.

Note: If the control panel indicates a Supply Fault, then the batteries may need to be replaced.

Connecting expansion boards

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

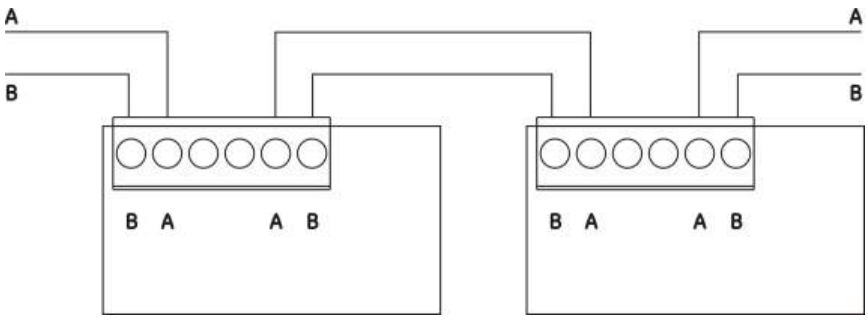
See your expansion board installation sheet for detailed installation information.

Connecting a fire network

Note: See your network board installation sheet for detailed installation and connection information.

Each 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:

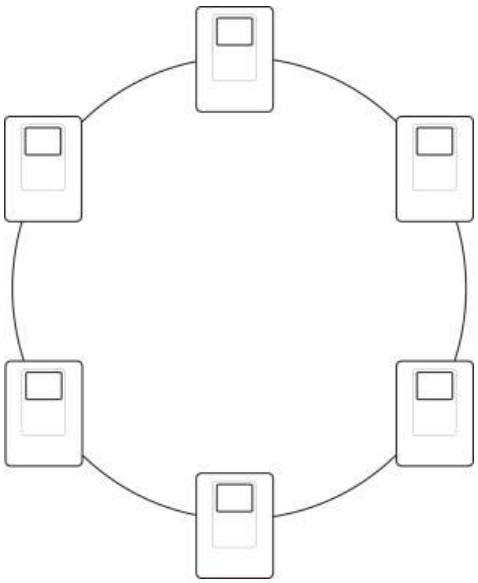
- Ring configuration
- Bus configuration

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

Caution: Use bus 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 recommended. It does not provide for redundancy in the transmission path and creates a fire network much more sensitive to faults.

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

Figure 15: Fire network bus configuration

Connecting an external printer or ASCII terminal

To print control panel events in real time, connect an external EPSON LX300 printer or ASCII terminal to COM0 or COM1. No control panel configuration is required.

Note: This option requires a 2010-2-232-IB RS-232 interface board and a 2010-2-232-C30 serial cable. These items are not supplied with the control panel.

Serial port connections for each output type are shown below.

Table 12: Serial port connections

Serial port	Output device
COM0	EPSON LX300 printer
COM1	ASCII terminal

See Figure 3 on page 14 for COM serial port and RS-232 interface board connector locations.

Chapter 3
Configuration and commissioning

Summary

This chapter provides configuration and commissioning information for your control panel and fire detection system.

Content

Introduction

User levels

Access to some of the features of this product is restricted by the user level assigned to a user account.

Public

The public level is the default user level.

This level allows basic operational tasks, such as responding to a fire alarm or fault warning at the control panel. No password is required.

Operational tasks for this user level are described in the product operation manual.

Operator

The operator level allows additional operational tasks and is reserved for authorized users who have been trained to operate the control panel. The default password for the default operator user is 2222. Operational tasks for this user level are described in the product operation manual.

Maintenance

The maintenance level allows routine maintenance tasks and is reserved for authorized users who have been trained to operate and maintain the control panel and fire system. The default password for the default maintenance user is 3333.

Installer

The installer level allows full system configuration and is reserved for authorized users installing and configuring the control panel and fire system. The default password for the default installer user is 4444.

Restricted user levels

Restricted user levels are protected by password security. You are required to enter the username and password assigned to you.

The control panel automatically exits from a restricted user level and reverts to the public user level after a few minutes if no button is pressed. The automatic timeout period depends on the active user level, as shown below.

Table 13: User level timeouts

User level	Automatic timeout period
Operator	Two minutes
Maintenance	Ten minutes
Installer	Ten minutes

To enter a password-protected level:

1. Press F4 (Main menu). The username and password prompt appears on the LCD.
2. Select your username and enter your password by turning the jog dial clockwise or anticlockwise. Press the jog dial to confirm each entry.

When a correct four-digit password has been entered, the LCD displays the Main menu for your assigned user level.

Note: The control panel can be configured to remember the last login details entered. See “Secure access” on page 84 for more information.

To exit from a password-protected level:

1. Press F3 (Logout) from the Main menu.

Configuration overview

PC-based configuration

For best results we recommend that the control panel and fire system is configured using our configuration utility software application.

Benefits of using the configuration utility include:

- New configurations can be prepared in advance of installation and applied to the control panel and fire system quickly and easily at the site
- Current configuration files can be saved directly to a USB flash drive and modified in the configuration utility
- Advanced programming of rules to generate actions is available

  A rule consists of one or more states (combined by Boolean operators) that are configured to trigger specific system actions after a specific confirmation time.

  An action is the activation of output groups or the execution of programmable commands in the system.

  Rules programming is also known as cause and effect programming, I/O logic activation etc.

When configuring your fire system using the configuration utility:

1. Configure the communications settings if you plan to download configurations using an Ethernet connection. This is not required if you plan to save configurations to a PC connected to the control panel USB type B connector.
2. Configure the date and time at the control panel and load the configuration as described in “Loading and saving configuration files” on page 57.

For more information on the configuration utility, contact your local distributor.

Control panel configuration recommendations

Use the control panel configuration wizards to guide you through the configuration process for most applications.

To access the configuration wizards press F1 (Wizards) from the installer level Main menu.

In general we recommend the following configuration order:

1. Control panel configuration (date and time, expansion boards, control panel ID and description, fire network, and communications). For more information, see “Panel configuration” on page 48.
2. Field configuration (loop devices, zones, and control panel inputs and outputs). For more information, see “Field configuration” on page 60.
3. Change all default passwords for increased security. For more information, see “Changing your password” on page 83.

Configuration controls

Use function buttons F1 to F4 and the jog dial (see Figure 2 on page 8) to navigate the LCD menu, to select menu options, and to enter passwords and system information, as shown below.

Entering passwords and system information	Turn the jog dial clockwise or anticlockwise to enter passwords and other system information. Press the jog dial to confirm an entry.
Selecting soft keys from the LCD menu	Press the function buttons F1 to F4 to select the corresponding menu options (Main menu, Logout, Exit etc.).
Navigating and confirming menu selections	Turn the jog dial clockwise or anticlockwise to select an option from the on-screen menu. Press the jog dial to confirm the selection.

The control panel ID on the LCD is white text with a dark background when the jog dial is active (the control panel is waiting for input).

Configuration options

The options listed below are available when making configuration changes to the control panel.

The control panel configuration (and configuration revision) is only updated when configuration changes are applied by pressing F3 (Apply).

The configuration revision change and timestamp are recorded in the Revision report and can be accessed at operator, maintenance, and installer levels.

Table 14: Configuration control options and keys

Option	Key	Description
Save	F1	Select this option to save the current configuration change without applying it immediately.
Apply	F3	Select this option to apply the current configuration change and all stored (saved) configuration changes. The control panel resets automatically.
Discard	F4	Select this option to discard all stored (saved) configuration changes that have not been applied.
Exit	F2	Select this option to exit the configuration process without storing or applying the current configuration change.

Note: When updating multiple configuration settings, we recommend that you save after each change, and then apply all changes from the Main menu.

Maintenance level operation and configuration

The maintenance level is password-protected and is reserved for authorized users trained to operate the control panel and perform routine maintenance tasks for the fire system. The default password for the default maintenance user is 3333.

The maintenance level lets you:

- Perform all operator level tasks described in the operation manual
- Change the control panel time and date and synchronize the time and date in a fire network
- Change the day/night mode time and holiday calendar settings (fire alarm control panels only)
- Change the TCP/IP, e-mail, and USB communications settings
- Back up or clear the event log
- View and save reports
- Disable or enable system features or loop devices
- Test zones, inputs, outputs (including output groups), and batteries
- Change the user passwords
- Locate devices
- Activate service mode for testing purposes

The Main menu

The maintenance level Main menu is shown below.

Figure 16: Maintenance level Main menu

The Panel setup menu

Use the Panel setup menu to set the date and time, to synchronize the date and time in a fire network, and to set day or night mode sensitivity settings.

Date and time

Select the Date and time option to change the control panel date and time.

To change the date and time:

1. Select Panel setup from the Main menu.

2. Select Date and time.
3. Enter the date using the format DD/MM/YY (for example, 10/06/09).
4. Enter the time using the format hh:mm:ss (for example, 15:03:25).
5. If required, select YES for Firenet time sync to synchronize the date and time across all control panels in a fire network.
6. Press F4 (Enter), and then press F1 (Back).
7. Press F2 (Exit) to exit the menu.

Day/night mode sensitivity settings

Select the Day/Night mode option to change selected day/night fire detection and response criteria based on preconfigured time settings, as shown below.

Note: This option is not available on repeater panels.

Table 15: Day/night mode settings and icons

Mode	LCD icon	Description
Day		In this mode an automatic fire alarm (an alarm activated by a detector) activates sounders and fire routing (if enabled) after any configured delay. Subject to configuration, detectors may use a reduced sensitivity setting.
Night		In this mode an automatic fire alarm (an alarm activated by a detector) activates sounders and fire routing (if enabled) immediately and bypasses any configured delay. Subject to configuration, detectors may use an increased sensitivity setting.

The LCD icon confirming the current mode is displayed on the LCD and indicates whether the setting applies only to the local control panel or is a general setting for all control panels in the fire network. For more information on LCD indications, see “LCD controls and indicators” on page 8.

Setting the day/night schedule

Select the Day/Night schedule option to configure weekly schedules for day and night mode settings.

To set a day/night schedule:

1. Select Panel setup from the Main menu.
2. Select Day/Night mode, and then select Day/Night schedule.
3. Select the day you want to configure.
4. Enter the time that day mode starts using the hh:mm format (for example, 08:00).
5. Enter the time that night mode starts using the hh:mm format (for example, 21:00).
6. Press F4 (Enter), and then press F1 (Back).

7. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: To avoid changing to day mode, set the day mode start time to 24:00. To avoid changing to night mode, set the night mode start time to 24:00.

Here are two examples of day/night mode scheduling.

To start day mode at midnight and end at 06:00, set the day mode start time to 00:00 and the night mode start time for the same day to 06:00.

To start night mode at 22:00 and end at midnight, set the night mode start time for the day to 22:00 and the day mode start time for the following day to 00:00.

Setting the holiday calendar

Select the Holiday calendar option to configure a day or night mode setting for a range of dates.

To configure day/night mode for dates:

1. Select Panel setup from the Main menu.
2. Select Day/Night mode, and then select Holiday calendar.
3. Select F3 (New) to enter a new holiday period or select an existing holiday period from the displayed list.

   To delete an existing holiday period, press F4 (Delete).
4. Enter the start date and the end date for the holiday sensitivity setting. The date format is DD/MM (for example, 29/11 for 29 November).
5. Select the sensitivity mode (day or night) for the holiday period. The default setting is night mode (it is assumed that there are no people on site during the holiday period).
6. Enter any additional holiday periods as described in steps 3 and 4.
7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Additional day/night mode settings

Select the Day/Night setup option to configure additional settings such as manual override of day/night mode schedule and holiday calendar mode changes or delay behaviour in night mode.

The configuration options available are shown in the table below.

Table 16: Additional day/night mode options

Option	Description
Manual	Select this option to configure the control panel to process or override day/night mode change commands from the day/night mode schedule or the holiday calendar
Mode	Select this option to determine the default day/night mode setting for the control panel if Manual (above) is set to YES
Disable delays in night mode	Select this option to configure the control panel to process or override sounder, fire routing, and fire protection delays when the control panel is in night mode.

To change the configuration:

1. Select Panel setup from the Main menu.
2. Select Day/Night mode, and then select Day/Night setup.
3. Select Manual, and then select NO (to process mode change commands from the day/night mode schedule and holiday calendar) or YES (to override mode change commands from the day/night mode schedule and holiday calendar).

   The default setting is NO (mode change commands from the Day/Night mode schedule and Holiday calendar are processed as configured).
4. Select Mode, and then select DAY or NIGHT to define the default control panel sensitivity mode if Manual (above) is set to YES.

   The default setting is DAY. If Manual is set to NO, then no mode configuration is required.
5. Select Disable delays in night mode, and then select which sounder, fire routing, or fire protection delays to process or override when the control panel is in night mode.

   By default, all delays are disabled when the control panel is in night mode.
6. Press F4 (Enter), and then press F1 (Back).
7. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Notes on day and night mode settings

Day/night mode may be configured to change with a remote input. Depending on the installation settings, the system may be configured to use an external input to override the day/night mode setting until the following programmed change (if any).

Control panels in the same network can have different day/night mode sensitivity settings.

