Protec

6100 Control Panel

Installation and Commissioning Manual

Issue 16



Document Revision Details

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16	Added new devices to Input / Output Device Support Refer to ECN5110	TW	22/09/2026

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1 For your safety



Danger! Insulated battery terminal covers must be fitted where provided. Do not rest tools, cables or any conductive objects on top of the batteries. Always use insulated tools when working on this product.



Danger! There is a risk of fire or explosion resulting from misuse of batteries. Do not attempt to disassemble, puncture, wrongly connect or damage the battery in any way. Use the battery restraints provided where available.



Danger! Batteries connected to this product can deliver high currents that could cause fire or burns. Take care to avoid short circuit of the battery terminals by conductive objects such as tools or jewellery.



Danger! Ensure the mains supply to this product has been completely isolated before opening and working on its internal components.



Warning! Any protective or functional bonding conductors disconnected or removed during installation or maintenance must be correctly refitted to preserve the protective earth within this product.



Warning! This product is vented to prevent the build-up of hydrogen which is released during the normal charging process of sealed lead acid batteries. To maintain ventilation, this products enclosure must not be sealed.



Warning! Ensure that the mains supply cabling is adequately rated for this products operating current and temperature, and is protected against short-circuit by a correctly rated fuse or circuit breaker.



Warning! Any terminal covers, protective covers or shrouds removed during installation or maintenance should be refitted to protect from damage or injury.



Warning! Continuity of circuit protective conductors must be maintained across this products installation



Warning! Ensure Class I products are correctly connected to a protective earth point in the building installation by a suitably sized protective earth conductor.



Caution! Take care when handling the product and its component parts. Some parts may have sharp edges or corners.



Notice! This equipment and its associated connections must be installed, commissioned and maintained by a suitably trained skilled and competent person.



Notice! This equipment is not guaranteed unless installed and commissioned in accordance with current national standards.



Notice! Aspects of the system design may be governed by local regulation, in which case, the regulation shall take precedence over the recommendations given in this manual.



Notice! Due to the wide variation in installation conditions, mounting hardware is not supplied with the panel. Use fixing devices suitable for the mounting surface and mounting style of your installation.

Notice! Wiring should be completed in accordance with local wiring regulations and the local fire alarm design and installation standard. The correct cable separation and cable segregation methods must be used in accordance with local wiring regulations.

Notice! It is assumed that the commissioning engineer has read the User Manual and is therefore familiar with the basic operation of the system.

Notice! Clean the screen and surfaces with a slightly damp soft cloth only. Do not use any cleaning agents and make sure that no liquid enters the inside of the device.

Notice! Take care using any pointed or sharp objects (e.g. screw drivers, pens, etc.) when working near the display.

Notice! This product contains exposed sensitive components. Ensure the inside of its enclosure is kept clean from any debris, swarf, dust, tools or building materials.

Notice! This product and any of its associated devices, must not be connected to any cable undergoing insulation resistance testing. Any external cabling must be completely discharged before connection to this product.

Notice! The mains supply cabling must be connected by a certified electrician working to the relevant local standards and regulations. Mains cable restraints must be used where provided.

Notice! Any external connections into this product must be made using cable glands, or similar, suitable to maintain the products stated Ingress Protection (IP) rating.

Notice! This product must not be installed in an area that is subject to a corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with its external connections.

Notice! This product must be installed in the correct orientation and location as specified in the installation manual.

Notice! This product must be sited in a readily accessible location that facilitates safe maintenance work.

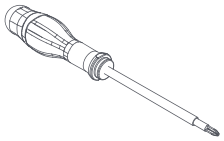
Notice! Take care to tighten fasteners to the correct torque, as indicated in the products installation manual.

Notice! Anti-static handling precautions must be taken when carrying out any internal maintenance work to prevent damage to the product. Ensure a suitable anti-static wrist-strap is worn and is correctly bonded to the internal earth point before working inside the product.

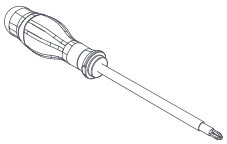
Notice! This panel is fully compliant with EN54-2.
Incorrect configuration within the commissioning software may allow for contravention of the requirements of EN54-2 when the system is intended to be used as a fire alarm system. System programming is only to be undertaken by trained and competent engineers familiar with EN54-2.

2 Tools and Materials

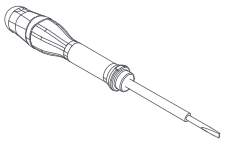
Tools required to install the 6100 Control Panel.



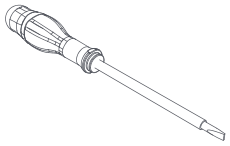
PZ1 Pozidriv® Screwdriver



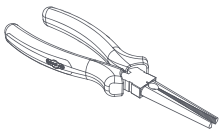
PZ2 Pozidriv® Screwdriver



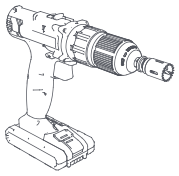
Terminal Screwdriver
(2.5 mm Wide Tip)



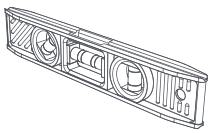
Large Slotted Screwdriver
(5 mm Wide Tip)



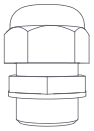
Long Needle Nose Pliers



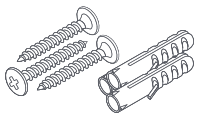
Power Drill with Hole Saw



Spirit Level



Suitable Cable Glands



Mounting Hardware



The use of torque limiting screwdrivers is preferred to prevent the overtightening of internal fasteners and terminal blocks.



Unless otherwise specified, tighten all internal fasteners to 0.6 - 0.8 N·m and terminal blocks to 0.4 N·m.



Any protective bonding conductors disconnected or removed during installation or maintenance must be refitted to preserve the protective earth within this product.



Warning – Electrical Hazard: Installation and servicing must only be performed by qualified personnel. Always isolate mains power before opening the enclosure or working on internal components. Failure to follow these instructions could result in serious injury or death.

Important Notes

- Both the 6100 User Manual and this manual should be thoroughly read and understood before installation and commissioning is undertaken.
- The 6100 and its associated connections must be installed, commissioned and maintained by a suitably trained, skilled and competent person.
- It is assumed that the person commissioning the system is aware of Protec Fire Detection equipment terminology and terms of reference.
- For full details of routine inspection and maintenance schedules, refer to the 6100 User Manual (RDM0052), which includes daily, weekly, monthly, annual, and five-year testing requirements in accordance with BS 5839-1.
- This equipment must be earthed, and earth continuity must be preserved on broken segments of screened cable used anywhere in the system installation.
- This equipment is not guaranteed unless installed and commissioned in accordance with current national standards.
- This equipment WILL NOT operate as a fire alarm panel when the USB port is connected and is in commissioning mode.
- This equipment is not suitable as part of an I.T type power distribution system as defined in IEC 60364-3.
- It is perfectly normal for sealed lead acid batteries to vent small amounts of hydrogen when being charged. The 6100 is vented to dissipate any build-up of hydrogen. The 6100 enclosure must not be not sealed in any way.
- A competent person trained to undertake such work MUST carry out any internal maintenance. There are no user serviceable parts inside the 6100. Opening the PCB housing will immediately invalidate the warranty.
- Any installation, commissioning and maintenance should only be performed by a skilled person as defined in IEC 62368-1.

UK CA This equipment has been designed and manufactured to conform to the requirements of all applicable UK directives and regulations.

CE This equipment has been designed and manufactured to conform to the requirements of all applicable EU council directives and regulations.

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling in accordance with the European Waste Electrical and Electronic Equipment Directive (WEEE).

3 Items Supplied with the 6100

- User manual
- Installation and Commissioning Manual (this manual)
- Loop Commissioning Booklet (used to affix loop device barcode labels at the relevant addresses)
- 6100 Spares kit

4 Items and Information Required Prior to Commissioning

4.1 Site information required to commission the 6100

To ensure rapid and trouble-free commissioning the following information should be supplied to the commissioning engineer in advance of the proposed commissioning date.

- Loop device text (20 characters maximum per device)
- Zone text (20 characters maximum per zone)
- Panel text (2 lines of 20 characters maximum)
- Cause and effect programming, including:

- Zone information
- Matrix information
- Delays to outputs
- Fire Link Delay
- Coincidence operation

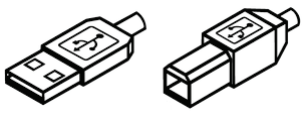
4.2 Items required to commission the 6100 using the windows software

- Suitable PC with a USB port (please consult the 6100 programming manual for details of the recommended PC specification)

- 6100 commissioning software Windows program (and associated dongle if the system is managed)

- 6100 Programming Manual (available upon request, or from the Protec website)

- USB 2.0 Lead (Type A male to Type B male 2 metre maximum length), as illustrated below:



TYPE A **TYPE B**

5 Introduction and Key Features

The 6100 is a single loop fire alarm control panel incorporating an integrated power supply and high-power loop driver circuit that communicates to a maximum of 192 Protec 6000Plus series detectors/sounders and 6000 series interfaces.

The 6100 has been designed and manufactured in the United Kingdom and complies fully with current standards dictating fire alarm system design practice (EN 54 parts 2 and 4).

Sophisticated tracking algorithms (Protec Algo-Tec™) are employed in the 6100 to discriminate between genuine and unwanted alarms, reducing the incidence of false alarms.

The integrity and reliability of a fire alarm system is paramount and consequently the 6100 continually monitors all critical paths for faults. The fire detection loop devices and wiring are constantly monitored to check for faults. The integrated power supply regularly performs self-checks to ensure it is fully working and that the stand-by batteries are in a good state.

Any alarms or faults detected are reported clearly on the front panel display and entered into a 300 event historic event log.

The key features include.

- High-capacity single loop driver supporting a maximum of 192 Protec loop devices (detectors, sounders, and interfaces)
- Clear controls and indications
- Intuitive menu system
- Uses Protec Algo-Tec™ detection algorithms to minimise unwanted alarms
- Two operating sensitivity levels may be set up per automatic detection device
- Sensitivity levels on detectors can be programmed to switch at pre-set times (Day/Night mode)
- Devices may be programmed into any one of 32 zones
- Monitored Fire Link output (including fire link delay, search time and disablement)
- Two monitored conventional alarm circuits (always driven as a pair)
- Global volt free fault and fire changeover contacts
- Monitored Auxiliary 24 V output
- Programmable Remote Alarm input
- Programmable Class Change input
- Programmable Sound Alarms button operation
- Programmable conventional alarm output group
- Global walk test feature
- Alarm, zone, buzzer, and Fire Link disablement
- Programmable T1 and T2 output group delays (output group specific)
- Programmable pulsing alarm timeout (global)
- Programmable coverage volume for EN 54-23 compliant VAD devices
- Coincidence operation (to EN 54 part 2 type C dependency)
- Global fire relay can operate on automatic, manual or all types of alarm
- Alarm counter (maximum of 9999 alarms)
- 300 event fire and non-fire historic logs
- Output groups may be programmed to be alarm or control type
- Loop devices may be individually programmed to be non-latching
- Programmable volume on loop sounders*

* The loop sounder must have programmable volume capability

6 6100 Cabling Requirements

6.1 General

All wiring associated with the system must conform to the current I.E.E Regulations, and cabling must conform to the relevant BS specifications. ECA recommended cable separation for electromagnetic compatibility in buildings must be followed.

Where screened cables are used it is important to ensure that screen continuity is maintained between cable segments. Any screen wiring in the panel enclosure must be sleeved and securely bonded to the earth points provided.

For further information on cables, wiring and other interconnections please consult clause 25 of BS 5839 Part 1:2025 (or any document superseding it).

6.2 Mains Input Rating Label

The mains rating label is located on the outside of the casing of the 6100 and should be consulted before starting installation. The label details the working voltage, frequency, and maximum current of the 6100.

6.3 Mains Wiring

The 6100 requires mains supply exclusive to the panel that uses fixed three-core wiring (between 0.75 mm^2 and 2.5 mm^2) which is fed from a double pole isolating fused spur, fused at 3 A.

Unauthorised operation of the mains supply must not be allowed, and the fused spur should be labelled **"FIRE ALARM PANEL: DO NOT SWITCH OFF"**.



Mains wiring must be segregated from all other system wiring. The wiring clamp must be used to secure the incoming cables.



The panel must have a means of manual disconnection to safely isolate it from the mains supply. This is in accordance with BS 7671 (IET Wiring Regulations).

6.4 Alarm Circuit Wiring

Two alarm circuits are provided which are always driven simultaneously. Each alarm output can provide 100 mA of current and must be terminated with the correct value end of line resistor, even if the alarm output is not used.

The gauge of the alarm circuit wiring must be chosen such that the volt drop along the wiring does not exceed specified limits. The maximum wiring resistance may be calculated using the following formula.

$$R_{wiring_max} = (20.5 – V_{device\ min}) / (I_{device\ max})$$

Where R_{wiring_max} is the maximum resistance of the alarm circuit wiring (both conductors)
$V_{device\ min}$ is the minimum Voltage the alarm circuit devices are specified to work down to
$I_{device\ max}$ is the maximum total current that will be drawn on the alarm circuit

For example, if alarm devices are specified to work to a minimum of 16 V and the maximum alarm circuit current is 80 mA, the maximum alarm cable resistance is 56.25 Ω (28.13 Ω per conductor).
To achieve an enhanced drive capability of 200 mA it is permitted to connect both alarm circuits in parallel, in which case the end of line resistor must be reduced. Please see Section 12 for end of line values.



Devices connected to the alarm circuits must be polarised and suppressed.
Alarm devices must not be connected on spurs from the main alarm circuit wiring as a spur will not be monitored for open circuit faults.

6.5 Fire Link Wiring

The fire link output may be used to signal an alarm condition to a remote monitoring station.

The fire link output is monitored for open and short circuit cable faults and, when used, must only connect to the Protec 6100 fire link end of line module. If the fire link output is not used it must be terminated locally in the panel (consult Section 12 for details).

Suitably fire rated, screened cable must be used to connect the 6100 to the remote end of line module. The resistance of the cabling must be no more than 25 Ω in total (12.5 Ω per conductor).

6.6 Addressable Loop Wiring and Devices

The 6100 loop wiring carries both power and data to the loop devices. For the system to operate correctly under all conditions the voltage drop along the loop must be kept within specified limits.

The voltage drop on the loop is a function of both the resistance of the loop cabling (determined by the gauge of cable and the length of the loop) and the current that the loop must carry (determined by the number and type of loop devices connected).

The loop wiring must be wired from the panel terminals marked 'LA+ and LA-' round all the loop devices and reconnected at the panel terminal marked 'LB+ and LB-' (see Figure 1).

Most Protec loop devices incorporate an integrated short circuit loop isolator. No more than 20 loop devices must be connected between isolators, and a loop isolating device **must always** be used on a zone boundary (a Manual Call Point is usually used for this purpose).

To comply with EN54-2 a Manual Call Point must be located next to the 6100, so that any system delays (if programmed) will be overridden by activation of the Manual Call Point at access level 1.

In the case of screened cables always ensure that individual segments have earth continuity (cable screen and/or drain wire is classed as earth), and that the earth wiring does not touch any other connections, or any other earthed points.

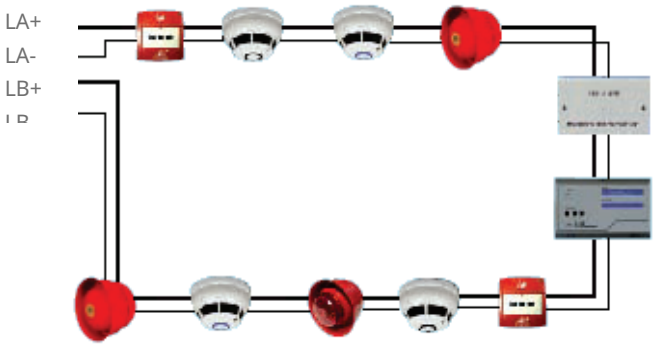


Figure 1 - Typical 6100 loop configuration

Table 2 shows the general characteristics required for the loop cabling.

Recommended Cable Type	Twin core twisted pair or twin core screened (screen must be connected to earth). Four core cable must not be used.
Recommended Cable Size	1.0 mm2 to 2.5 mm2
Maximum Cable Resistance	16 Ω per conductor (dependent on loop volt drop calculations)
Maximum Cable Capacitance	0.22 µF (220 nF) per km between conductors
Maximum Cable Distance	1.5 km (dependent on loop volt drop calculations)

Table 1 - General loop cable requirements

		Loop Length (meters)										
		500	550	600	650	700	750	800	850	900	950	1000
Total loop load in alarm (mA)	50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	150	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	250	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	300	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	350	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
	450	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
	500	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.5
	550	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5
	600	1.0	1.0	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5

		Loop Length (meters)										
		1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Total loop load in alarm (mA)	50	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	100	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	150	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	200	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	250	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	300	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	350	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	400	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5
	450	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	500	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	N/A
	550	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	N/A
	600	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	N/A	N/A	N/A

Table 2 - Guide to required cable size vs average loop current

7 Insulation Testing of Cabling Prior to Connection

Before connecting any external cables to any field device or the 6100, tests should be carried out using a 500 V dc insulation tester (Megger®). If tests are performed the insulation readings between each cable core, and each cable core and earth must be greater than 10 MΩ.



The 6100 or associated devices must not be connected to any cables when high voltage insulation tests are being performed on the cabling. The cabling must be completely discharged prior to connection to the 6100. Equipment connected to the cabling during insulation tests will be damaged by the high voltages used, invalidating any warranty.

8 Installing the 6100

The 6100 circuit board is fully enclosed within a sealed control PCB housing. The control PCB housing must never be opened. If the 6100 requires repair, it must be sent back to the Protec factory.

The batteries are fully accessible with the control PCB housing removed from the back-box.

The 6100 must be located internally in an area that is not subject to dampness, direct sunlight, extremes of temperature or physical abuse. The environmental limits are given in Section 12.

8.1 Unpacking

Carefully open the cardboard carton (do not use a sharp object) and remove the packing fitments, manuals, and spares pack.

8.2 Removal of the Door

Remove the 6100 from the packaging then, using a T15 Torx® type security tool, unscrew but do not withdraw the fixing screw from the bottom of the panel housing front as shown in Figure 2 (stage 1).

Slide the door upward from the bottom and pull away as shown in Figure 2 (stages 2 and 3).

Put all removed parts in a safe, dry place.

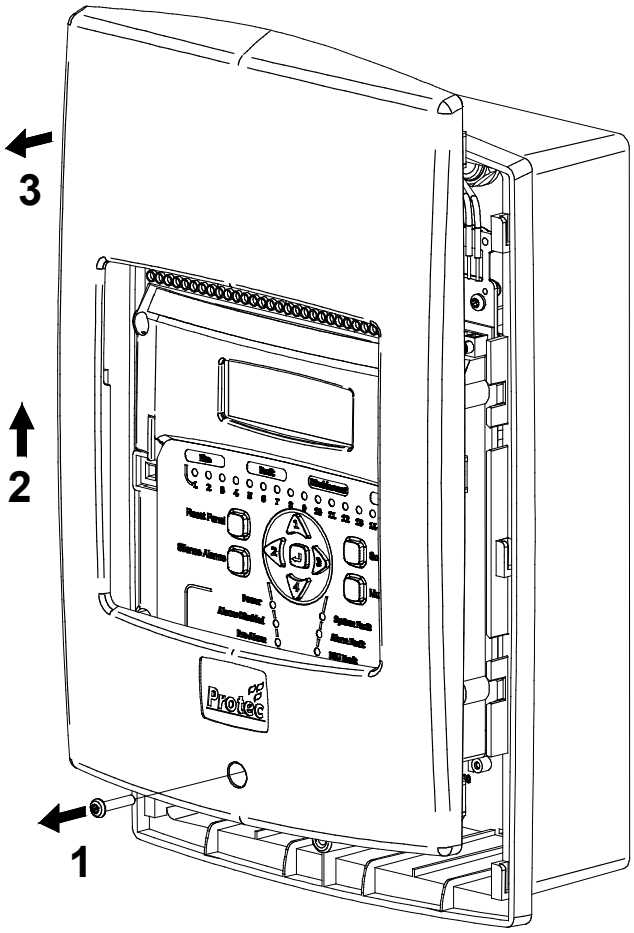


Figure 2 - Removing the 6100 door.

8.3 Disconnection of the Fire Brigade Panel (FBP) Connections

If the 6100 is equipped with the optional Fire Brigade Panel control interface, ensure that the ribbon cable and earthing cable are disconnected from the rear of the controller as shown in Figure 3.

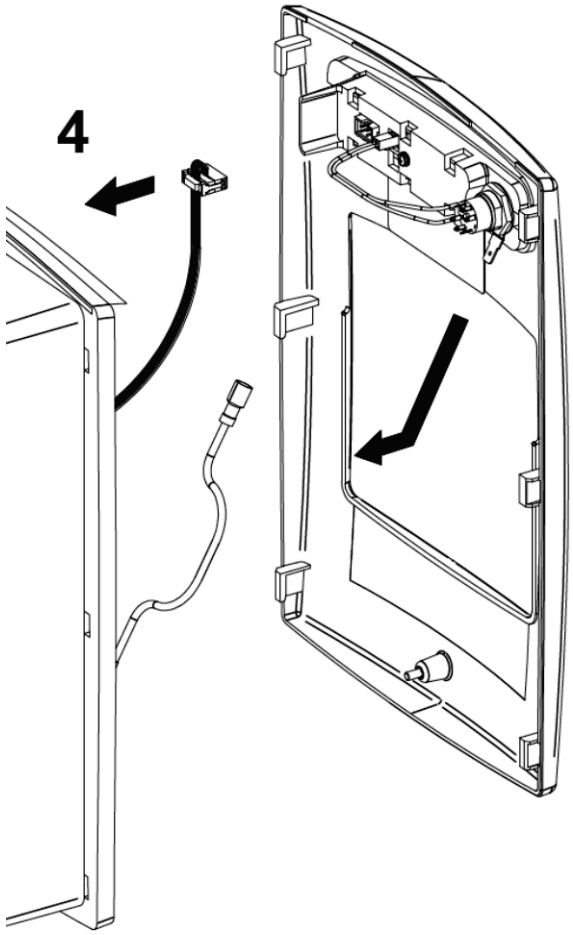


Figure 3 - Removing the FBP control interface connections.