If the command filter is configured accordingly, a control panel can operate a local day/night mode setting independently from other control panels in the same network. A local day/night mode setting is indicated on the local control panel LCD by the corresponding icon. See “Icons displayed on the LCD” on page 9.

If the control panel is a repeater, remember that the day/night mode displayed corresponds to those control panels configured to accept the global sensitivity mode command. Some control panels in the network may be operating with locally-defined sensitivity settings.

The day/night mode setting for all control panels in a fire network is included in the Firenet status report.

For more information on the global controls, see “Global controls” on page 52.

The Communications menu

Use the Communications menu to set up e-mail accounts for event notifications and to safely remove a USB device connected to the control panel.

Managing e-mail accounts

Select the E-mail accounts option to manage the e-mail accounts for remote monitoring and to configure the types of events sent to each e-mail address.

To configure e-mail accounts:

1. Select Communications from the Main menu.
2. Select E-mail accounts, and then select the account to be edited (the default names are Account 1, Account 2 etc.).
3. Select the types of events to be included in the notification e-mail: alarms, faults, conditions, or log events (any other system status change event).

   If no event type is selected, the e-mail notification service is not activated.
4. Enter the e-mail address associated with the e-mail account.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: This feature requires TCP/IP and e-mail server details to be configured.

Removing a USB device

Select the Remove USB device option to safely remove a USB device connected to the control panel (for example, a flash drive).

Caution: Failure to remove a USB flash drive as described may result in loss of data and/or damage to your flash drive.

To remove a USB device:

1. Select Panel setup from the Main menu, and then select Communications.
2. Select Remove USB device. A message displays on the LCD confirming the operation.
3. Press F2 (Exit) to exit the menu.
4. Open the control panel door and remove the flash drive.

The Disable/Enable menu

Use the Disable/Enable menu to disable and enable the system features and devices. Features and devices can be disabled remotely if the control panel is part of a fire network.

Note: Changes to disable/enable configuration at this user level are not stored in the control panel configuration and are not included in any saved configuration files.

The following features or devices can be disabled or enabled from this menu:

- Zones
- Devices
- Control panel inputs and outputs
- Output groups (sounder, fire routing, fire protection, or program)

Disabling a system feature or device

To disable a feature or device:

1. Select Disable/Enable from the Main menu.
2. Select Disable (or Remote Disable if the feature or device is not local to the control panel).
3. Select the corresponding option (zones, devices etc.).
4. For local disablements, select the feature or device to be disabled, and then press the jog dial to confirm the disablement.

   For remote disablements, enter the Firenet ID of the feature or device to be disabled, and then press the jog dial to confirm the disablement.

5. Press F2 (Exit) to exit the menu.

Repeat to enable a disabled feature or device.

WARNING: Disabled features and devices do not indicate faults or fire alarms.

Notes

- Active outputs cannot be disabled.
- Devices or zones in alarm are not disabled until the control panel is manually reset.
- In maintenance level operation, to disable Class A outputs each output used must be disabled (for example, if OUT1 and OUT2 are combined to create a single Class A output, then both OUT1 and OUT2 must be disabled individually).

The Test menu

Use the Test menu to test system features or devices. The following features or devices can be tested from this menu:

- Zones
- Control panel input activation
- Control panel and loop output activation
- Output group activation
- Device LED activation
- Remote features and devices
- Batteries

Note: Tests for outputs and output groups (local or remote) continue for as long as the test screen is visible. There is no automatic timeout for the output activation test and system information will not be visible on the LCD for the duration of the test. Operation not related to the activation test continues as normal in the background.

Testing zones

To test a zone:

1. Select Test from the Main menu.
2. Select Zones.
3. Select the zone to test, and then press the jog dial to start the test. Press the jog dial again to end the test for the selected zone.

   You can select and test up to a maximum of four zones to test at the same time.

4. Press F2 (Exit) to exit the menu.

Repeat the above steps to end the zone test.

When an alarm is activated in a zone in test:

- The zone test is confirmed on the LCD while the alarm is active
- If a zone board is installed and the corresponding zone is included on the zone board, then the zone alarm LED is flashing or steady (depending on the source of the alarm)
- Fire routing, fire protection, sounders, and programmable activations are not activated
- The control panel resets the initiating device after five seconds and clears the alarm (manual call points must first be closed before an automatic reset can be applied)
- The event is recorded in the event log

When there is a fire alarm in any zone that is *not* in test, the control panel responds to the alarm event as configured.

Testing control panel input activation

To test activation of an input:

1. Determine the input functionality (consult your fire system installation details).
2. Select Service mode from the Test menu, and then select Local or Global.

   Service mode ensures that outputs are not accidentally activated during input tests. Set Service mode to Global to avoid local and network output activation. For more information, see “Service mode” on page 43.
3. Activate the input device according to the device instructions.
4. Check that the control panel reports the input activation as expected (this depends on the input configuration, device type etc.).

When the test is complete, reset the control panel and exit service mode.

Testing control panel and loop output activation

To test activation of an output:

1. Select Test from the Main menu.
2. Select Output test from the Test menu, and then select Panel outputs or Loop outputs.
3. Select the output you want to test, and then select YES (to activate the output) or NO (to deactivate the output).
4. Press the jog dial again to end the test.
5. Press F2 (Exit) to exit the menu.

Testing output group activation

To test output group activation:

1. Select Test from the Main menu, and then select Output group.
2. Select the ID of the output group you want to test, and then select YES (to activate the output group) or NO (to deactivate the output group).
3. Press the jog dial again to end the test.
4. Press F2 (Exit) to exit the menu.

Locating devices

Select the Locate device option to activate a loop device LED. This helps to identify the location of a device in the installation. You will need the Firenet ID of any remote device LED to be activated.

To locate a device:

1. Select Test from the Main menu, and then select Locate device.
2. Select the loop number, All loops, or Remote (if Remote is selected, enter the Firenet ID, loop number, and device address when prompted).

   A list of all the devices on the selected loops is displayed.
3. Select the corresponding device, and then press the jog dial to activate the device LED. To turn off the device LED, press the jog dial again.
4. Press F2 (Exit) to exit the menu.

Testing remote features or devices

Select the Remote test option to test remote features or devices. You will need the Firenet ID of the remote feature or device to be tested.

To test remote features or devices:

1. Select Test from the Main menu, and then select Remote Test.
2. Select Panel and enter the control panel Firenet ID.
3. Select Element, and then select Device, Group, or Zone. Enter the device loop and address information, the group number, or the zone number.

   For devices enter the loop number and the device address in the format L.DDD (for example, 1.089 for device 89 on loop 1).
4. Select Active then select YES (to start the test) or NO (to stop the test).
5. Press the jog dial again to end the test.
6. Press F2 (Exit) to exit the menu.

Testing batteries

Select the Battery test option to test the batteries. For more information on battery status messages, see “Battery maintenance” on page 89.

To test the batteries:

1. Select Test from the Main menu.
2. Select Battery test.

   A message confirming battery status displays on the LCD.
3. Press F2 (Exit) to exit the menu.

Service mode

Select the Activate service mode option to avoid accidental activation or deactivation of outputs or output groups (local or remote) during tests.

In this mode the control panel indicates and logs activation events as configured but does not activate or deactivate the corresponding output. This can be used to verify control panel event configuration and to verify that outputs are not activated accidentally.

To activate service mode:

1. Select Test from the Main menu, and then select Service mode.
2. Select Activate service mode, and then select YES (to activate service mode) or NO (to deactivate service mode).
3. Select Global, and then select YES (to activate service mode across the network) or NO (for local testing only).
4. Press F2 (Exit) to exit the menu.

Remember to exit service mode when all tests are completed.

The Reports menu

Use the Reports menu to view, clear, or back up the event log and to view a variety of system status reports. The reports available to maintenance users are shown in the table below.

Table 17: Reports available to maintenance users

Report	Description
Event log	Select this option to view, clear, or back up the event log. The event log contains all the alarm, fault, and condition events recorded by the control panel.
Attention required	Select this option to view all devices reporting a fault condition.
Revision	Select this option to view your control panel software revision, control panel configuration revision, and system boards serial number data.

Report	Description
Contact details	Select this option to view maintenance or installation contractor contact information (subject to installer configuration).
Zone status [1]	Select this option to view current status information for zones.
Zone mapping [1]	Select this option to see which devices are assigned to each zone in your fire system.
Device status [1]	Select this option to view current status information for control panel devices. Device information available in real time includes: instant, mean, maximum, and minimum analog values, alarm level, and communication error rate.
Panel I/O status	Select this option to view current status information for the control panel inputs and outputs.
Output Groups status [1]	Select this option to view which control panel output groups (sounders, fire routing, fire protection, or program) are currently active.
Rules status	Select this option to view which control panel rules are currently active. A rule consists of one or more states (combined by Boolean operators) that are configured to trigger specific system actions after a specific confirmation time. Rules are created using the configuration utility.
Firenet status	Select this option to view current status information for all control panels in the fire network.
Save reports	Select this option to save reports.

[1] These reports are not available for repeater panels.

Viewing or clearing the event log

Select the View all option or the Clear option to view or clear alarm, fault, and condition events logged by the control panel.

To view or clear the event log:

1. Select Reports from the Main menu.
2. Select Event log, and then select View all (to view all current entries) or Clear (to delete all current entries).
3. Press F2 (Exit) to exit the menu.

The event log can include a maximum of 9,999 entries. When the maximum number of entries is reached, the oldest entries are deleted as new entries are recorded.

Backing up the event log

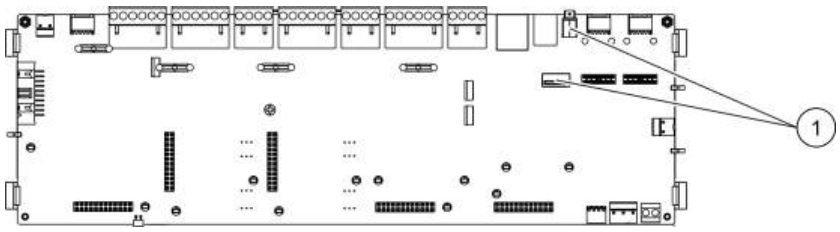
Select the Backup option to create a backup of the event log. The backup reports are saved to a USB flash drive (not supplied) in XML format and can be viewed with the configuration utility PC application.

To back up the event log:

1. Open the control panel cabinet door.
2. Insert a USB flash drive into either of the USB connectors (Figure 17, item 1).
3. Close the control panel cabinet door.
4. Select Reports from the Main menu.
5. Select Event log, and then select Backup.
6. Follow the on-screen instructions.
7. Press F2 (Exit) to exit.
8. Remove the flash drive as described in “Removing a USB device” on page 39.

Note: If your flash drive is not recognized by the control panel, reformat it as FAT32 from a PC and try again. If the problem persists, try a different flash drive.

Figure 17: USB connectors on the main board



1. USB connector locations

Saving reports

Select the Save report option to save a report. Reports are saved to a USB flash drive (not supplied) in XML format and can be viewed with the configuration utility PC application.

To save a report:

1. Open the control panel cabinet door.
2. Insert a USB flash drive into either of the USB connectors.
3. Close the control panel cabinet door.
4. Select Reports from the Main menu.
5. Select Save report, and then select ALL or the report to be saved.

6. Press F2 (Exit) to exit.
7. Remove the USB flash drive as described in “Removing a USB device” on page 39.

The Password setup menu

Use the Password setup menu to change your maintenance password and to manage operator user accounts.

Changing your password

Select the Change password option to change your password. You cannot change passwords for other maintenance users.

To change your password:

1. Select Password setup from the Main menu, and then select Change password.
2. Enter your current password.
3. Enter and then confirm your new password.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Managing users

Select the Manage users option to edit, delete, or create operator user accounts. The control panel allows for a maximum of 20 user accounts (all user levels combined).

To edit an operator user account:

1. Select Password setup from the Main menu, and then select Manage users.

   A list of the user accounts that you have permission to edit is displayed.
2. Select the user account you want to edit.
3. Select the information to be edited and enter the change.

   To change the operator user password, re-enter your maintenance user password, and then allocate and confirm the new operator password.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

To delete an operator user account:

1. Select Password setup from the Main menu, and then select Manage users.
   A list of the user accounts that you have permission to edit is displayed.
2. Select the user account you want to delete.
   You cannot delete the default operator user account.
3. Press F4 (Delete) to delete the selected account.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).
   Remember to apply saved settings from the Main menu.

To create a new operator user account:

1. Select Password setup from the Main menu, and then select Manage users.
2. Press F3 (New) to create a new account.
3. Enter a username and a password for the new account.
   Usernames help to identify user session activity in the event log.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).
   Remember to apply saved settings from the Main menu.

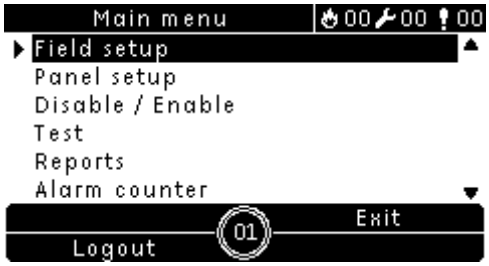
Installer level operation and configuration

The installer level is password-protected and is reserved for authorized users installing and configuring the control panel and the fire system. The default password for the default installer user is 4444.