8.4 Removal of the Control PCB Housing

Before handling the 6100 panel control PCB housing it is important that any operatives discharge themselves of any static charge that may have built up. This can be done by momentarily touching a solid earth point (a non-painted part of a radiator, for example).

The Control PCB housing is a sealed unit and must not be opened. Tampering with this unit will invalidate the warranty. If the unit becomes faulty it must be returned for repair.

Unscrew and remove the four mounting screws on the control PCB housing. Carefully lift away the control PCB housing from the plastic enclosure. See
Figure 4.

The 6100 control PCB housing and all screws should be stored in the cardboard carton away from the place of work where they will not get damaged.

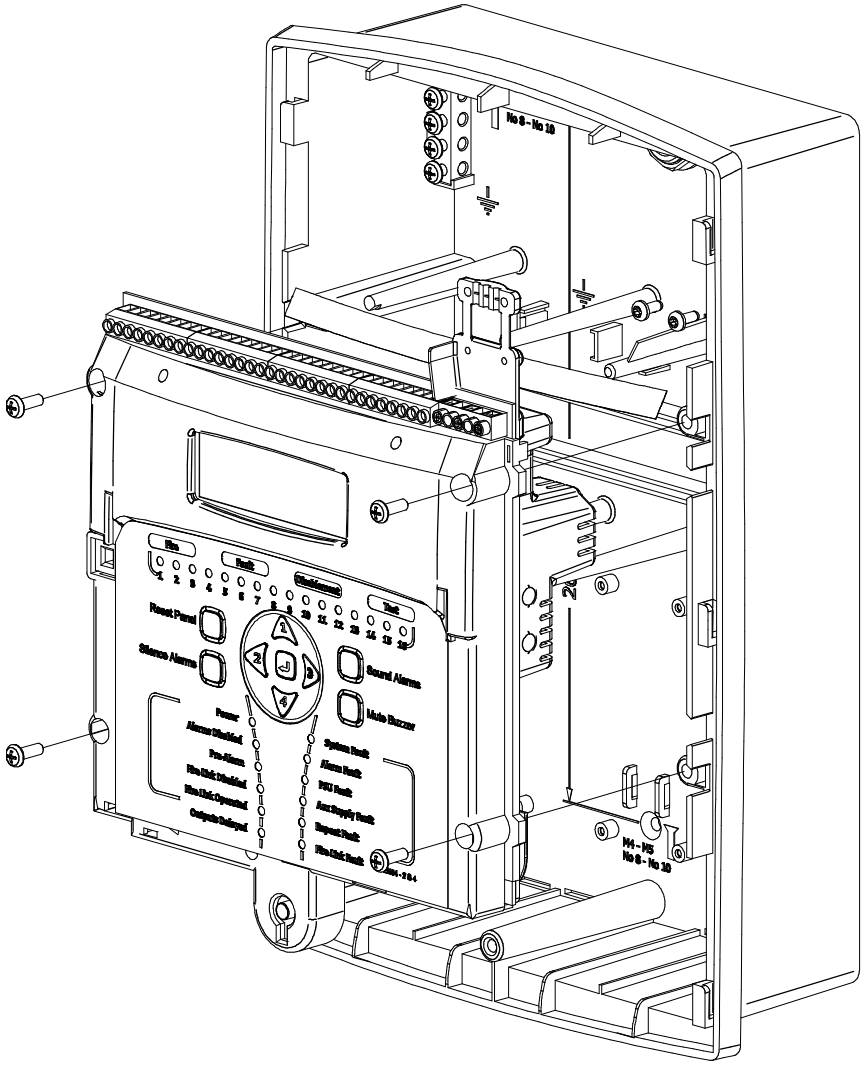


Figure 4 - Removal of the 6100 Control PCB Housing

8.5 Preparing the Mounting Position and Cable Entries

The 6100 may be surface or flush mounted onto a vertical wall at <2 m mounting height (no extra bezel is required when flush mounting).

Ensure there is a suitable recess clearance and that the recess allows for safe cable routing. In installations where flush panel mounting is required, allowances must be made for the panel in addition to the cable routing recess.

Use the dimensions shown on the interior rear face of the 6100 back-box in conjunction with a spirit level to mark out the fixing locations for the panel. Now drill and plug the mounting holes just marked.

Using a suitable tool carefully remove the rear panel knockouts at the required cable entry positions and mount the enclosure in position whilst feeding the cables into the enclosure via suitable glands.



The mains cable entry position *must* be segregated from all other system cabling, a reserved knock-out is provided specifically for this purpose.



A recess clearance behind the unit is required to allow safe cable routing and avoid potential hazards. The clearance recess depth should be determined by a qualified fire protection or electrical installer in accordance with local safety regulations.



A four-way brass earth block is supplied with the 6100. Three locations are provided for this in the 6100 back box. This allows the best location to be selected depending on wiring entry requirements. Choose the location then clip the earth block into the back box, ensuring it is securely fitted.



Ensure there is sufficient ventilation around the ventilation holes in the seam at the top of the panel.

Parameter	Rating
Mounting environment	The panel must be mounted in a location with no exposure to direct sunlight, moisture, or vibration. Consult the Safety and Regulatory Information leaflet (DEL2190) for further information.
Mounting surface	The panel must be mounted on a stable, level surface that is not subject to vibration which can sufficiently support its weight and accommodate the necessary fixing hardware. The fixing hardware and location must be appropriate for the wall construction.
Mounting orientation	The panel must be mounted in its normal orientation to a vertical surface, using a spirit level. Any twist or inclination in the installation may allow the batteries to move within the chassis.
Mounting location	The panel must be positioned in an accessible location, at an accessible height, allowing sufficient space around the installation for user operation and maintenance. Take into consideration any large, unfixed furniture or equipment that may obscure the panel from access.
Mounting hardware	Use suitable mounting hardware for the mounting surface and the panel weight. M4 or M5 screws with a minimum length of 38mm must be used to correctly fit to the panel mounting holes.
Chassis entry	Any openings made in the chassis must be suitable to maintain the product's stated Ingress Protection (IP) rating.

8.6 Installing the Standby Batteries

The 6100 is designed to house two 12 V 3.3 Ah Valve Regulated Lead Acid (VRLA) batteries. These fit into the back-box and must be secured with the two plastic tie-wraps provided (as shown in Figure 5).

Only use batteries supplied or recommended by Protec. The internal charger has been specifically designed to maintain the charge voltage at an optimum level for these batteries over the entire operating temperature range to maximise the life of the batteries.

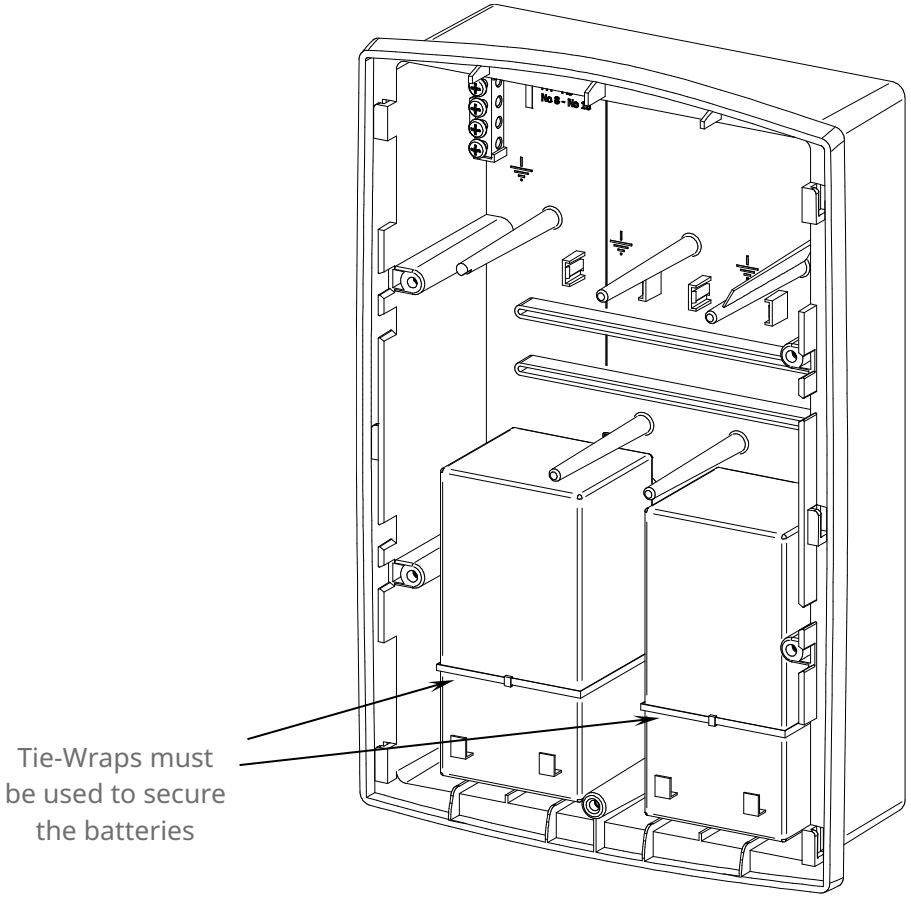


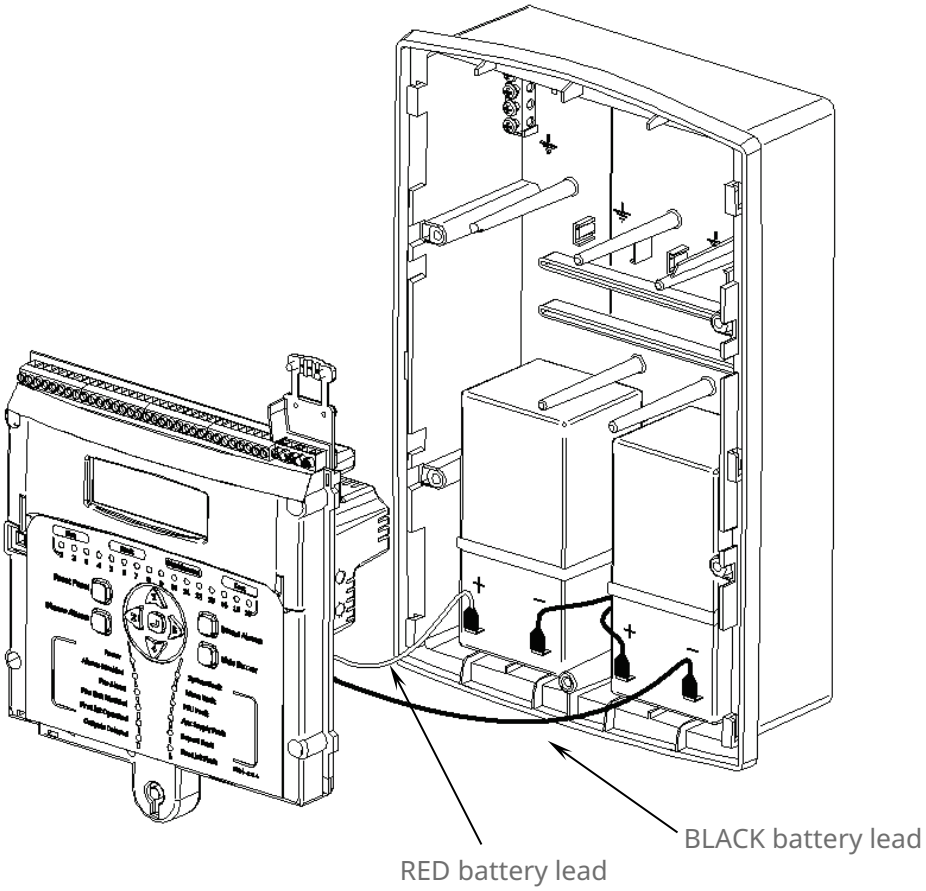
Figure 5 - Installation of 6100 standby batteries (shown with the lid and control PCB housing removed)

Caution: The batteries for this product must be installed by a suitably trained, skilled and competent person.

8.7 Connecting the Standby Batteries

The two standby batteries must be connected in series with the battery link provided. Then, observing correct polarity (red lead to the positive of one battery and black lead to the negative of the other battery), carefully push the spade connectors of the 6100 battery leads onto the relevant battery terminals (illustrated in Figure 6).

Please note that at this point the 6100 will not power up until the mains supply is connected.



Observe polarity when connecting the battery leads

Figure 6 - Standby battery connections

8.8 Replacing the Standby Batteries

Batteries shall be replaced every 4 years, unless earlier replacement is warranted due to capacity loss, physical damage, or failure identified during routine maintenance in accordance with BS 5839. Replacing batteries as recommended ensures reliable operation during power outages and reduces safety risks associated with degraded or faulty batteries. Battery replacement should only be performed by a suitably trained, skilled and competent person.

To replace the batteries, first isolate the power to the 6100 unit. Open the enclosure, disconnect the battery leads and remove the plastic tie-wraps securing the batteries. Remove the old batteries from the back-box and install the new ones by following instructions in Section 8.6 and 8.7.

After replacing the batteries, verify the system powers up in the normal operating state and the batteries are charging properly. Always dispose of used batteries in accordance with the battery manufacturer's instructions and local regulations.

Battery Replacement Type:
Use 2 × 12 V 3.2 Ah Valve Regulated Lead Acid (VRLA) batteries.
For approved systems, the specified model is: YUCEL Y3.2-12, certified under UL File Number MH28018.
Alternative batteries must be certified under UL Guide Number BAZR2 and compliant with UL 1989, with equivalent type, voltage, capacity, and UL Component Recognition. Use of non-compliant batteries may compromise safety, performance, and product approvals.

8.9 Refitting the Control PCB Housing

Ensure that all cable earth connections are sleeved to insulate them and then securely connect them to the brass earth terminals in the back-box.

Carefully route the battery leads (from the rear of the control PCB housing) down between the two batteries.

If the 6100 is equipped with a fire brigade panel controller, ensure the ribbon cable connected to the back of the control PCB housing is located over the top of the control PCB housing when refitting into the back-box.

Replace the control PCB housing (a reversal of removal), ensuring it is pushed flush to the back box and that the battery leads do not get trapped. Secure with the four screws removed previously, taking care not to over tighten the screws.

8.10 Connecting the Addressable Loop Wiring

The 6100 loop wiring must always be connected as a complete loop (LA + and LA - connections) to each device, then back to the panel again (LB + and LB - connections). Please see Figure 7 and refer to Figure 1.

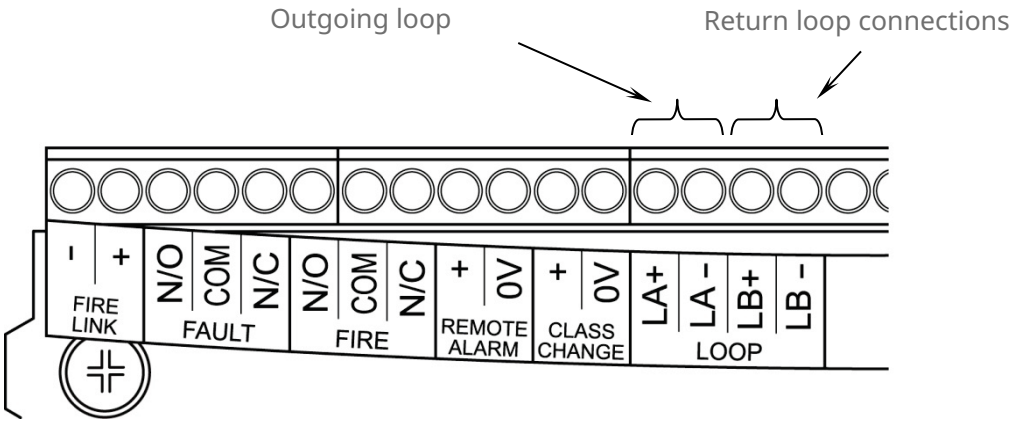


Figure 7 - Loop Connection Details

8.11 Connecting the Conventional Alarm Circuit Wiring

The 6100 can drive two conventional alarm outputs. These must be connected as shown in Figure 8. Unused outputs must still be terminated with an end of line resistor locally in the panel.

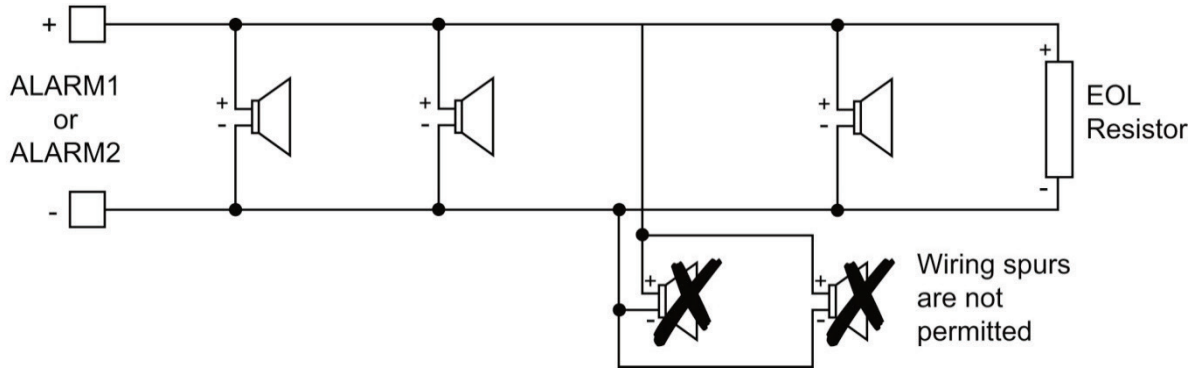


Figure 8 - Conventional Alarm Output Connection Details

8.12 Connecting the Fire Link Wiring

The 6100 is equipped with an output to signal to a remote monitoring station. This output is monitored for cable faults and must only be connected to the Protec Fire Link End of Line Module (see appendix 1 for stock code). The End of Line Module must be fitted inside the remote equipment, and not in the 6100 enclosure. If the fire link end of line module is not required, the fire link output must still be terminated with an end of line resistor.

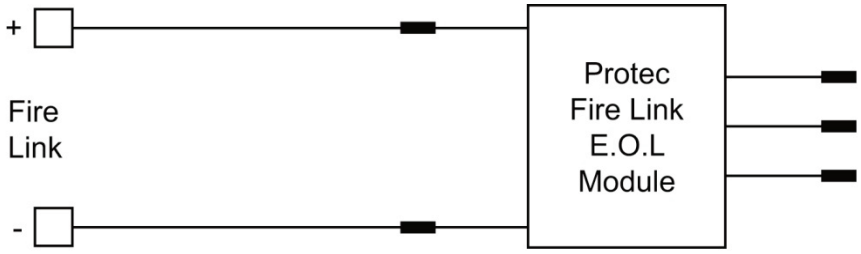


Figure 9 - Fire Link Connection Details

8.13 Connecting the Auxiliary Wiring

The auxiliary wiring must now be connected if required. The auxiliary wiring comprises the class change input, remote alarm input, auxiliary 24 V supply output, global fire contacts and global fault contacts. Note that these connections are optional and if not used do not require any termination.

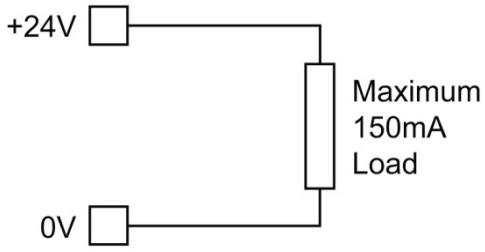


Figure 10 - Auxiliary 24 V Output Details

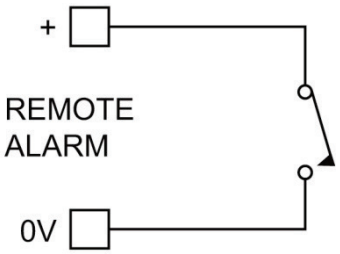


Figure 11 - Remote Alarm Input Wiring

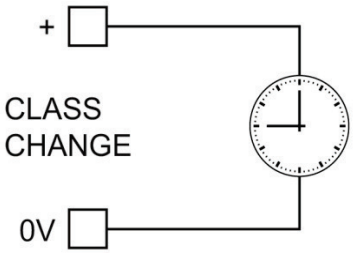


Figure 12 - Class Change Input Wiring

8.14 Connecting the Mains Cabling

Isolate the incoming mains supply by ensuring the fused double pole isolator is in the ‘OFF’ position.

Pay particular attention that the incoming mains cable is segregated from all other cables within the 6100 enclosure.

Ensure the incoming earth cable is firmly connected to the Main PCB (see Figure 13), and that the earth cable from the Main PCB is securely connected to the brass earth terminals within the back-box.

The mains wiring must now be restrained using the clamp provided to secure the mains cables to the control PCB housing (see Figure 14). The restraining clamp must be supported at the rear when the two screws are being tightened.