The Main menu

The installer level Main menu is shown below.

Figure 18: The installer level Main menu



Panel configuration

Use the Panel setup menu to access the control panel configuration options shown below.

Table 18: Control panel configuration

Option	Description
ID configuration	Select this option to configure the control panel Firenet ID (for the fire network) and description. The description is displayed on the LCD when the control panel is in standby.
Date and time	Select this option to configure the control panel date and time, and to synchronize the date and time in a fire network. See “Date and time” on page 34.
Day/Night mode	Select this option to configure the sensitivity settings for the day/night schedule and for the holiday calendar. See “Day/night mode” on page 35.
Regional options	Select this option to configure the control panel's regional operation mode.
Firenet	Select this option to configure the control panel fire network.
Communications	Select this option to configure TCP/IP communication settings, to manage e-mail accounts (for event notifications), and to safely remove a USB device.
Other settings	Select this option to configure the 24V AUX output, fault mask, sounder re-sound, and school bell settings.
Configuration	Select this option to load a new configuration, to save the current configuration file to a USB flash drive, to restore the previous configuration, or to restore the default factory settings.
Expansion boards	Select this option to configure any installed expansion boards.

Option	Description
Load auxiliary files	Select this option to load auxiliary files from a USB flash drive. Auxiliary files that can be loaded include custom standby and alarm screens, and updated language or font files for extended language support.
Firmware update	Select this option to load control panel firmware updates.

ID configuration

Select the ID configuration option to configure the control panel Firenet ID (for the fire network) and description. The ID must be in the range 01 to 32. The default ID is 01.

To change the ID or description:

1. Select Panel setup from the Main menu.
2. Select ID configuration.
3. Enter the ID and description.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Regional options

Select Regional options to set the regional operation mode. Available options are shown in the table below.

Table 19: Regional operating modes

Operating mode	Region
EN 54-2 (default)	European Union
EN 54-2 Evacuation	European Union (Spain)
NBN S21-100	European Union (Belgium)

To change the control panel operation mode:

1. Select Panel setup from the Main menu.
2. Select Regional options.
3. Select the operating mode.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit)

   Remember to apply saved settings from the Main menu.

Firenet configuration

Select the Firenet options to configure the control panel fire network and repeater settings shown in the table below.

Table 20: Firenet configuration options

Option	Description
Firenet map	Select this option to view all detected control panels, to add control panels to the fire network, or to remove control panels from the network. By default new control panels detected do not communicate with the network.
Firenet opmode	Select this option to configure the control panel network operation mode (stand-alone panel, networked panel, or networked repeater panel)
Repeater map	Select this option to specify the control panels in the network that the control panel being configured will repeat
Global controls	Select this option to configure global control options for networked control panels and repeaters
Event filter	Select this option to configure the types of events to repeat from other control panels in the fire network
Command filter	Select this option to configure the types of commands sent to the fire network in control panels with the corresponding global controls configured
Class B	Select this option for a Class B network. When this option is configured, no fault is reported for an open network.

Firenet map

The Firenet map defines the control panels included in the fire network. If a control panel previously configured to be in the fire network is not detected, a fault message indicating the offline status (with the Firenet ID) is reported.

To change the Firenet map settings:

1. Select Panel setup from the Main menu.
2. Select Firenet.
3. Select Firenet map.

   A list of detected control panels appears on the LCD.
4. Select the control panel from the list, and then select YES (to add the control panel to the network) or NO (to remove the control panel from the network).
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Firenet opmode

Available network operation modes are shown below.

Table 21: Firenet operation modes

Mode	Description
Stand-alone	Select this option to for a stand-alone control panel. This is the default setting for fire alarm control panels.
Networked	Select this option to for a networked control panel. See description below.
Repeater	Select this option to for a networked repeater. This is the default setting for repeater panels. See description below.

In networked mode, the control panel uses the network to process and show the alarm and fault events received from any remote panel which belong to any of the local zones in the system.

In repeater mode, in addition to having the network panel functionality described above, the panel indicates all events for all panels selected to be repeated or as defined by the event filter configuration. For example, if the control panel event filter has condition and fault reporting disabled, the repeater repeats only alarm, prealarm, alert, and technical alarm conditions.

Therefore, in Repeater mode the panel uses the network:

- To process and display the events received from any remote panel that affect the local zones in the system
- To display any event coming from any of the remote panels present in the repeated panel map (or as defined by the event filter configuration)

To change the network operation mode settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Firenet Opmode.
3. Select Standalone, Networked, or Repeater).
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

A stand-alone panel retains its network node even though it is not communicating with the network.

Repeater map

The default setting is YES (all control panels in the fire network are repeated).

To change the repeater map settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Repeater map.

3. Select the control panel from the list, and then select YES (to repeat the control panel) or NO (to stop repeating the control panel).
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Global controls

Select the Global controls option to allow the control panel to control the fire network (by sending global commands defined by the command filter). The default setting is YES (global commands are allowed).

To change the Global control settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Global controls.
3. Select the control panel from the list, and then select YES (to allow global control) or NO (to stop global control).
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

The commands that can be controlled globally are detailed in Table 22 on page 53.

Event filter

Select the Event filter option to configure the types of events to repeat from other control panels in the fire network. The control panel always displays alarm and alert events. Fault and condition reporting may also be selected if required.

To change the Event filter settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Event filter.
3. Select the types of events to repeat.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Command filter

Select the Command filter option to configure the types of commands sent to the fire network in control panels with the corresponding global controls configured.

The commands that can be configured are shown in the table below.

Table 22: Command filter configuration options

Command	Description
RST	Reset
PnSilen	Panel silence
SND	Sounder start/stop
SND_DLY	Sounder delay (enable delay or cancel active delay)
FR	Fire routing start/stop
FR_DLY	Fire routing delay (enable delay or cancel active delay)
FP	Fire protection start/stop
FP_DLY	Fire protection delay (enable delay or cancel active delay)
D/N_M	Day/night mode change [1]
UKSB	UK school bell on/off

[1] Used to allow control panels within the network to have locally-defined day/night mode settings. If this setting is not activated, the control panel does not send the day/night mode change and does not process these commands when received from other control panels in the fire network.

To change the Command filter settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Command filter.

   A list of available commands that can be configured is displayed.
3. Select all commands to be filtered.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Class B

Select the Class B option to configure your fire network class configuration (Class A or Class B). The default setting is NO (Class A network configuration).

To change the network class settings:

1. Select Panel setup from the Main menu.
2. Select Firenet, and then select Class B.
3. Select YES (for Class B network) or NO (for Class A network).

4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Communications configuration

TCP/IP

Note: For increased security, we recommend against using Ethernet for remote connection to the control panel via the Internet.

Default TCP/IP settings are shown in the table below. The control panel MAC address and Host information is also available in this screen if required for troubleshooting purposes.

Table 23: Default TCP/IP settings

Option	Default value
IP address	192.168.104.140
Subnet mask	255.255.255.0
Gateway	0.0.0.0
Port	2505 [1]

[1] If the default port is changed, the port configuration in the configuration utility PC application must also be updated.

To change the TCP/IP settings:

1. Select Panel setup from the Main menu, and then select Communications.
2. Select TCP/IP.
3. Enter the IP, Subnet mask, Gateway, and Port information.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: If your network is protected by a firewall, the port configuration in your firewall must be updated to allow local communication with external software.

E-mail accounts

Select the E-mail accounts option to manage the e-mail accounts for remote monitoring and to configure the types of events sent to each e-mail address. For correct operation, TCP/IP and e-mail server details must be configured (see “E-mail server” on page 55).

Note: Maintenance users are also able to modify settings for this service.

To manage e-mail accounts:

1. Select Communications from the Main menu.
2. Select E-mail accounts, and then select the account to be edited (the default names are Account 1, Account 2 etc.).
3. Select the types of events to be included in the notification e-mail: alarms, faults, conditions, or log events (any other system status change event).

   If no event type is selected, the e-mail notification service is not activated.
4. Enter the e-mail address associated with the e-mail account.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

E-mail server

Select the E-mail server option to configure the e-mail server settings for sending configured notification e-mails. IT support may be required to configure this option.

To configure the e-mail server:

1. Select Panel setup from the Main menu, and then select Communications.
2. Select E-mail server.
3. Enter the Host (domain) and the IP address of the e-mail server.

   The Host name is optional.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Other settings

24V auxiliary

Select the 24V AUX config option to configure the 24V AUX output state during reset and when the control panel is running on battery power. The default setting for both options is NO (the 24V AUX output is not deactivated).

To change the configuration:

1. Select Panel setup from the Main menu.
2. Select Other settings, and then select 24V AUX config.
3. Select YES or NO for deactivation during reset.
4. Select YES or NO for deactivation when running on battery power.

5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Fault mask

Select the Fault mask option to configure the reporting status for battery and earth faults. The default setting for both options is YES (all faults are reported).

To change the configuration:

1. Select Panel setup from the Main menu.
2. Select Other settings, and then select Fault mask.
3. Select YES or NO for battery fault notifications.
4. Select YES or NO for earth fault notifications.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: If NO is selected for either option, the corresponding faults are not recorded in the event log.

Sounders re-sound

Select the Sounder re-sound option to configure stopped sounder functionality when new zone alarms are reported. The available configuration options are shown below. The default setting is YES (sounders re-sound for new zone alarms).

YES (default)	A new zone in alarm re-sounds the sounders
NO	A new zone in alarm does not re-sound the sounders

Note: For a new alarm in the same zone, sounders only re-sound if a manual call point alarm is reported when the first alarm was a detector alarm.

To change the configuration:

1. Select Panel setup from the Main menu.
2. Select Other settings, and then select Sounder re-sound.
3. Select YES or NO.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Configuration

Restoring the previous configuration

Select the Restore configuration option to restore the previous system configuration.

To restore the system configuration:

1. Select Panel setup from the Main menu, and then select Configuration.
2. Select Restore configuration and confirm your selection.
3. Press F4 (Enter), and then press F1 (Back).
4. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Loading and saving configuration files

Select the Load configuration option or the Save configuration option to load a system configuration file from a USB flash drive or to save the current system configuration file to a USB flash drive.

Note: If your flash drive is not recognized by the control panel, reformat it as FAT32 from a PC and try again. If the problem persists, try a different flash drive.

To load a configuration:

1. Open the control panel door and insert the USB flash drive with the configuration file into either of the USB type B connectors (see Figure 3 on page 14). Close the control panel door.
2. Select Panel setup from the Main menu.
3. Select Configuration, and then select Load configuration.
4. Select the configuration file to load.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.
7. Remove the USB flash drive as described in “Removing a USB device” on page 39.

To save a configuration to file:

1. Open the control panel door and insert the USB flash drive into either of the USB type B connectors (see Figure 3 on page 14). Close the control panel door.
2. Select Panel setup from the Main menu.

3. Select Configuration, and then select Save configuration.

   The current configuration is saved in XML format using a default naming format.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.
6. Remove the USB flash drive as described in “Removing a USB device” on page 39.

Restoring the default configuration

Select the Default configuraton option to restore the system to the default factory settings detailed in Appendix A “Default configurations” on page 99.

To restore the default system configuration:

1. Select Panel setup from the Main menu, and then select Configuration.
2. Select Default configuration and confirm your selection.
3. Press F4 (Enter), and then press F1 (Back).
4. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

Remember to apply saved settings from the Main menu.

Expansion board configuration

Select the Expansion boards option to add an installed loop, network, or zone expansion board to the control panel configuration. By default repeater panels have the network board configured as installed.

To add an expansion board:

1. Select Panel setup from the Main menu.
2. Select Expansion boards.
3. The control panel automatically detects any optional expansion boards installed (you can change the board type if required).
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

If an installed expansion board is not detected by the control panel, a system fault is indicated.

Load auxiliary files

Select the Load auxiliary files option to load auxiliary files from a USB flash drive. Auxiliary files that can be loaded include custom standby and alarm screens, and updated language or font files provided by the manufacturer.

Loading custom standby and alarm screens

Select the Splash screens option to load custom standby and alarm screens in bitmap (BMP) format.

To load custom screen images:

1. Open the control panel door and insert the USB flash drive into either of the USB type B connectors (see Figure 3 on page 14). Close the control panel door.
2. Select Panel setup from the Main menu.
3. Select Configuration, and then select Load auxiliary files.
4. Select Splash screens.
5. Select the bitmap file to load and confirm the selection.
6. Press F4 (Enter), and then press F1 (Back).
7. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.
8. Remove the USB flash drive as described in “Removing a USB device” on page 39.

Loading language files or fonts

Select the Languages or Language fonts option to load language files or fonts provided by the manufacturer.

To load language files or fonts:

1. Open the control panel door and insert the USB flash drive with the required files into either of the USB type B connectors (see Figure 3 on page 14). Close the control panel door.
2. Select Panel setup from the Main menu.
3. Select Configuration, and then select Load auxiliary files.
4. Select Languages or Language fonts.
5. Select the file to load and confirm the selection.
6. Press F4 (Enter), and then press F1 (Back).

7. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

8. Remove the USB flash drive as described in “Removing a USB device” on page 39.

Firmware updates

Caution: Updating the control panel firmware may delete the current installation configuration data. Always back up your configuration data before updating the control panel firmware.

Select this option to load control panel firmware updates provided by the manufacturer. The update application may only be available in English.

Field configuration

Use the Field setup menu to access the field configuration options shown below.

Table 24: Field configuration options

Option	Description
Autosetup	Select this option to automatically configure installed loop devices to their default settings.
Loop device configuration	Select this option to manually configure installed loop devices or change default settings.
Zone configuration	Select this option to configure zones.
Panel I/O configuration	Select this option to configure control panel input and output functionality.
Output groups	Select this option to configure output groups.
Delays configuration	Select this option to configure output group delays and regional investigation time options. Delays can be global, per output group, or per zone.
Loop class	Select this option to configure the installation loop wiring Class (Class A or Class B).

Autosetup

Select the Autosetup option to automatically configure installed loop devices. Autosetup assigns a default configuration for each device type detected.

To begin autosetup:

1. Select Field setup from the Main menu, and then select Autosetup.

2. Select the corresponding loop or All loops.

   During the search the LCD displays the message “Autosetup in progress”. When the autosetup is complete the list of detected devices is displayed.

3. Press F4 (Enter), and then press F1 (Back).
4. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Autosetup will:

- Assign all initiating devices (including zone modules) to zone 1
- Assign all sounder devices to the default sounder output group (output group number 1)
- Assign all nonsupervised outputs (relays) to the default program output group (output group number 301)
- Assign all extinguishing devices to the default extinguishing output group (output group number 801)

  Extinguishing output groups are only activated with a confirmed alarm. They are not activated by zone alarms and rules.
- Assign all fire routing outputs (where available) to the default fire routing output group (output group number 971)
- Assign all fire protection outputs (where available) to the default fire protection output group (output group number 981)
- Assign the default initial zone to zone 1

By default all zones activate all output groups with no delay.

Note: Autosetup is incremental and retains the device text description for previously configured devices.

Loop device configuration

Select the Loop device configuration option to manually add devices or to change the default configuration settings after autosetup.

To add a device or to change a device configuration:

1. Select Field setup from the Main menu, and then select Loop device configuration.
2. Select the corresponding loop and device.

   For new devices, a message is displayed.

3. Make the required configuration changes (device type, operating mode, text etc.).

4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Zone configuration

Zone configuration options are shown in the table below.

Table 25: Zone configuration options

Option	Description
Initial zone	Select this option to configure the initial zone
ZI Initial zone [1]	Select this option to configure the initial zone for a zone indicator
Zone configuration	Select this option to configure zones: Configurable options are: zone type (normal or confirmed with corresponding parameters); disable or enable a zone; and to enter a zone text description.
Area configuration	Select this option to define areas. An area is a group of zones used for alarm confirmation.

[1] This option is only available if an optional zone indicator board is installed.

Zone overview

The maximum number of zones available depends on the control panel model, as shown in the table below. The zone number range is 01 to 9999.

Table 26: Maximum number of zones

One-loop control panel	64 zones max.
Two-loop control panel	128 zones max.
Two-loop control panel with loop board	256 zones max.

Zones in networked control panels are considered global. If two networked control panels each include, for example, Zone 5, then these are grouped to create a single Zone 5 configuration within the network.

Remote zones

The control panel also considers an additional zone called remote zone (REMT) which spans all the zones in the system outside the control panel zones range. This virtual zone can be configured like any other zone in the system and it is important to define output group activation requirements when the panel receives remote alarms.

Initial zone

Select the Initial zone option to configure the initial zone. The initial zone defines the starting point of the fire alarm control panel zone range. The remaining zones for the corresponding control panel follow sequentially, as shown in the table below. The default initial zone is 01.

Table 27: Initial zones

Control panel	Initial zone	Remaining zones
One-loop control panel	1	2 to 64
One-loop control panel	200	201 to 263
Two-loop control panel	1	2 to 128
Two-loop control panel	520	521 to 647

For repeater panels without a zone board, the initial zone value is not used as the panel has no zones. The repeater panel displays zone events of the panels being repeated.

ZI initial zone

Select the ZI initial zone option to configure the initial zone for an installed zone indicator board. The ZI initial zone defines the zone number of the first zone indicator LED (top left) of the board. The remaining zones for the corresponding control panel follow sequentially, as shown in Table 28 below.

Note: This option is only available if an optional zone indicator board is installed.

The initial zone range is as follows:

- Between 01 and 9960 for a 40-zone indicator board
- Between 01 and 9980 for a 20-zone indicator boards
- Between 01 and 9976 for 24-zone indicator boards

The default initial zone for all zone indicator boards is 01.

Table 28: ZI initial zones

Zone indicator board	Initial zone	Remaining zones
20-zone indicator board [1]	01	2 to 20
40-zone indicator board [1]	200	201 to 239
24-zone indicator board [2]	9976	9977 to 9999

[1] For large cabinet control panels.
[2] For small cabinet control panels.

Note: Ensure that the zone numbers selected are inside the zone range of the control panel in networked mode or that the zone numbers are inside the range of the zones repeated by the control panel.

Assigning loop devices to zones

Create zones by assigning zone numbers to loop devices.

To assign a zone number to a loop device:

1. Select Field setup from the Main menu.
2. Select Loop device configuration.
3. Select the corresponding loop and device.
4. Assign a zone number to the device.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Repeat as required for each device.

If the zone number is outside the valid range determined by the corresponding initial zone and the number of loops of the control panel, the operation does not complete and an invalid zone number error is displayed on the LCD.

Zone configuration

Select the Zone configuration option to configure the zone type (normal or confirmed), to enter a zone description, and to enable or disable a zone. Zone configuration options are shown in the table below.

Table 29: Zone configuration options

Option	Description	Default value
Type	Confirmation type	NML (normal, no confirmation required)
Area [1] [2]	Area number	1
CIT/ACT [1]	Confirmation Inhibition Time (CIT) Alert Cancellation Time (ACT)	60 seconds 5 minutes
Control	Enable/Disable/Disable in day mode/Disable in night mode	ENB (enabled)
[BLANK]	Zone description	N/A

[1] Not required for zone type NML (normal, no confirmation required).
[2] Not required for zones that confirm an alarm in the same zone.

To change the zone configuration setting:

1. Select Field setup from the Main menu, and then Zone configuration.
2. Select Zone configuration, and then select the corresponding zone from the list of zones displayed.

3. Select the zone alarm confirmation type.

   The default setting is NML (no confirmation required). See “Zone alarm confirmation” below for more information.

   If you selected a zone type requiring confirmation, enter the confirmation inhibition time (CIT) and the alert cancellation time (ACT). See “Confirmation Inhibition Time (CIT) and Alert Cancellation Time” on page 66 for more information on these delays.

   If you selected a zone type requiring confirmation by an area, select the area number required for the confirmation. See “Area configuration” on page 67 for more information on areas.
4. Select the control option for the zone: ENB (enable), DIS (disable), DIS_D (disable in day mode), or DIS_N (disable in night mode).
5. Enter a text description for the zone (for example, ZONE1).
6. Press F4 (Enter), and then press F1 (Back).
7. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: If all the devices assigned to a zone are disabled, then the zone is considered to be disabled and is indicated accordingly on the control panel.

Zone alarm confirmation

Zone confirmation is an alarm coincidence configuration method designed to reduce nuisance alarms. A first alarm event places the zone and the control panel into alert status. Full alarm status is not confirmed until a second alarm is reported in the same zone or in a configured area. See “Area configuration” on page 67 for more information on areas.

Zone alarm confirmation types and descriptions are shown below.

Table 30: Zone alarm confirmation types

Option	Description
NML (default)	No confirmation is required.
sD(A) (type A EN 54-2)	The alarm is confirmed by the same detector. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
aDsZ (type A EN 54-2)	The alarm is confirmed by the same detector or by a different detector in the same local zone. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
dDsZ (type A EN 54-2)	The alarm is confirmed by a different detector in the same local zone. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
aDMsZ	The alarm is confirmed by a single manual call point and a single detector in the same local zone irrespective of which device first reports the alarm event.

Option	Description
aIMsZ	The alarm is confirmed by a single manual call point and a single initiating device in the same local zone irrespective of which device first reports the alarm event.
dMsZ	The alarm is confirmed by two different manual call points in the same local zone irrespective of which device first reports the alarm event. A detector alarm places the zone in alert status.
sD(B) (type B EN 54-2)	The alarm is confirmed by the same detector but with longer inhibition time than the sD(A) confirmation option. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
aDaZ (type B EN 54-2)	The alarm is confirmed by the same detector or by a different detector in the same local area. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
dDaZ (type B EN 54-2)	The alarm is confirmed by a different detector in the same local area. Alarms generated by a manual call point are not confirmed and activate a control panel alarm immediately.
aDMaZ	The alarm is confirmed by a single manual call point and a single detector in the same local area irrespective of which device first reports the alarm event.
aIMaZ	The alarm is confirmed by a single manual call point and a single initiating device in the same local area irrespective of which device first reports the alarm event.
dMaZ	The alarm is confirmed by two different manual call points in the same local area irrespective of which device first reports the alarm event. A detector alarm places the zone in alert status.

Confirmation Inhibition Time (CIT) and Alert Cancellation Time (ACT)

All zones configured for alarm confirmation must include configured delay periods for Confirmation Inhibition Time (CIT) and for Alert Cancelation Time (ACT). Maximum delay values for each are shown in the table below.

Table 31: Confirmation Inhibition Time and Alert Cancellation Time

Timer	Description	Maximum values
Confirmation Inhibition Time (CIT)	A configurable period during which the reporting of a second alarm event does not confirm an alarm	60 seconds [1] 240 seconds [2]
Alert Cancellation Time (ACT)	A configurable period after which the control panel exits alert status and returns to standby status	30 minutes [1] 30 minutes [2]

[1] EN 54-2 type A confirmation
[2] EN 54-2 type B confirmation

Area configuration

Select the Area configuration option to configure confirmation areas. An area is a group of zones where an alarm event can confirm the initial alarm in a zone.

The maximum number of areas available to configure is the same as the number of zones for the control panel:

- A one-loop control panel has 64 zones and 64 areas
- A two-loop control panel has 128 zones and 128 areas
- A four-loop control panel has 256 zones and 256 areas

To configure an area:

1. Select Field setup from the Main menu, and then select Zone configuration.
2. Select Area configuration.
3. Select the area number to configure.

   A list of available zones is displayed.
4. Select zones to be included in the confirmation area and press the jog dial to confirm each selection.

   YES indicates that a zone is included in the confirmation area, NO indicates that a zone is not included in the confirmation area.
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: When configuring a confirmed zone, remember that remote zones with the same zone number can activate a control panel alarm without confirmation. To avoid this type of unwanted alarm, configure the remote zones accordingly.

Panel I/O configuration

Panel input configuration

Configurable options for control panel inputs are shown below.

Table 32: Configurable options for control panel inputs

Option	Description
Type	Select this option to assign the input operation mode
Control	Select this option to enable or disable an input

Input types are shown in Table 33 on page 68. The default mode for all inputs is T_AL. (technical alarm activation: latched condition indicated on the LCD and stored in the event log).

To configure a control panel input:

1. Select Field setup from the Main menu.
2. Select Panel I/O configuration.
3. Select Panel inputs, and then select the corresponding panel input.
4. Select the input type.

   See Table 33 below for a list of available input types.
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Table 33: Configurable input types

Type	Description
T_AL (default)	Technical alarm activation. A latched condition indicated on the LCD and stored in the event log. Note: this input type can be used for gas detectors.
T_ALu	Technical alarm activation. An unlatched condition indicated on the LCD and stored in the event log. Note: this input type can be used for gas detectors and for connecting to aspirating detector Alert outputs.
D_TAL	Disable technical alarm inputs. When active, this input disables all the technical alarm inputs (latched and unlatched).
LG	Logged activation. An unlatched condition that generates no indications but it is only stored on the event log.
DT	Detector alarm. Note: this input type can be used for connecting to aspirating detector Fire1 outputs.
MCP	Manual call point alarm. Note: this input type can be used for connecting to aspirating detector Fire2 outputs.
PREAL	Prealarm (unlatched). Note: this input type can be used for connecting to aspirating detector Action outputs.
RST	Activation resets the panel remotely. To reset again, the input must be deactivated, and then activated again.
FLT	External fault. Activation generates a latched fault event indicated as an external fault.
DAY	Day mode. When this input is activated, the control panel switches to day mode until the next scheduled night mode change (or until the output is deactivated).
NIGHT	Night mode. When this input is activated, the control panel switches to night mode until the next scheduled day mode change (or until the output is deactivated).