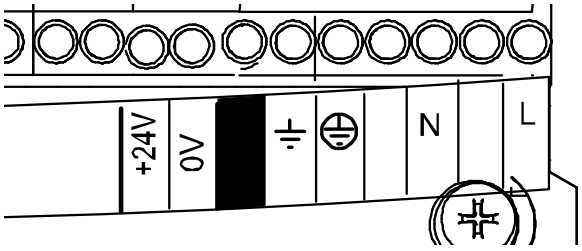


Figure 13 - Power Supply Terminal Details

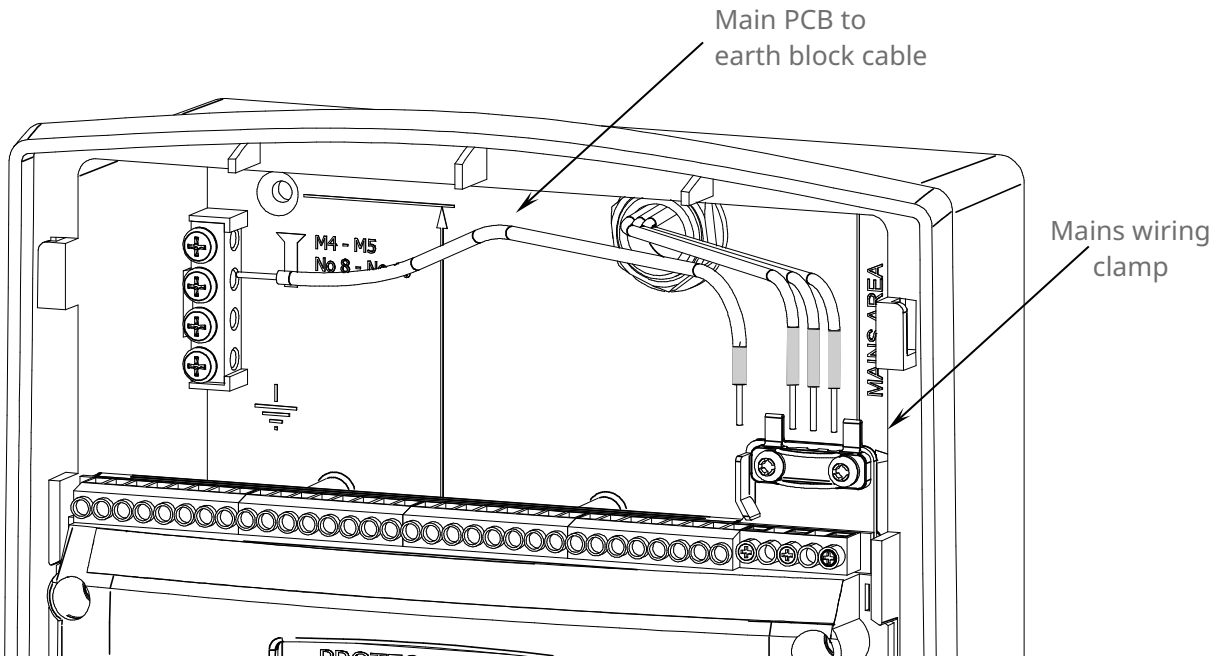


Figure 14 - Mains wiring connections

8.15 Connecting the Fire Brigade Panel Controller

If the 6100 is equipped with the optional Fire Brigade Panel control interface, ensure that the ribbon cable and key-switch earthing cable are re-connected to the rear of the controller as shown in Figure 15.

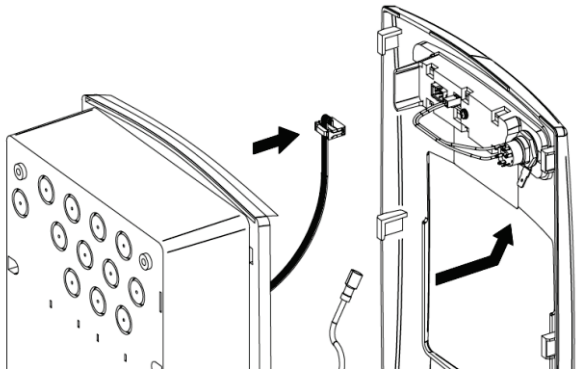


Figure 15 - Reconnecting the Fire Brigade Panel Connections

8.16 Re-fitting the Door

Before replacing the door ensure all mains, loop, alarm, and auxiliary wiring has been completed and will not foul the door when it is refitted.

Replace the plastic door by raising the door and placing flush to the back-box of the panel (Figure 16 Step 1). Slide the door down and ensure it pushes fully home into the back box (Figure 16 Step 2). Finally screw in the fixing screw, taking care not to over tighten it (Figure 16 Step 3)

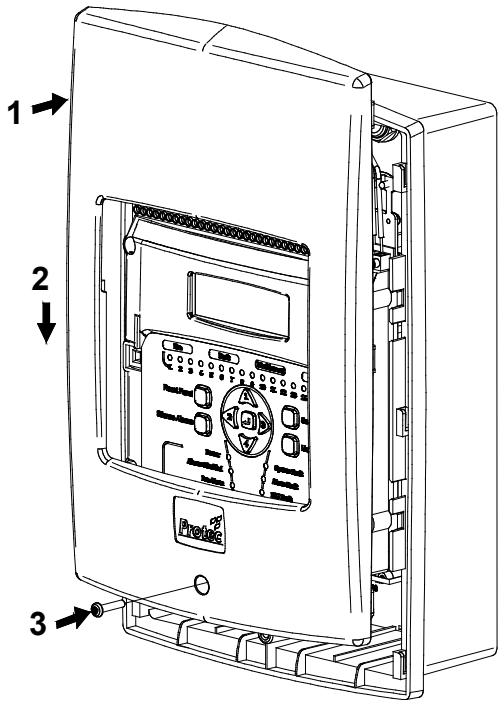


Figure 16 - Refitting the 6100 door

8.17 Switching the Mains Power On

Switch the fused isolator to the 'ON' position. The green 'Power' indicator will illuminate and, assuming all other connections are correct, the 6100 should show one fault on the display (a 'panel reset' fault). The 6100 is now ready to be programmed and commissioned.

9 Commissioning the 6100

The 6100 can be commissioned in a basic manner by using the menus, or more extensively using the Windows programming software. It is recommended that the Windows software is used (for a list of compatible PC hardware and operating systems please consult the 6100 programming manual).

It has been assumed that the time and date have been set (consult the user manual for details of how to do this).

9.1 Terminology

Loop input devices (Detectors, Manual Call Points, MIP's etc.) are programmed into ***input groups*** and ***zones***.

Loop output devices (Sounders, CCO's etc.) are programmed into ***output groups*.**

How an activation from a device in a particular input group triggers output groups is determined by how the panel is programmed to execute its cause and effects sequences (in the matrix).

Output groups are set to either Continuous (C), Warble (W), Pulsed (P) or Off (O), operation and activation is strictly by precedence (continuous, warble, pulsed and off. In that order).

9.2 Loop Device Input Group, Output Group and Zone Programming

Loop input devices must be programmed with an input group and zone appropriate to the cause and effects sequences required.

31 input groups are available for loop devices (please note that, if enabled, the 'Remote Alarm' and 'Class Change' inputs occupy inputs groups 31 and 30 respectively which cannot then be used by other input devices). Input group 32 is reserved for the Sound Alarms button.

Zone numbers range from 1 to 32 (inclusive).

Loop output devices must be programmed with an Output Group (1 to 32 inclusive) appropriate to the cause and effects sequence required.



To comply with the relevant aspects of EN 54-2, sounder devices must be programmed into more than one zone.



This equipment complies with BS EN 54-2:1997+A1:2006, Clause 7.9.1 regarding alarm routing outputs. All alarm routing outputs are configured and tested in accordance with this requirement.

9.3 Non latching Loop Devices

Loop devices may be individually programmed as non-latching. This means that when that device returns to normal after having been in alarm the 6100 will automatically reset (assuming no other devices have entered the alarm condition).

An activation from a non-latching device does not activate the global fire contacts.

Devices programmed to be non-latching usually need to be set as non-latching on the device itself (please consult the relevant loop device datasheet for details).

9.4 Loop Device Class Programming

Loop devices may be programmed to belong to a certain class. The currently available class options are:

Automatic Class
Standard detection devices (for example, optical smoke detectors or heat detectors).

Manual Class
Manual Call Points are programmed as manual class. When activated, devices programmed as manual class will override any programmed system delays.

Silence, Reset, IReset, Sound Alarms and Accept Class
Loop devices programmed into any of these classes will mimic the relevant 6100 button press when activated. The loop device itself must be set to non-latching, **but not** programmed as non-latching on the 6100.

Invisible Switch Class
Loop input devices may be programmed to be 'Invisible Switch' class. The loop device itself must be set to non-latching, **but not** programmed as non-latching on the 6100.

Invisible switch class devices can trigger input groups and activate output groups via the cause-and-effect matrix but, unlike Automatic and Manual class devices, do not activate any panel indications, internal buzzer, fire link outputs or global fire contacts.

Disable Control Output Groups Class
Loop input devices may be programmed to be 'Disable Control Groups' class. The loop device itself must be set to non-latching, **but not** programmed as non-latching on the 6100.

Disable Control Output Groups class devices, when active, disable output activations to loop devices assigned to control type output groups. Devices in alarm type output groups still operate.

Disable Output Group 31 and 32 Class
Loop input devices may be programmed to be 'Disable Output Group 31' (or 32) class. The loop device itself must be set to non-latching, **but not** programmed as non-latching on the 6100.

Devices programmed to class 'Disable Output Group 31' (or 32) disable activations to output group 31 (or 32) when activated. This may be found to be an advantageous feature in certain installations where output devices must be temporarily disabled under certain conditions.

9.5 Loop Device Sensitivity Programming

This setting is only applicable to automatic detectors and allows two detection sensitivities to be programmed. The 6100 offers a range of sensitivities that can be used to tailor the response of the detector to suit individual site conditions. The 6100 supports the following sensitivities.

Programmed Sensitivity	Typical Applications
NONE	Used for non-detector types (interfaces, MCP's etc.)
OFFICE	For use in general environments (offices, for example)
BEDROOM	Incorporates an anti-steam algorithm for use in bedrooms
ENHANCED	Enhanced sensitivity for use in clean room environments
NO OP	Turns optical-heat devices into heat only devices *Note: The spacing distance for heat detectors must be adopted for the loop device if this sensitivity is used*
PRISON	Prison Cells

Table 3 - Automatic Detector Sensitivity Setting Options

9.6 Loop Sounder Volume Programming

Individual loop sounder devices can have their volume level programmed. Volume settings of high, medium, and low are supported (please consult the datasheet for the individual loop sounder product to ensure it can support programmable volume).

9.7 Talking Sounder Programming Considerations

The 6100 supports Protec talking sounders and special consideration must be given to them when programming. Talking sounders contain several pre-set messages that the control panel activates when required.



Talking sounders and non-talking output devices must not be mixed in the same output groups.

Talking sounders have a message synchronisation rate that is determined by programming at commissioning time. The typical synchronisation time is 20 seconds, which is sufficient to allow the longest standard audio message to be reproduced.

When the pulsing electronic bell sound is specified from a talking sounder (using setup features available in the Windows programming software) the standard system pulse rate is adopted.

Table 4 details how talking sounders operate with various panel activations.

<table>
<tr><th colspan="5"></th><th colspan="3">Fire Activation</th><th colspan="3">Walk Test Activation</th><th colspan="3">Class Change</th></tr>
<tr><th>Test Message</th><th>Spoken Message</th><th>Bell Sound</th><th>Electronic Sounds</th><th>Male voice</th><th>C</th><th>P</th><th>W</th><th>C</th><th>P</th><th>W</th><th>C</th><th>P</th><th>W</th></tr>
<tr><td colspan="5"></td><td colspan="3"></td><td colspan="3"></td><td colspan="3"></td></tr>
<tr><td>Off</td><td rowspan="2">√</td><td rowspan="2"></td><td rowspan="2"></td><td>Off</td><td>M1</td><td>M2</td><td>M3</td><td rowspan="4" colspan="3">Same as Fire Activation</td><td rowspan="4">M15</td><td rowspan="4">M14</td><td>M3</td></tr>
<tr><td>Off</td><td>√</td><td>M5</td><td>M6</td><td>M9</td><td>M5</td></tr>
<tr><td>Off</td><td rowspan="2">√</td><td rowspan="2"></td><td>Off</td><td rowspan="2">M15</td><td rowspan="2">M14</td><td>M1</td><td>M3</td></tr>
<tr><td>Off</td><td>√</td><td>M5</td><td>M5</td></tr>
<tr><td>Off</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">√</td><td>Off</td><td rowspan="2">M13</td><td rowspan="2">M12</td><td rowspan="2">M11</td><td>M3</td></tr>
<tr><td>Off</td><td>√</td><td>M5</td></tr>
<tr><td>√</td><td>X</td><td>X</td><td>X</td><td>Off</td><td colspan="3" rowspan="2">As above</td><td colspan="3">M4</td><td colspan="3" rowspan="2">As above</td></tr>
<tr><td>√</td><td>X</td><td>X</td><td>X</td><td>√</td><td colspan="3">M7</td></tr>
</table>

M1 Female Evac 1
M2 Female Alert
M3 Female Evac 2
M4 Female Test
M5 Male Evac
M6 Male Alert
M7 Male Test
M8 Bell
M9 No message (used to mute the sounder)
M10 Unused (defaults to M1)
M11 Electronic Warble
M12 Electronic Alert
M13 Electronic Continuous
M14 Intermittent Bell
M15 Continuous Bell

Key

√ Option selected
Off Option not selected
X Option selection does not matter

Notes

1. The Class Change messages do not function in a Fire Alarm condition.
2. The pulsing rate for message 14 is determined by the Pulse Times programmed.

Table 4 - Talking Sounder Programming table

Table 5 details how talking sounders operate with various panel activations with Dutch software.

			Sound Alarms (User code entered)			Fire Activation			Walk Test Activation			Class Change		
Test Message	Spoken Message	Male Voice	C	P	W	C	P	W	C	P	W	C	P	W
√	√	Off	M1	M2	M3	M1	M2	M3	M4			M15	M14	M3

Table 5 - Talking Sounder Programming table (For Dutch panels only)

Key
√ Option selected
OffOption not selected

M1	Fire Message
M2	M1
M3	M1
M4	Test Message
M5	M1
M6	M1
M7	Health and Safety Message
M8	Bell
M9	No message (used to mute the sounder)
M10	M1
M11	Electronic Warble
M12	Electronic Alert
M13	Electronic Continuous
M14	Intermittent Bell
M15	Continuous Bell

Notes

1. The Class Change messages do not function in a fire alarm condition.
2. The pulsing rate for message 14 is determined by the pulse times programmed.
3. Pressing Sound Alarms while in engineer or advanced engineer code produces message M4. If 'Sound Alarms' is pressed during a fire condition then test message M4 will replace the fire message.
4. Pressing Sound Alarms while in user exchange code produces message M7 however if a fire event occurs then 'Sound alarms' is cancelled and the appropriate fire message M1, M2 or M3 is output. If 'Sound Alarms' is pressed during a fire condition then, to avoid replacing the fire message with message M7, the output message will be determined by the cause-and-effect programming of the fire event and the sound alarms input group.

9.8 Fire Link Operation

Normal Operation
The fire link output activates within one second of the panel entering the alarm state (if a Fire Link delay has not been programmed).

The following 6100 activations **will not** activate the Fire Link:

- Activation from a device programmed as Silence, Reset, IReset, Sound Alarms, Accept or Invisible Switch class
- Activation from a device in a zone that is programmed in walk test mode
- Activation from the Remote Alarm or Class Change inputs

Delayed Operation and Search Time
Using the Windows commissioning software, the fire link activation can be programmed to be delayed by a fixed time. Upon a device activation the fire link delay timeout will begin, the fire link output then activates upon expiration of the delay. The maximum fire link delay time is 10 minutes.

A 'search time' of 0 to 10 minutes may also be programmed which is instigated by pressing the Mute Buzzer button at access levels 2 or 3 during the fire link delay. This gives an extra timeout before activation of the Fire Link occurs (search time can only be performed once until reset).

Note that the total Fire Link delay timeout is limited to 10 minutes, even if the Fire Link delay plus the search time exceeds 10 minutes.

An activation of a device programmed as manual class will override any Fire Link delay currently running.

	Fire Link Disabled	Fire Link Delayed	Activation from a Non latching Device	Activation from a device in walk test zone	1st knock coincidence	2nd knock coincidence and Manual Class
Fire Link Disabled	Does not activate	Does not activate	Does not activate	Does not activate	Does not activate	Does not activate
Fire Link Delayed	Does not activate	Activates after delay time	Activates after delay timeout	Does not activate	See Note 1	See Note 2
Activation from a Non latching Device	Does not activate	Activates after delay time	Activates immediately	Does not activate	See Note 1	See Note 2
Activation from a device in walk test zone	Does not activate	Does not activate	Does not activate	Does not activate	Does not activate	Does not activate
1st knock coincidence	Does not activate	See Note 1	See Note 1	Does not activate	See Note 1	See Note 2
2nd knock coincidence and Manual class	Does not activate	See Note 2	See Note 2	Does not activate	See Note 2	See Note 2

Table 6 - Effects of Panel Programming on Fire Link Operation

Note 1:
The first activation to trigger the Fire Link takes precedence. For example, if a non-coincidence activation begins a Fire Link delay of 5 minutes, a first knock coincidence activation with a delay of 3 minutes will not override the original timeout.

Note 2:
The Fire Link will activate immediately if this feature has been enabled during commissioning. If the feature has not been enabled, then the current Fire Link delay time will apply.

9.9 Global Fire Contact Operation

The 6100 controls a set of volt free changeover contacts that can be programmed to operate under various panel activation conditions. The fire contact connections are shown on the terminal label in the non-fire state.

The contacts can be programmed to activate upon receipt of an activation from automatic class devices only, manual class devices only or both.

Devices set as anything other than automatic or manual class, programmed as non-latching, or in a walk test zone **will not** activate the contacts.

9.10 Global Fault Contact Operation

The 6100 will operate the global fault contacts under any fault condition (including when the panel is un-powered). The fault contacts connections are shown on the terminal label in the non-fault state.

9.11 Remote Alarm Input Operation

The Remote Alarm input can be enabled and disabled by using the 6100 commissioning software. When enabled a remote alarm activation input triggers programming associated with input group 31. When the remote alarm input is enabled, input group 31 is not available for use by any other input device.

When the Remote Alarm input is disabled input group 31 becomes available for use as normal.

A remote alarm activation does not activate the Fire Link, or Global Fire contacts and can be configured to activate control output groups, or not.

The Remote Alarm input can also be configured (using the Windows commissioning software) to function as a Day/Night timer input. In this configuration the system switches the sensitivities of all automatic detectors to night mode when the remote alarm input is short circuited.

9.12 Class Change Input Operation

The Class Change input can be enabled and disabled by using the 6100 commissioning software. When enabled a class change input activation triggers programming associated with input group 30. When the class change input is enabled, input group 30 is not available for use by any other input device.

When the Class Change input is disabled input group 30 becomes available for use as normal.

Outputs will activate as programmed for input group 30 in the matrix, with the exception of talking devices which activate as shown below:

Activations from loop devices or the Remote Alarm input always override a Class Change activation.

Matrix / panel programming	Output from talking sounder when class change active
Continuous	Continuous electronic bell sound will be reproduced
Pulse	Pulsing electronic bell sound will be reproduced
Warble and ‘Male Voice’ option disabled	The female evacuation message will be reproduced
Warble and ‘Male Voice’ option enabled	The male evacuation message will be reproduced
Off	Does not activate

Table 7 - Class Change Input Operation of Talking Sounders

9.13 Conventional Alarm Output Operation

The 6100 provides two conventional alarm outputs designed to drive 24 V dc alarm devices. The alarm outputs are always driven as a pair and cannot be controlled separately.

The conventional alarm output can be programmed to follow any one of the 32 output groups, the operation is shown in Table 8.



The conventional alarm outputs cannot be mapped to output groups containing talking devices.

Output Group Activation	Conventional Alarm Activation
Continuous	Activates
Pulse	Pulses in accordance with system pulse times
Warble	Activates
Off	Does not activate

Table 8 - Conventional Alarm Output Operation

9.14 Output Group Type

Each output group can be individually set to be of type 'alarm', or 'control'. The operational differences between the two types are detailed in Table 9.

6100 Trigger Source	Alarm Output Group	Control Output Group	
Manual or Automatic class Loop device	Activates as programmed	Activates as programmed	
Sound Alarms	Activates as programmed	Does not activate	
Remote Alarm	Activates as programmed	Setup to activate control groups	Setup not to activate control groups
		Activates as programmed	Does not activate
Class Change	Activates as programmed	Activates as programmed	
6100 Silenced	Turns off current activation	No change to current activation	
6100 Reset	Turns off current activations and resets panel state	Turns off current activations and resets panel state	

Table 9 - Conventional Alarm Output Operation

9.15 Output Group Delays (T1 and T2)

Each output group can have two delays introduced by appropriate programming in the Windows PC software. Delay 1 is termed 'T1' and delay 2 is termed 'T2'.

When an output group is activated by the cause and effects programmed into the 6100, the activation of the relevant output group can be delayed by up to 10 minutes for T1, and up to 20 minutes for T2. The T1 delay is introduced automatically, and T1 is replaced by T2 delay (if T2 is larger than T1) if the 'Mute Buzzer' button is pressed at access level 2 or 3 during an alarm condition.

The usual reason for using T1/T2 programming is to delay activation of sounders until the premises management reach the 6100 (T1 delay) and instigate a search time (T2 delay). The source of the alarm can then be investigated, and the panel reset if required.



T1/T2 delays will be cancelled by activation of a manual class device, or if the 6100 is in night mode and the 'Cancel Delays in Night Mode' option has been selected in the Windows software. Delays are not used when in 'Walk Test' mode.