Type	Description
FOS	Fault Warning Output Open Supervision. By using a 2010-FS-EOL end-of-line device, the control panel can supervise the open circuit condition of the Fault Warning output.
FRAK1	Fire routing acknowledgement (type 1). The input receives acknowledgement from the remote monitoring equipment that the fire routing signal was received correctly. If the acknowledgement is not received within 100 seconds of fire routing activation, the control panel reports a fire routing fault.
FRAK2	Fire routing acknowledgement (type 2). The input receives acknowledgement from the remote monitoring equipment that the fire routing signal was received correctly. If the acknowledgement is not received within 240 seconds of fire routing activation, the control panel reports a fire routing fault.
FPAK1	Fire protection acknowledgement (type 1). The input receives acknowledgement from remote fire protection equipment. If the acknowledgement is not received within 100 seconds of fire protection activation, the control panel reports a fire protection fault.
FPAK2	Fire protection acknowledgement (type 2). The input receives acknowledgement from remote fire protection equipment. If the acknowledgement is not received within 240 seconds of fire protection activation, the control panel reports a fire protection fault.
FP_FT	Fire protection fault. Used to indicate remote faults in fire protection equipment.
FBFSD	FBF sounders disable. The input is configured to interface to remote FBF equipment to disable or enable sounders.
UKSB	British school class change. Activation activates sounders for school class change indication.

To enable or disable a control panel input:

1. Select Field setup from the Main menu.
2. Select Panel I/O configuration.
3. Select Panel inputs, and then select the corresponding input.
4. In the Control option, select ENB (enable), DIS (disable), DIS_D (disable in day mode), or DIS_N (disable in night mode).
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Panel output configuration

Configurable options for control panel outputs are shown below.

Table 34: Configurable options for control panel outputs

Option	Description
Type	Select this option to assign the output operation mode
Group_n	Select this option to configure the output group number
Class	Select this option to configure the output wiring configuration (Class A or Class B)
Control	Select this option to enable or disable an output
[BLANK]	Output description
UKSB	Select this option to activate the output group when the UK school bell activates

To configure a control panel output:

1. Select Field setup from the Main menu.
2. Select Panel I/O configuration.
3. Select Panel outputs, and then select the corresponding output.
4. Select the output type.

   See Table 35 below for a list of available output types. The default setting for all outputs is SND (sounder output).
5. Assign an output group number, if required.

   See “Output groups” on page 71 for more information on output groups.
6. Select the output Class (Class A or Class B).

   The default setting is Class B.
7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Configurable output types are shown in the table below.

Table 35: Configurable output types

Type	Description
SND (default)	Select this option for a sounder output
FR	Select this option for a fire routing output
FP	Select this option for a fire protection output
PRG	Select this option for program options (see below)
EXTIN	Select this option for an extinguishing output

Type	Description
ALARM	Select this option for an output that activates when the control panel is in alarm status
FAULT	Select this option for an output that activates when the control panel is in fault status
TEST	Select this option for an output that activates when the control panel is in test status
DIS	Select this option for an output that activates when the control panel is in disable status

To enable or disable a control panel output:

1. Select Field setup from the Main menu.
2. Select Panel I/O configuration.
3. Select Outputs, and then select the output to be enabled or disabled.

   Configurable outputs are listed as OUT1, OUT2 etc, the supervised alarm output is listed as ALM_O, and the supervised fault output is listed as FLT_O.
4. In the Control option, select ENB (enable), DIS (disable), DIS_D (disable in day mode), or DIS_N (disable in night mode).
5. Press F4 (Enter), and then press F1 (Back).
6. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Note: At the installer level, changes to the configuration of a Class A output are applied to all output pairs used to create the Class A output (OUT1/OUT2 etc.). This includes enable/disable configuration options. For example, if the OUT1 type is changed to PRG and Group-n changed to 5, then the configuration of the paired OUT2 is updated automatically to match these settings.

Output groups

Select the Output groups option to configure the control panel output groups. Control panel outputs must be assigned to output groups for activation.

Note: This option is not available on repeater panels.

An output group is a collection of outputs of the same type that activate and deactivate at the same time (they are commanded simultaneously). Output groups are identified by the output group number.

Sounder output groups, fire routing output groups, and fire protection output groups are controlled (and their status indicated) by the corresponding sounder, fire routing, and fire protection buttons and LEDs on the front of the control panel.

Program output groups have no associated buttons or LEDs on the front of the control panel but their status is displayed on the LCD.

Up to 300 sounder, fire routing, fire protection, extinguishing, and program output groups can be configured (depending on group type).

An output is assigned to an output group by allocating the corresponding output group number.

Configurable options for output groups are as follows:

- The group number
- The type of outputs grouped (sounder, fire routing etc.)
- Activation (disabled or enabled)
- A short text description for the output group

The default control panel output group configuration is shown in Table 36 below. Outputs are assigned to the default output groups during autosetup (see “Autosetup” on page 60).

Table 36: Default control panel output group configuration

Group number	Type	Description
1	SND	Sounder and supervised outputs.
301	PRG	Nonsupervised relay outputs. These outputs are assigned to this group during autosetup.
801	EXTIN	Extinguishing device outputs. [1]
971	FR	Fire routing outputs. This group is only available on control panels with the corresponding fire routing controls.
981	FP	Fire protection outputs. This group is only available on control panels with the corresponding fire protection controls.
991	ALARM [2]	Outputs activated when the control panel is in alarm status.
992	FAULT [2]	Outputs activated when the control panel is in fault status.
993	DIS [2]	Outputs activated when the control panel is in disable status.
994	TEST [2]	Outputs activated when the control panel is in test status.

[1] Extinguishing output groups are only activated with EN 54 type C alarm confirmation.
[2] These output groups are not configurable.

To configure a control panel output group:

1. Select Field setup from the Main menu, and then select Output groups.
2. Select Group configuration.

   A list of the available output groups is displayed. Press F3 (Search) to find or create (if not present) an output group. Press F4 (Delete) to delete an output group.
3. Select the output group to configure.

4. Select the output group type (SND, FR, FP, EXTIN, or PRG).
5. In the Control option, select ENB (enable), DIS (disable), DIS_D (disable in day mode), or DIS_N (disable in night mode).
6. Enter a brief text description for the output group.
7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Output group activation

Output groups can be activated by any of the following:

- Zones activation with delays
- Output group confirmation for specific outputs (EN 54-2 type C)
- Logic rules (configured via the configuration utility PC application)

To avoid unexpected alarm behaviour, consider the activation options when configuring your fire system. If zone activation is not programmed correctly then a zone in alarm could override any required confirmation configuration of an output group.

Delayed output group activation with alarm confirmation

Note: This option is compliant with EN 54 type C alarm confirmation.

Activation of control panel output groups can be delayed based on alarm confirmation configuration (this may be used, for example, with outputs for extinguishing devices). The maximum configurable delay is 999 seconds.

The output group alarm confirmation configuration options are shown in the table below.

Note: Configuration requires that two independent alarm confirmations be selected from the available options and that a confirmation delay (in seconds) is entered for the corresponding output group to be activated.

Table 37: Output group alarm confirmation options

Option	Description
DEV l.ddd	An alarm activated by a predefined loop and addressable device, where “l” is the loop number and “ddd” is the device address
ZONE zzzz	An alarm activated by a predefined global zone, where “zzzz” is the global zone number (from 1 to 9999)
PANEL pp	An alarm activated by a predefined control panel, where “pp” is the control panel network node ID (from 1 to 32)
ALWAYS	If only a single alarm event with confirmation delay is required (for example for a manual call point zone), select the corresponding first alarm event, and then select this option for the second alarm

To configure delayed output group activation:

1. Select Field setup from the Main menu, and then select Output groups.
2. Select Confirmations.

   A list of the available output groups that allow alarm confirmation configuration is displayed.
3. Select the output group to configure.
4. Select Active, and then select YES (alarm confirmation is required) or NO (alarm confirmation is not required).
5. Select the alarm confirmation required (DEV, ZONE, PANEL, or ALWAYS).

   If alarm confirmation is required then the output group is activated only when both configured alarm confirmation states are detected during the confirmation delay period.
6. Enter the confirmation delay in seconds (0 to 999).
7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Delays configuration

Select Delays configuration options to configure the activation delays for output groups, investigation times, and general sounders behaviour (sounder silencing and second stage usage).

Note: This option is not available on repeater panels.

Delay configuration options are shown in the table below.

Table 38: Delay configuration options

Option	Description
Sounders	Select this option to configure the activation of sounder groups with zones in alarm. A warning delay can also be configured if the second stage delay option is required.
Fire routing	Select this option to configure the activation of fire routing groups with zones in alarm
Fire protection	Select this option to configure the activation of fire protection groups with zones in alarm
Program	Select this option to configure the activation of program groups with zones in alarm
Per zone	Select this option to configure the activation of output groups for each individual zone in alarm. For each zone, a different output group activation delay (including no activation) can be assigned for each configured output group.

Option	Description
General delays	Select this option to configure sounder silence disable time, maximum acknowledge time or extended fire routing delays, and warning time for second stage sounders applications

Sounder, fire routing, fire protection, and program output group delays

Select an output group type option to configure delays (including no activation) for sounder, fire routing, fire protection, and program output groups for all zones.

These output groups can be configured individually or all output group types at the same time. All zones are programmed with the same setting: global delay or no activation.

Configurable options for output group delays are shown in the table below.

Table 39: Configurable options for output group delays

Field	Description
Group_n	Output group selection (all output groups of the type selected or a single output group of the type selected)
Active	Output group activation (yes or no)
Delay	The delay (in seconds)
Wrn_Dly [1]	The warning delay (in seconds)

[1] Sounder output group delays only.

To configure the output group delay:

1. Select Field setup from the Main menu, and then select Delays configuration.
2. Select the output group type to configure (Sounder, Fire routing etc.).
3. Select Group_n, and then select ALL (to configure common delay settings for all output groups of the type selected) or select the output group number (to configure custom delay settings for a single output group of the type selected).
4. Select Active, and then select YES (to confirm output group activation in case of an alarm) or NO (to deactivate the output group).
5. Select Delay and enter the required delay in seconds.

   The maximum delay value for sounder, fire routing, and fire protection output groups is 600 seconds. The maximum delay value for program output groups is 999 seconds.

6. If required, enter a warning delay (in seconds) for sounder output groups in applications using warning tones (second stage sounders).

   A warning delay is only observed if the corresponding warning time is also configured (see “Warning time” on page 80 for more information on this option). The maximum warning delay value is 600 seconds.

7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Once a delay has been configured, it must be enabled.

Configured delays are only activated for alarms activated by a detector. Alarms activated by a manual call point ignore any configured delays.

Configured delays can be enabled or disabled by sensitivity mode programming (day/night mode), remote equipment by means of a programmed input, or the user interface delay buttons.

By default, the control panel does not process delays when operating in night mode. Remember that night mode can be activated by the day/night mode schedule, the holiday calendar, or by remote equipment. For specific applications, a delay in night mode can be configured if required. See “Additional day/night mode settings” on page 37.

Use these options to configure, for example, activation of sounders and fire routing with 100 seconds for any zone in alarm in the fire network inside the fire alarm panel zone range.

Notes

- Global delay options only set the delays of the zones that are enabled to activate the sounder or fire routing group. For example, if sounders and fire routing activate for zone 1 with a delay of 10 seconds and for zone 5 with a delay of 100 seconds, when selecting this option, sounders and fire routing will activate with the same selected delay after alarms in zones 1 or 5 and will not activate for all the other zones.
- The Activate for all zones option allows the user to apply the delay to all zones (including those previously configured not to activate the output group).

Per zone (sounder, fire routing, fire protection, or program)

Select the Per zone option to activate output groups with different delays (including no activation) depending on which zone generated the alarm.

All outputs assigned to the output group activate depending on alarms in the fire network, in the local range of zones of the panel, and with different delays.

For example, select this option to activate output group number 5 (sounder, fire routing, fire protection, or program) with a delay of 10 seconds for a detector alarm in zone 1 and with a delay of 100 seconds for a detector alarm in zone 5.

To configure per zone delay options:

1. Select Field setup from the Main menu, and then select Delays configuration.
2. Select Per zone.
3. Select the zone, and then select the output group whose delay you want to configure for the selected zone.

   The corresponding output group configuration options for the selected zone are displayed on the screen.
4. Select Active, and then select YES or NO to define output group activation for the zone.
5. Enter the required delay in seconds.

   The maximum delay value for sounder, fire routing, and fire protection output groups is 600 seconds. The maximum delay value for program output groups is 999 seconds.
6. If required, enter a warning delay (in seconds) for sounder output groups in applications using warning tones (second stage sounders).

   A warning delay is only observed if the corresponding warning time is also configured (see “Warning time” on page 80 for more information on this option). The maximum warning delay value is 600 seconds.
7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Outputs assigned to an output group (for example, output group 5 SND) are activated depending on alarms in the fire network and with the corresponding delays.

For example, if we have a one-loop control panel with the initial zone set to 100 and we want to configure sounder output group number 5, the following can be configured with this option:

- No activation for zones 100 to 119
- Activation with a ten-second delay for zones 120 to 139
- Activation with no delay for zones 140 to 163
- No activation for remote zones (in this example, zones 1 to 99 and zones 164 to 9999 are remote zones). Remote zones are indicated as REMT on the LCD.

This programmed output activation can be configured with the configuration utility (recommended) or via the Delay configuration menu at the control panel.

General delays

Select the General delays option to configure region-specific investigation times or advanced delay options.

Configurable options for general delays are shown in the table below.