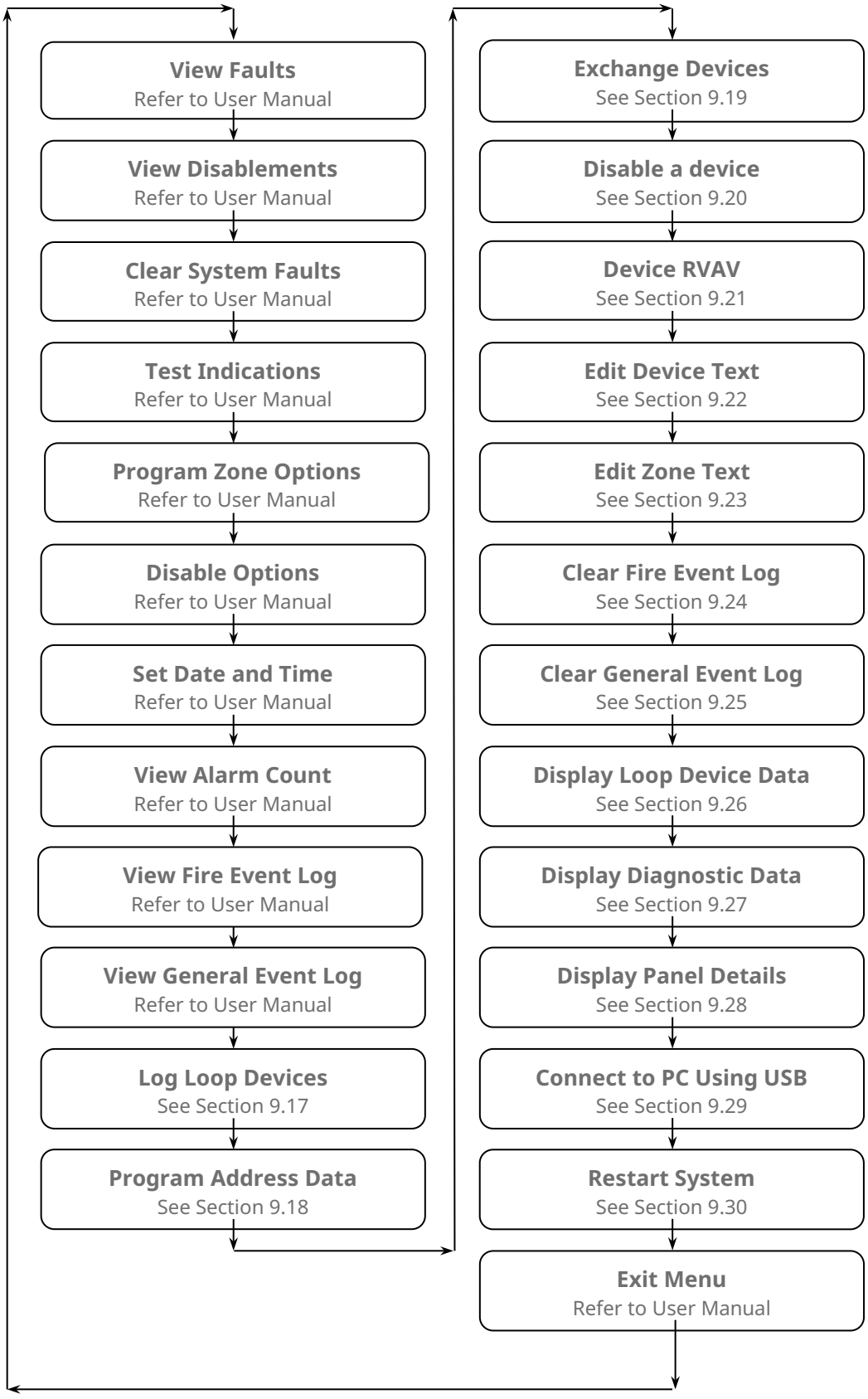


Figure 17 - 6100 Engineer (Access level 3) Menu Structure

9.16 Programming the coverage volume of Visual Alarm Devices (VADs)

The coverage volume of EN 54-23 compliant VADs may be set up on a device specific basis by appropriate programming in the Windows PC software.

This feature allows the individual coverage requirements of loop VADs to be tailored for the specific installation environment, which results in optimised system operating currents.

9.17 Logging and Mapping Loop Devices

Logging and mapping loop devices is the process the 6100 uses to work out how many, and what type of devices are connected to the loop, and where they are in relation to each other.



Before logging always ensure there are no loop faults on the panel
Logging and mapping could take up to 6 minutes, depending on the loop configuration
The 6100 **will not** detect fires during the logging and mapping phase

Logging
During the logging phase the 6100 drives the loop from sides A and B, all relevant devices connected to the loop are logged and stored in memory (devices will not be logged if the 6100 does not support the device type, or the software version of the device is not supported by the 6100).

When the 6100 has logged a loop device it searches the existing panel loop device data to see if the loop device is already logged and allocated on the system, if it is, the software version of the loop device is updated in memory. By doing this, site files that have been created using a device serial number barcode scanner (which does not contain the device software version) and downloaded using the PC commissioning software are completed. The resulting 'complete' site file must always be uploaded from the panel to the PC and stored for backup.

Mapping
During the mapping phase the loop drives from side A only. Loop isolators on devices are sequentially closed and each group of devices between isolators are allocated an 'isolator node number'. As devices are sequentially mapped, data stored during the logging phase is checked, if the mapped device was not logged originally the mapping process will fail. Device loop isolators are closed sequentially until all logged devices have had their isolators closed, after which the panel has complete information of how the system is configured.

Please note, even if the mapping process fails, the logging data stored in memory may still be used to allocate loop devices onto the 6100, even though the isolator node data may not be present.

At the LOG LOOP DEVICES menu press the ↵ key to begin the loop logging sequence (as shown in Figure 18 and Figure 19)

Line 1 of the display indicates the logging and mapping progress and has the following sections:

RESETTING LOOP
Displayed when the 6100 is resetting the loop to make sure all loop devices are ready to be logged.

LOGGING LOOP
Displayed when the 6100 is logging the loop devices.
LOGGING COMPLETE
Displayed when the 6100 has finished logging the loop devices and is preparing to map the loop devices. Logged device data is now in temporary memory.

MAPPING LOOP
Displayed when the 6100 is mapping the sections of the loop separated by loop isolators.

MAPPING SUCCESS
Displayed when the 6100 has successfully logged and mapped the loop. Mapping data is now in memory ready for loop devices to be allocated.

MAPPING FAILED
Displayed if the 6100 could not successfully log or map the loop. This could be because there are more than 192 devices on the loop.

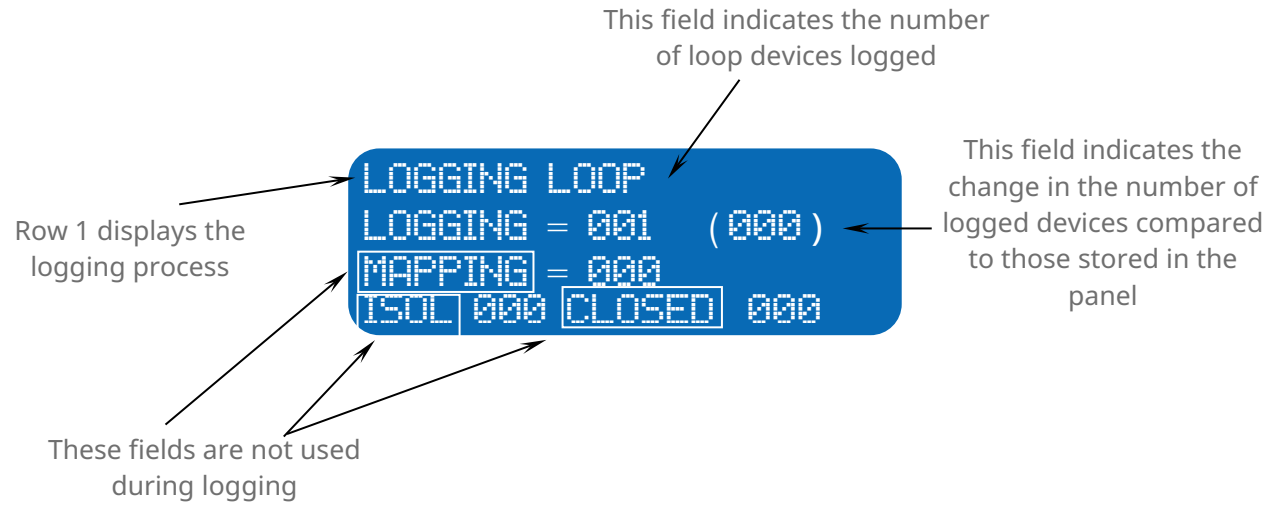


Figure 18 - 6100 loop logging display

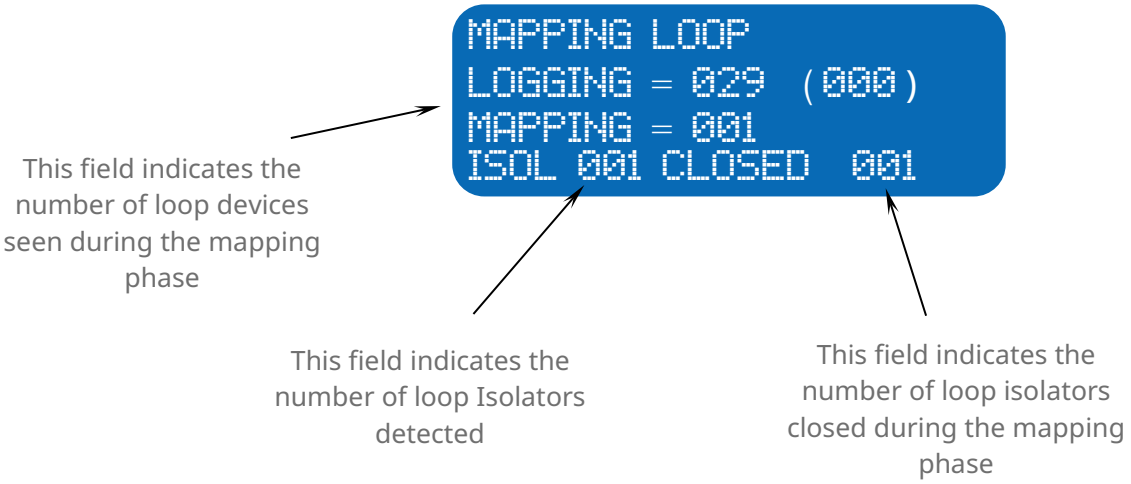


Figure 19 - 6100 loop mapping display

9.18 Programming Loop Device Address Data

If new loop devices are to be allocated the loop must be logged and mapped before entering this menu.

The loop devices temporarily stored during logging and mapping must be allocated certain operational parameters before the 6100 can process data from them. The PROGRAM ADDRESS DATA menu is used to achieve this.

At the PROGRAM ADDRESS DATA menu option press the ↵ key. A flashing cursor indicates which parameter is currently being edited. Note that choices are spread over multiple screens.

Also note that not all parameters apply to all device types (for example sensitivity setting is meaningless for a loop sounder, and volume is meaningless for a heat detector) non applicable device parameters can still be set up but are not processed by the 6100.