Table 40: Configurable options for general delays

Field	Description
InvMode	Investigation mode. Select this option to enable regional investigation time modes (maximum acknowledgement time, extended fire routing delay).
Time	Investigation time. Select this option to configure regional investigation time delays (maximum acknowledgement time, extended fire routing delay).
WrnTime	Warning time. Select this option to configure the warning time when the control panel is configured to use a warning tone for a second stage sounders application. For standard applications with no warning tone requirement, this time must be 0.
SdSilDT	Sounder silence disable time. Select this option to disable silencing sounders with the Sounder Start/Stop button for a preconfigured time when a sounder delay is running.

To configure general delays:

1. Select Field setup from the Main menu, and then select Delays configuration.
2. Select General delays.
3. Select Investigation mode, and then select the type of investigation mode required.

   See “Investigation mode” on page 79 for more information on this option.
4. If an investigation mode is selected, select Time, and then enter the time value (in seconds).

   See “Investigation time” on page 80 for more information on this option.
5. If warning tones are required (for second stage sounders), select Warning time, and then enter the time value (in seconds).

   If a delay is required before the warning tone begins, configure the warning delay for the corresponding output group.

   See “Warning time” on page 80 for more information on this option.
6. Select Sounders silence disable time, and then enter the value (in seconds).

   The default delay is 60 seconds. The minimum delay is 0 seconds (this configuration is not recommended). The maximum delay should be lower than the minimum configured sounders delay.

   See “Sounders silence disable time” on page 81 for more information on this option.

7. Press F4 (Enter), and then press F1 (Back).
8. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Investigation mode

Select the Investigation mode option to define a regional investigation mode for the control panel. The available options are shown in the table below. The default setting is NO (no investigation mode is required).

Note: For fire routing investigation modes, in the event of several fire routing groups, the extended delay applies only to the groups in delay when the alarm is acknowledged by the user.

Table 41: Regional investigation time modes

Setting	Description
NO (default)	No investigation mode is required.
MAX_ACK_T	Maximum acknowledgement time. The configured investigation time starts to count down when the control panel reports a detector alarm. If the alarm is acknowledged during the investigation time (by pressing the Panel Silence button), then any sounder or fire routing delays continue to be processed as configured. If a new zone reports an alarm after the control panel is silenced, the panel starts another acknowledgement time period. If the alarm is not acknowledged during the investigation time (by pressing the Panel Silence button), then sounders and fire routing are activated when the configured investigation time elapses.
FREXT_ACK	Extended fire routing delay (typically for Scandinavia). The configured fire routing delay starts to count down when the control panel reports a detector alarm. If the alarm is acknowledged during the configured fire routing delay (by pressing the Panel Silence button), then the extended fire routing delay becomes the active delay. If the alarm is not acknowledged during the configured fire routing delay (by pressing the Panel Silence button), then the extended fire routing delay is not activated.
FREXT_SND [1]	Extended fire routing delay (typically for Holland). The standard fire routing delay starts to count down when the control panel reports a detector alarm. If the alarm is acknowledged during the configured fire routing delay (by pressing the Sounders Start/Stop button), then the extended fire routing delay becomes the active delay. If the alarm is not acknowledged during the configured fire routing delay (by pressing the Sounders Start/Stop button), then the extended fire routing delay is not activated.

[1] Sounder delay must be configured as 0 seconds for this option.

Investigation time

Select the Investigation time option to configure the duration (in seconds) of the investigation time for the configured investigation mode. Minimum, maximum, and default values for each mode are shown in the table below.

Table 42: Investigation time values per mode

Investigation mode	Minimum	Maximum	Default
Manual acknowledgement time	30 seconds	See note [1]	60 seconds
Extended fire routing delay (for Scandinavia)	See note [2]	600 seconds	60 seconds
Extended fire routing delay (for Holland)	See note [2]	600 seconds	60 seconds

[1] The maximum value must be less than the minimum delay to activate a sounder or fire routing group.
[2] The minimum value must be greater than the maximum activation delay for any fire routing group.

Warning time

Select the Warning time option to configure a warning time for applications with warning tone requirements (second stage sounders).

Note: If a warning delay is required, this must be configured separately (see “Sounder, fire routing, fire protection, and program output group delays” on page 75).

With this option, sounders emit the warning tone for a configured period of time (the warning time). When the warning time ends, the sounder tone changes to the evacuation tone (the warning tone continues to sound for the duration of any configured delay that precedes the evacuation tone). See Figure 19 and Figure 20 on page 81, below, for examples of delays with and without second stage requirements.

Note: The sounder tones are configured in the corresponding device configuration screen.

There are three configurable time periods, as shown in the table below.

Table 43: Warning time, warning delay, and delay

Time period	Description
Warning time	The time from when the alarm is reported until the sounders activate the evacuation tone (or the corresponding evacuation tone delay starts to count down)
Warning delay [1]	The optional delay before the sounders activate the warning tone
Delay [1]	The optional delay before the sounders activate the evacuation tone

[1] To configure these values, see “Sounder, fire routing, fire protection, and program output group delays” on page 75.

Figure 19: Detector alarm with second stage delay

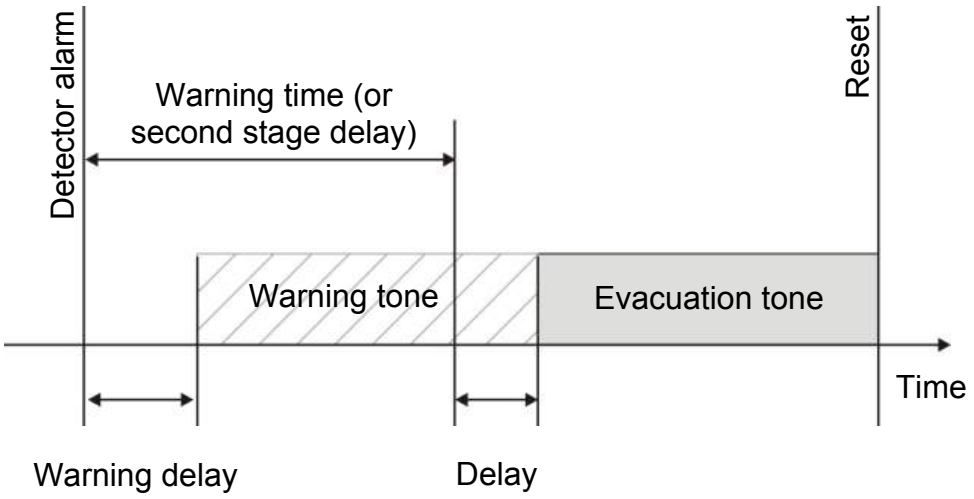
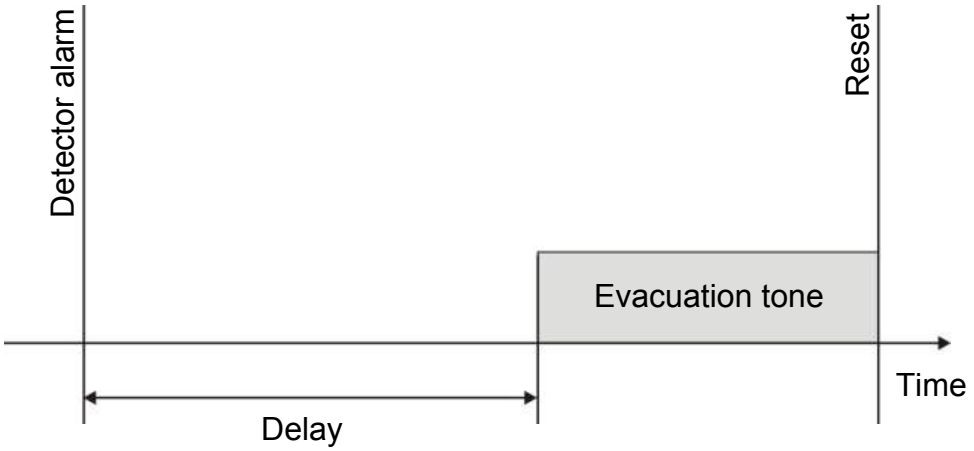


Figure 20: Detector alarm with standard delay (no second stage)



Sounders silence disable time

Note: The "sounders silence disable time" feature is only available for control panels operating in EN 54-2 mode. For control panels in EN 54-2 Evacuation or NBN S21-100 modes, any configured sounder silence disable times are ignored.

To prevent the immediate silencing of sounders when an alarm is first reported, the Sounder Start/Stop button may be temporarily disabled for a preconfigured period of time when a configured sounder delay is counting down. The default disable time for the Sounders Start/Stop button is 60 seconds.

The disable time starts to count down when the control panel enters alarm status and the configured sounder delay starts.

During the configured disable time the Sounder Start/Stop LED is off and the sounders cannot be silenced (before activation) by pressing the Sounder Start/Stop button.

In the time between the end of the configured disable time and the end of the configured sounder delay (when the Sounder Start/Stop LED is flashing), pressing the Sounder Start/Stop button silences sounders (before activation).

A configured sounder delay may still be cancelled while the delay is running (and sounders activated) by pressing the Sounder Delay button.

Loop Class configuration

Select the Loop Class option to configure the installation loop Class (Class A or Class B). The default setting is Class A.

To configure a loop as Class A or Class B:

1. Select Field setup in Main menu.
2. Select Loop Class and select the loop number (1 for one-loop panel; 1 or 2 for two-loop panel etc.).
3. Select Class A or Class B.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Tests

Diagnostics

Select Diagnostics options for tools to support troubleshooting during installation. The following diagnostics options are available:

Table 44: Diagnostics options

Option	Description
Individual device	Select this option to poll loop devices and to inspect the raw data retrieved for an individual loop device address. Important: This option alters the normal detection scan to only poll the device under test. This means that no alarms are reported by the system while this test is being performed.
Outputs current	Select this option to view current consumption values for the control panel outputs
Power supply	Select this option to view parameters for the control panel power supply and batteries
Loop values	Select this option to view the voltage and current consumption values for the control panel loops

To activate a diagnostics test:

1. Select Test in the Main menu, and then select Diagnostics.
2. Select the diagnostics test you require.

   If the individual device test is selected, enter the loop and address details for the device to be inspected (for example, 1.089 for device 89 on loop 1).

3. When the test is completed, exit the diagnostics menu to return the control panel to normal operation.

Password setup

Use the Password setup menu to change your password and to manage user accounts (operator, maintenance, or installer).

Changing your password

Select this option to change your password.

To change your password:

1. Select Password setup from the Main menu, and then select Change password.
2. Enter your current password.
3. Enter and then confirm your new password.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Managing users

Select the Manage users option to edit, delete, or create operator, maintenance, or installer user accounts. The control panel allows for a maximum of 20 user accounts (all user levels combined).

To edit a user account:

1. Select Password setup from the Main menu, and then select Manage users.

   A list of all user accounts is displayed.
2. Select the user account you want to edit.
3. Select the information to be edited and enter the change.

   To change the user password you need to re-enter your installer password, and then allocate and confirm the new user account password.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

To delete a user account:

1. Select Password setup from the Main menu, and then select Manage users.

   A list of all user accounts is displayed.

2. Select the user account you want to delete.

   You cannot delete the default user accounts
3. Press F4 (Delete) to delete the selected account.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

To create a new user account:

1. Select Password setup from the Main menu, and then select Manage users.
2. Press F3 (New) to create a new account.
3. Enter a username, a password, and a user level for the new account.

   Usernames help to identify user session activity in the event log.
4. Press F4 (Enter), and then press F1 (Back).
5. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Secure access

Select the Secure access option to configure the control panel to allow secure or nonsecure access. The default setting is for secure access (all username and password information must be entered at each login).

- If nonsecure access is selected, the control panel automatically prefills the last username and password combination entered for login
- If secure access is selected, all username and password information must be entered at each login

To configure the security setting:

1. Select Password setup from the Main menu, and then select Secure access.
2. Select the required security setting.
3. Press F4 (Enter), and then press F1 (Back).
4. Press F1 (Save), F3 (Apply), F4 (Discard), or F2 (Exit).

   Remember to apply saved settings from the Main menu.

Commissioning

After the control panel and corresponding devices are installed and configured, the system must be commissioned.

Check the following:

- That the fire system is designed in accordance with all required regulations and standards
- That the maximum alarm current in your installation does not exceed the maximum current specifications of the power supply
- That all equipment is correctly installed and tested and that all cabling complies with the recommendations outlined in “Recommended cables” on page 18
- That all software functions are correctly programmed
- That all installed detectors are appropriate for installation environment and operate correctly
- That all inputs and outputs operate correctly
- That any input/output logic (rules and actions) configuration is correct
- That the fire system is functioning correctly in standby and is not reporting any alarms or faults
- That under the alarm conditions (with all applicable devices activated), the current consumption does not exceed the power supply specifications (if the batteries are not activated the current consumption is within the specifications)

Chapter 4
Maintenance

Summary

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

Content

Fire alarm system maintenance

To ensure correct functioning of your control panel and fire alarm system, and compliance with all European regulations, the following maintenance checks should be followed.

Caution: Ensure that fire routing (where configured) has been disabled or that the fire brigade has been notified of any planned fire alarm tests.

Quarterly maintenance

Contact your installation or maintenance contractor to carry out a quarterly inspection of the fire alarm system.

This must 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 should be checked and the batteries tested using the “Battery test” menu option (see “Battery test fault indications” on page 89).

Annual maintenance

Contact your installation or maintenance contractor to carry out an annual inspection of the fire alarm system.

This must 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

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 unit. Do not clean the inside of the cabinet with liquid products.

Battery maintenance

The control panel requires two 12 V, rechargeable, sealed lead-acid batteries with 7.2, 12, or 18 Ah capacity. Compatible batteries for this product are shown in Table 45 below.

Batteries are located inside the control panel cabinet and must be installed in series. Polarity must be observed. Connect batteries to the BAT connector on the control panel PCB.

Table 45: Compatible batteries

Battery type	Recommended batteries
12 V, 7.2 Ah	UTCFS BS127N Fiamm FG20721/2 Yuasa NP7-12
12 V, 12 Ah	UTCFS BS130N Fiamm FG21201/2 Yuasa NP12-12
12 V, 18 Ah	UTCFS BS131N Fiamm FG21703 Yuasa NP17-12

Battery test fault indications

A flashing Supply Fault LED indicates a battery fault or a battery cable fault. Additional information for the fault is displayed on the LCD, as shown below.

Table 46: Battery fault messages

LCD message	Description
Battery high resistance FLT	The batteries may be damaged or fully discharged
Battery fault	The batteries may be damaged
Battery disconnected	The batteries are disconnected or no batteries are installed
Battery short circuit	There is a battery cable short circuit

If the control panel reports any of the above battery faults, check the battery cables. If the cables are in good condition and all connections are correct, then the batteries should be replaced immediately.

In addition to the above, the following battery charger faults may display:

- Battery charger: sensor HI
- Battery charger: sensor LO
- Battery charger: overvoltage
- Battery charger: undervoltage
- Battery charger: compensation

Replacing batteries

Batteries must be replaced periodically as recommended by the 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:

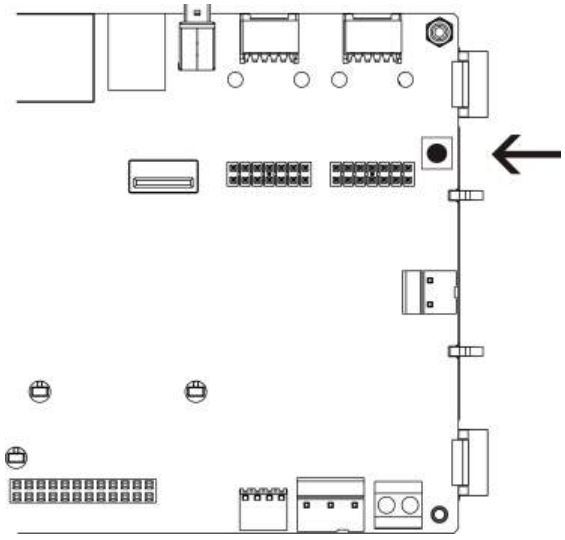
1. Remove the battery bridge.
2. Disconnect and remove the existing batteries from the cabinet.
3. Install and connect the replacement batteries using the bridge provided. Observe the correct polarity.
4. Dispose of the battery as required by local ordinances or regulations.

Battery start-up

The battery start-up option may be required after replacing batteries after a low battery indication when mains power is not available.

To power up the control panel from the batteries, press the battery start button on the control panel PCB (marked as BAT, see Figure 21 below). Keep the button pressed for approximately five seconds.

Figure 21: Battery start-up button



Chapter 5
Technical specifications

Summary

This chapter provides technical specifications for your control panel.

Content

Loop specifications

Loop configuration	Class A or Class B
Loop protocol	2000 series
Isolators	At least one isolator per loop (we recommend one isolator for every 32 devices)
Number of loop devices	128 max.
Electrical characteristics – maximum per loop	250 mA at 36 VDC (29 to 36 VDC)
Resistance	52 Ω max. (26 Ω per wire)
Capacitance	500 nF max.

Power supply specifications

Mains voltage	240/110 VAC +10% −15%
Mains frequency	50/60 Hz ±5%
Mains current	
Maximum	1.5 A at 240 VAC 3.15 A at 110 VAC
Average	0.6 A at 240 VAC 1.3 A at 110 VAC
CIE input voltage and current (mains on)	24 VDC, 4 A
Power (mains on)	137 VA (24 VDC, 4 A)
CIE input voltage (mains off)	21 to 29 VDC
Maximum ripple at full load	150 mVpp Note: Ripple and noise are measured at 20 MHz of bandwidth by using a 12-inch twisted-pair wire terminated with a 0.1 µF and 47 µF parallel capacitor.
Mains fuse	T4A-250V at 240 VAC T4A-250V at 110 VAC
Typical control panel current consumption (with no devices connected)	
One-loop control panel	180 mA at 24 VDC
Two-loop control panel	250 mA at 24 VDC
Repeater panel	110 mA at 24 VDC
Typical expansion board current consumption	
Network board	50 mA at 24 VDC
Loop board (no load connected)	120 mA at 24 VDC
20-zone board	12 mA at 24 VDC
40-zone board	14 mA at 24 VDC
Quiescent current (Imax a)	2.5 A max. at 24 VDC
Alarm current (Imax b)	4 A max. at 24 VDC

Battery and battery charger specifications

For recommended battery specifications, see “Battery maintenance” on page 89.

Type	Sealed lead-acid batteries (2X)
Battery charging voltage	27.3 V at 20ºC – 36 mV/ºC
Battery charging current	1.2 A max.
Low battery indication	23.6 VDC ± 1% at 25ºC Note: Additional 0.2 V (max.) drop if Imax b current in battery cables.
System shutdown warning	21.5 VDC ± 1% at 25ºC
System shutdown (for battery protection)	21 VDC ± 1% at 25ºC

LCD specifications

Display type	240 x 128 dot graphic LCD (monochromatic)
LCD dimensions (L x W)	83 x 44 mm (active area)
Backlight type	LED style
Backlight colour	White

Communication port specifications

Ethernet	Ethernet 10/100BaseT port (10 Mbps) Note: For increased security, we recommend against using Ethernet for remote connection to the control panel via the Internet.
TCP/IP	IPv4
USB host port	USB 2.0, type A connector
USB device port	USB 2.0, type B connector

Fire network specifications

Maximum distance between two control panels	1.2 km
Maximum capacity	32 loops and 32 nodes
Communication protocol	Proprietary protocol based on RS-485

Input and output specifications

Input and output overview

	Configurable outputs	General fire outputs	General fault outputs	24V AUX output	Configurable inputs
One-loop panel	2 Class B 1 Class A	2 (see note)	2 (see note)	1	2
Two-loop panel	4 Class B 2 Class A	2 (see note)	2 (see note)	1	2
Two-loop panel with loop board	8 Class B 4 Class A	2	2	1	2
Repeater panel	0	2	2	1	2

Note: 1 supervised output and 1 potential-free relay.

Configurable inputs	
Number of inputs	2 supervised inputs, end-of-line resistor 15 kΩ, 1/4 W
Active value	60.2 Ω ≤ active value ≤ 8 kΩ
Normal value	10 kΩ ≤ value ≤ 20.2 kΩ
Short circuit values	≤ 60.2 Ω
High-impedance fault value	8 kΩ < value < 10 kΩ
Open circuit values	≥ 20.2 kΩ
Configurable options	See Table 33 on page 68

Configurable outputs	
Supervision (Class B outputs)	Reverse polarity, end-of-line resistor 15 kΩ, 1/4 W
Supervision (Class A outputs)	Reverse polarity, end-of-line resistor 4.7 kΩ, 1/4 W
Maximum output current	750 mA per output at 25 ºC 600 mA per output at 40ºC (small cabinet) 675 mA per output at 40ºC (large cabinet)
Maximum electrical characteristics for sounder activation	1 A start-up current (t ≤ 2ms), load 100 µF
Configurable options	See Table 35 on page 70

Fire and fault outputs	
Available output pairs	1 output pair for Fire 1 output pair for Fault (activated when no fault)
Output pair specifications	1 supervised output: reverse polarity, end-of-line resistor 15 kΩ, 1/4 W 1 potential free relay: C/NO/NC
Maximum output current	
Supervised output	350 mA per output for all temperature ranges
Relay output	2 A / 30 VDC

24V auxiliary output	
Maximum output current	500 mA at 25ºC 385 mA at 40ºC
Configurable options	Resettable, not deactivated during reset (default), inactive when mains off, not deactivated when running on batteries (default)

Mechanical and environmental specifications

Mechanical	
Cabinet dimensions (L x W x H)	
Small cabinet	410 x 162 x 298 mm
Large cabinet	450 x 173 x 550 mm
Weight (without batteries)	
Small cabinet	5.2 kg
Large cabinet	7.4 kg
Number of cable knockouts	
Small cabinet	9 x Ø 20 mm at top of cabinet 2 x Ø 20 mm at bottom of cabinet
Large cabinet	18 x Ø 20 mm at top of cabinet 2 x Ø 20 mm at bottom of cabinet
IP rating	IP30

Environmental	
Operating temperature	−5 to +40ºC
Storage temperature	−20 to +50ºC
Relative humidity	10 to 95% noncondensing

Figure 22: Large cabinet dimensions and views

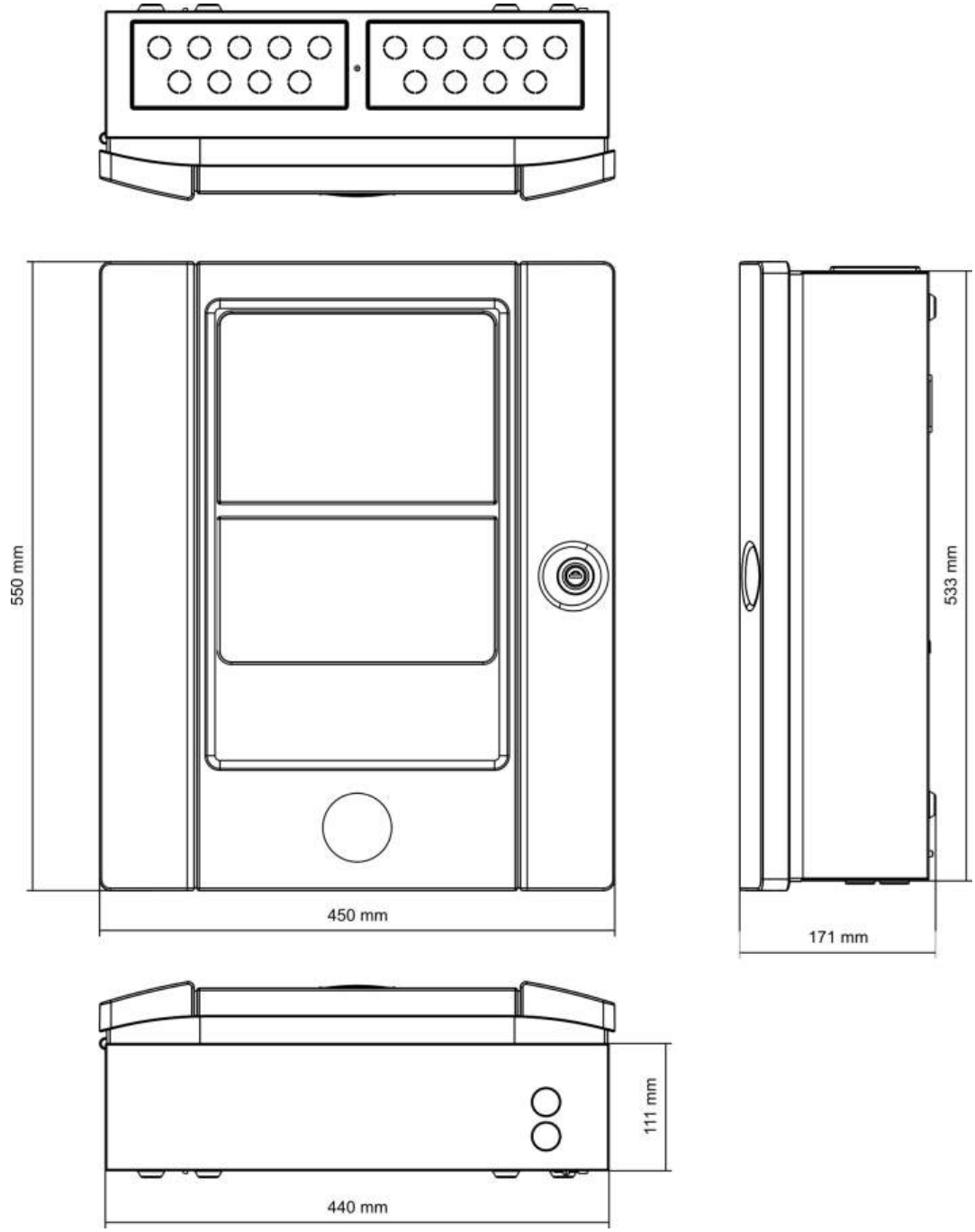
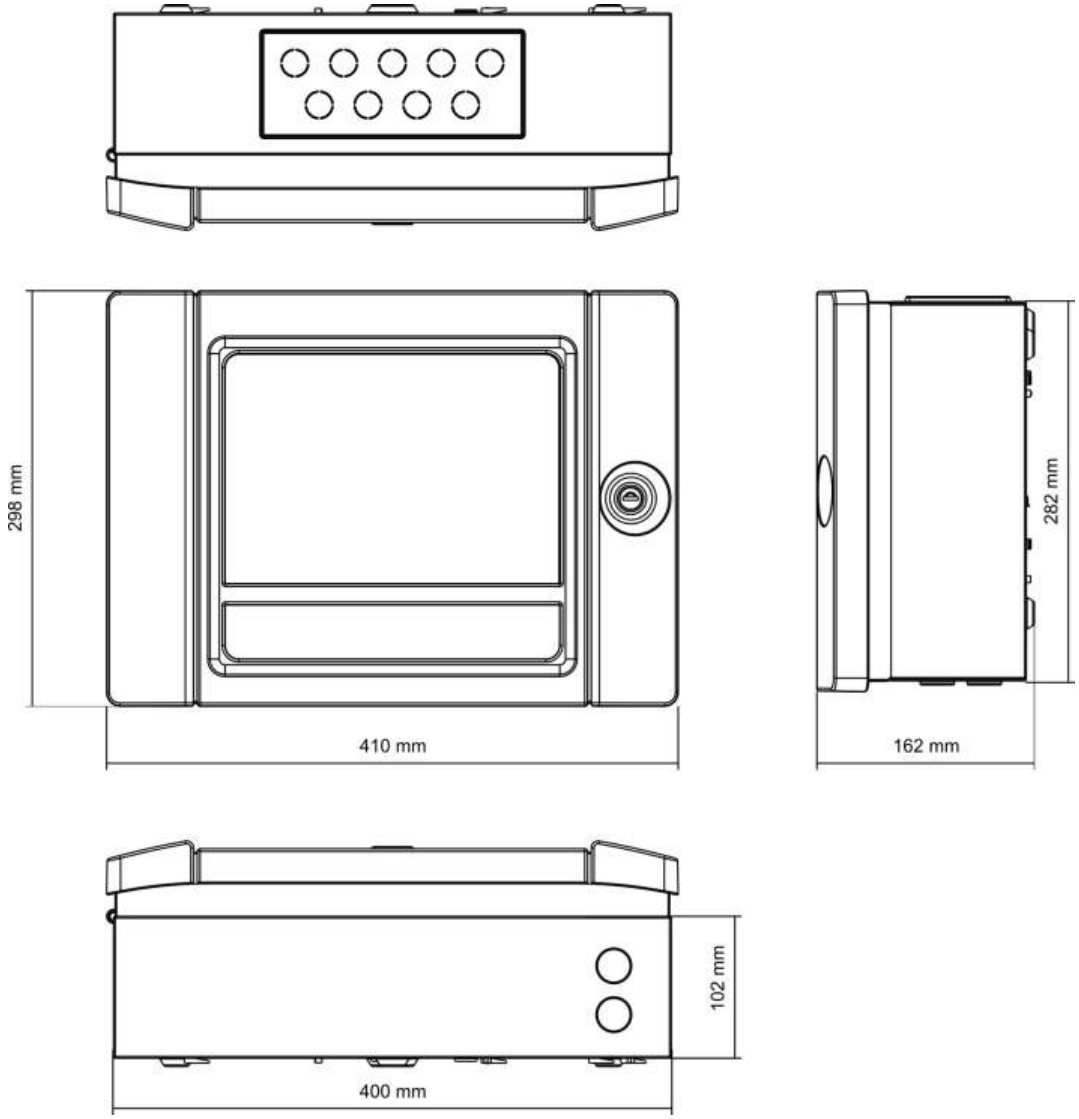


Figure 23: Small cabinet dimensions and views



Appendix A
Default configurations

The following table shows the settings for the default configuration of your panel.

Table 47: Default configurations

Description	Default setting
Power supply operation	230 VAC
Control panel ID	01
Day/night mode	Full day to day mode
Control panel network operation	Stand-alone
Network global commands	Yes
Network mask	0 (all panels excluded from the mask)
Repeater panel network operation	Repeater
Repeater mask	All panels repeated
IP address	192.168.104.140
Subnet mask	255.255.255.0
Gateway	0.0.0.0
Port	2505
24V auxiliary	Not deactivated during reset, not deactivated when running on batteries
Fault mask	All faults are reported
Sounders re-sound	Sounders re-sound
Expansion boards for repeater panels	Network board is configured
Initial zone	1
Autosetup zone	All detectors, manual call points, and zone modules to the initial zone All sounders to output group 1 (sounders) All relay/non-supervised outputs to output group 301 (program) All extinguishing modules to output group 801 (extinguishing) All inputs configured as technical alarm latched

OUT1, OUT2 etc. (Class B)	Sounder output (all zones)
Fire output	Activated by fire alarms in all zones
Fault output	Follows the General Fault LED and is activated when there is no fault (fail-to-safe)
IN1 and IN2	Technical alarm latched (T_AL)
Delays	All delays to 0 in all zones Sounder, fire routing, fire protection, and program groups to be activated by all zones Sounders silence disable time 60 seconds
Expansion boards	None

Appendix B
Menu maps

Fire alarm control panels

Maintenance user level

Menu level 1	Menu level 2	Menu level 3
Panel setup	Date and time	
	Day/Night mode	Day/Night schedule
		Holiday calendar
		Day/Night setup
	Communications	Email accounts
		Remove USB device
Disable/Enable	Zones	
	Devices	
	Panel outputs	
	Panel inputs	
	Output groups	
	Remote disable	
Test	Zone test	
	Output test	Panel outputs
		Loop outputs
	Output group test	
	Locate device	
	Service mode	
	Remote test	
	UI test	Indicators test
		Keyboard test
		LCD test
	Battery test	

Menu level 1	Menu level 2	Menu level 3
Reports	Event log	View all
		Clear
	Attention required	
	Revision	Firmware revision
		Configuration revision
		Serial numbers
	Contact details	
	Zone status	
	Zone mapping	
	Device status	
	Panel I/O status	
	Output groups status	
	Rules status	
	Firenet status	
	Save reports	All
		Current events
		Event log
		Attention required
		Zone status
		Device status
		Panel I/O status
		Output groups status
		Rule status
		Firenet status
Alarm counter		
Password setup	Change password	
	Manage users	

Installer user level

Menu level 1	Menu level 2	Menu level 3
Field setup	Autosetup	
	Loop device configuration	
	Zone configuration	Initial zone
		ZI initial zone
		Zone configuration
		Area configuration

Menu level 1	Menu level 2	Menu level 3
	Panel I/O configuration	Panel inputs
		Panel outputs
	Output groups	Group configuration
		Confirmations
	Delays configuration	Sounders
		Fire routing
		Fire protection
		Program
		Per zone
		General delays
	Loop Class	
Panel setup	ID configuration	
	Date and time	
	Day/Night mode	Day/Night schedule
		Holiday calendar
		Day/Night setup
	Regional options	
	Firenet	Firenet map
		Firenet opmode
		Repeater map
		Global controls
		Event filter
		Command filter
		Class B
	Communications	TCP/IP
		Email accounts
		Email server
		Remove USB device
	Other settings	24V aux. configuration
		Fault mask
		Buzzer
		Re-sound sounders
		School bells
	Configuration	Restore configuration
		Load configuration
		Save configuration
		Default configuration

Menu level 1	Menu level 2	Menu level 3
	Expansion boards	
	Load auxiliary files	Splash screens
		Languages
		Language fonts
	Firmware update	
Disable/Enable	Zones	
	Devices	
	Panel outputs	
	Panel inputs	
	Output groups	
	Remote disable	
Test	Zone test	
	Output test	Panel outputs
		Loop outputs
	Output group test	
	Locate device	
	Service mode	
	Remote test	
	Diagnostics	Individual device
		Outputs current
		Power supply
		Loop values
	UI test	Indicator test
		Keyboard test
		LCD test
	Battery test	
Reports	Event log	View all
		Clear
	Attention required	
	Revision	Firmware revision
		Configuration revision
		Serial numbers
	Contact details	
	Zone status	
	Zone mapping	
	Device status	
	Panel I/O status	

Menu level 1	Menu level 2	Menu level 3
	Output groups status	
	Rules status	
	Firenet status	
	Save reports	All
		Current events
		Event log
		Attention required
		Zone status
		Device status
		Panel I/O status
		Output groups status
		Rules status
		Firenet status
Alarm counter		
Password setup	Change password	
	Manage users	
	Secure access	

Fire alarm repeater panels

Maintenance user level

Menu level 1	Menu level 2	Menu level 3
Panel setup	Date and time	
	Communications	Email accounts
		Remove USB device
Disable/enable	Zones	
	Panel outputs	
	Panel inputs	
	Output groups	
	Remote disable	
Test	Output test	Panel outputs
	Service mode	
	Remote test	
	UI test	Indicators test
		Keyboard test
		LCD test

Menu level 1	Menu level 2	Menu level 3
	Battery test	
Reports	Event log	View all
		Clear
	Attention required	
	Revision	Firmware revision
		Configuration revision
		Serial numbers
	Contact details	
	Panel I/O status	
	Firenet status	
	Save reports	All
		Current events
		Event log
		Attention required
		Panel I/O status
		Firenet status
Alarm counter		
Password setup	Change password	
	Manage users	

Installer user level

Menu level 1	Menu level 2	Menu level 3
Field setup	Zone configuration	ZI Initial zone
	Panel I/O configuration	Panel inputs
Panel setup	ID configuration	
	Date and time	
	Regional options	
	Firenet	Firenet map
		Firenet opmode
		Repeater map
		Global controls
		Event filter
		Command filter
		Class B
	Communications	TCP/IP
		Email accounts

Menu level 1	Menu level 2	Menu level 3
		Email server
		Remove USB device
	Other settings	24V aux. configuration
		Fault mask
		Buzzer
	Configuration	Restore configuration
		Load configuration
		Save configuration
		Default configuration
	Expansion boards	
	Load auxiliary files	Splash screens
		Languages
		Language fonts
	Firmware update	
Disable/Enable	Zones	
	Panel outputs	
	Panel inputs	
	Output groups	
	Remote reset	
Test	Output test	Panel outputs
	Output group test	
	Locate device	
	Service mode	
	Remote test	
	UI test	Indicators test
		Keyboard test
		LCD test
	Battery test	
Reports	Event log	View all
		Clear
	Attention required	
	Revision	Firmware revision
		Configuration revision
		Serial numbers
	Contact details	
	Panel I/O status	
	Firenet status	

Menu level 1	Menu level 2	Menu level 3
	Save reports	All
		Current events
		Event log
		Attention required
		Panel I/O status
		Firenet status
Alarm counter		
Password setup	Change password	
	Manage users	
	Secure access	

Appendix C
Regulatory information

European standards for fire control and indicating equipment

These control panels have been designed in accordance with European EN 54-2, and EN 54-4 standards.

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

Table 48: EN 54-2 optional requirements

Option	Description
7.8	Output to fire alarm devices [1]
7.9.1	Output to fire alarm routing equipment [2]
7.9.2	Alarm confirmation input from fire alarm routing equipment [2]
7.10	Output to fire protection equipment (type A, B, and C) [3]
7.11	Delays to outputs [4]
7.12	Dependencies on more than one alarm signal (types A, B, and C) [4]
7.13	Alarm counter
8.4	Total loss of the power supply
8.9	Output to fault warning routing equipment
9.5	Disablement of addressable points [4]
10	Test condition [4]

[1] Excluding repeaters and control panels operating in EN 54-2 Evacuation or NBN modes
[2] Excluding repeaters, control panels without fire routing, and control panels with fire routing operating in NBN mode
[3] Excluding repeaters and control panels without fire protection controls
[4] Excluding repeaters

Construction Products Directive (CPD)

Table 49: Product CPD information

Certification	CE
Certification body	0832
Certificate numbers 2X-F1, 2X-F1-FB, 2X-F1-SC, 2X-F1-S, 2X-F1-FB-S, 2X-F1-SC-S 2X-F2, 2X-F2-FB, 2X-F2-SC, 2X-F2-S, 2X-F2-FB-S, 2X-F2-SC-S	 0832-CPD-1544 0832-CPD-1546
EN 54	EN 54-2: 1997 + A1: 2006 EN 54-4: 1997 + A1: 2002 + A2: 2006
Year of manufacture	The year and day of manufacture, in the format YYDDD, is included in the first five digits of your product serial number (located on the product identification label)
Manufacturer	UTC Fire & Security (Africa), 555 Voortrekker Road, Maitland, Cape Town 7405, PO Box 181 Maitland, South Africa Authorized EU manufacturing representative: UTC Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands

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 detailed in this manual and when using only the devices identified as EN 54-13 compatible in the compatible products list included with this control panel.

See the installation and configuration chapters of this document for specific installation and configuration requirements to ensure full compatibility with this standard.

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 60950-1
- EN 50130-4
- EN 61000-6-3
- EN 61000-3-2
- EN 61000-3-3

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