With reference to Figure 19 - 6100 loop mapping display.

Selecting a loop address to edit its parameters
Using the ◄ or ► keys choose the loop ADDRESS to be edited.

To allocate a loop device serial number to the address
Use the ▲ and ▼ keys to select SNUM field.
Using the ◄ or ► keys link a currently unallocated loop devices to this address.
To de-allocate a device from this address select a SNUM of 000000, this then makes the loop device free to swap to another address or it can be left de-allocated (the 6100 will not process a de-allocated device).

To set the zone number for the address
Use the ▲ and ▼ keys to select ZONE field.
Use the ◄ or ► keys to set the zone number for the address, valid zone numbers are 1 to 32 inclusive.

To set address to be latching or non-latching
Use the ▲ and ▼ keys to select STATE field.
Use the ◄ or ► keys to toggle the state between LATCHING and NON-LATCHING as required.

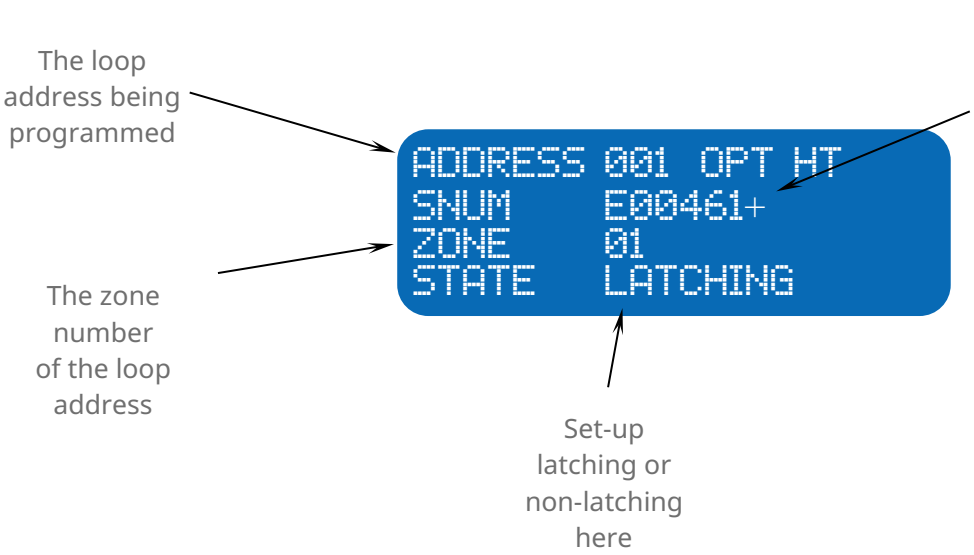


Figure 20 - Program address screen 1

With reference to Figure 21 - Program address screen 2

To set the input group for the address
Use the ▲ and ▼ keys to select INPUT GROUP field.
Use the ◄ or ► keys to set the input group number for the address. Refer to Section 9.2 for input group ranges.

To set the output group for the address
Use the ▲ and ▼ keys to select OUTPUT GROUP field.
Use the ◄ or ► keys to set the output group number for the address, valid output group numbers are 1 to 32 inclusive.

To set the volume level for the address
Use the ▲ and ▼ keys to select VOLUME field.
Use the ◄ or ► keys to set the required volume level for the loop sounder. Valid levels are LOW, MED, and HIGH.



Figure 21 - Program address screen 2

With reference to Figure 22

To set the DAY and NIGHT sensitivities for the address
Use the ▲ and ▼ keys to select the DAY SENSE, or NIGHT SENSE field as required.
Use the ◄ or ► keys to set the required sensitivity level for the address. Refer to Section 9.6 for input group ranges.

To set the CLASS data for the address
Use the ▲ and ▼ keys to select CLASS field.
Use the ◄ or ► keys to set the class for the address.

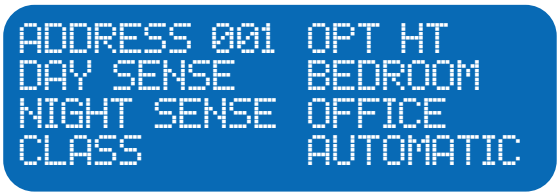


Figure 22 - Program address screen 3

Press the ↵ key at any time to store any changes, the 6100 will warn that changes are to be made to the site data and the panel will reset and reboot as shown in Figure 23.



Figure 23 - Program address warning display

Press the ↵ key to accept, or the ◄, ►, ▲ or ▼ keys to decline and remain in the menu. Then, if possible, upload and save the site file on a PC.

9.19 Exchanging Loop Devices

Exchanging loop devices incorrectly can result in undefined system operation. If in doubt, contact your service agent. Loop devices can only be exchanged with other loop devices of the same type. Any exchanged devices **must** be fully tested in all required modes to ensure they are fully operational.

1. Enter the user code supplied with the system and press the ↵ key to access the menus.
2. Scroll to the EXCHANGE DEVICES menu and press the ↵ key. The 6100 is now in exchange devices mode (Figure 25). Up to 8 loop devices may be exchanged at a time.
3. Remove the device(s) that are to be exchanged and wait for the 6100 to declare them as missing.
4. Add the new device(s) in place of the old ones, ensuring the replacement device is of exactly the same type as the original. Wait for the 6100 to recognise them as added.
5. Press the ↵ key to access the final exchange menu (figure 7.8).
6. Take a note of the serial numbers, loop addresses and device text of the old and new devices.
7. Using the ◄, ▲, ► and ▼ keys locate old device(s) and swap with corresponding new device(s). The 6100 will only offer matching types to be exchanged. Update all devices to be exchanged as necessary.
8. Press the ↵ key to proceed to the exchange devices save confirmation as shown in Figure 25.
9. Press the ↵ key to save the exchanged devices to the panel memory and reset the panel. Alternatively press the ◄, ▲, ► and▼ keys to exit this screen and return to the exchange devices display.

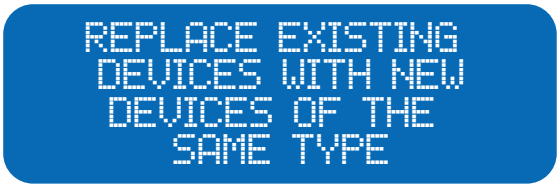


Figure 24 - Exchange Devices Initialisation Display

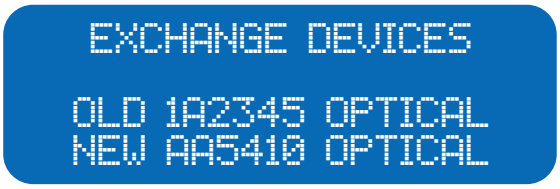


Figure 25 - Exchange Devices display

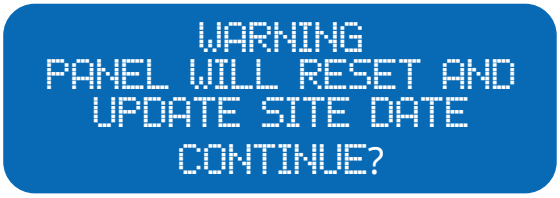


Figure 26 - Exchange Devices Save confirmation display

9.20 Disabling/Enabling a Loop Device

1. Enter the engineer code supplied with the system and press the ↵ key to access the menus.
2. Scroll to the DISABLE A DEVICE menu and press the ↵ key. See Figure 27.
3. Using the ◄ and ► keys select the device address to be disabled/enabled.

The current disablement state of the address is displayed next to the address number, and any programmed address text is displayed on row 3 of the LCD.

4. Press the '▲' key to disable the address, or the '▼' key to enable the address.

Zone disablements take precedence over device disablements. A device that is in a disabled zone cannot be individually enabled. The whole zone must be enabled.

If a device is being taken out of disablement, but is in the alarm state, then the 6100 will display a warning screen and then automatically perform a system reset. This is done to avoid the 6100 immediately entering the alarm state when the device is normalised.



Figure 27 - Device Disablement Screens

9.21 Loop Device Remote Visual Address Verification (RVAV)

The DEVICE RVAV menu allows loop devices to be programmed to indicate their address by flashing the indication LED to aid locating the device during commissioning.

Devices set to RVAV operation cannot detect a fire

At the DEVICE RVAV menu press the ↵ key the 6100 will warn that devices programmed to RVAV will not detect fires. The user may then accept this condition by pressing the ↵ key, or decline by pressing the ▲, ▼, ◄ or ► keys.



Figure 28 - RVAV warning display



Figure 29 - RVAV Range selection display

Using the ▲ or ▼ keys toggle the flashing cursor between the start and end address's to be set to RVAV.

Using the ◄ or ► keys set the address range as required.

Press the ↵ key to accept the range and set all relevant devices into RVAV mode. As shown in Figure 30.

Pressing any key while in this screen will cancel RVAV mode and return any devices previously in RVAV to normal operation.



Figure 30 - RVAV accepted display

After 10 minutes in this screen any devices set to RVAV mode will automatically time out and return to normal operation.

9.22 Editing Device Location Text

The Edit Device Text menu allows the user to enter 20 characters of text for any loop device on the 6100.

1. Enter the user code supplied with the system and press the ↵ key to access the menus.
2. Using the ◄ and ► keys navigate to the EDIT DEVICE TEXT menu and press ↵.
3. Using the ◄ and ► keys navigate to the device address that you wish to edit the text on and press the ▲ or ▼ to enter editing mode (Figure 31).
4. Using the ◄ and ► keys navigate through the text characters then (the character being edited has a '^' positioned underneath it), then using the ▲ and ▼ keys, edit the character as required.
5. Press the return key to accept the text changes.
6. Using the left and right keys, navigate to further device addresses to edit or press the return key to exit to the main menu.



Figure 31 - Edit Device Text display

9.23 Editing Zone Text

The Edit Zone Text menu allows the user to enter 20 characters of text for each of the 32 zones available on the 6100.

1. Enter the user code supplied with the system and press the ↵ key to access the menus.
2. Using the ◄ and ► keys navigate to the EDIT ZONE TEXT menu and press ↵.
3. Using the ◄ and ► keys navigate to the zone that you wish to edit the text on and press the ▲ or ▼ to enter editing mode (
   Figure 32).
4. Using the ◄ and ► keys navigate through the text characters then (the character being edited has a ^ positioned underneath it), then using the ▲ and ▼ keys, edit the character as required
5. Press the return key to accept the text changes.
6. Using the left and right keys navigate to further zones to edit or press the return key to return to the main menu.



Figure 32 - Editing Zone Text display

9.24 Clearing the Historic Fire Event Log

The CLEAR FIRE EVENT LOG menu function allows the engineer to erase all logged fire events from the 6100 memory.

At the CLEAR FIRE EVENT LOG menu screen press the ↵ key to accept the option.

A warning screen (illustrated in Figure 33) will be displayed to verify if events should be cleared.

Press the ↵ key to clear the fire event log and return to the main menu.

Press the ▲, ▼, ◄ or ► keys to return to the main menu without clearing the log.



Figure 33 - Clear Fire Event Log warning display

9.25 Clearing the Historic General Event Log

The CLEAR GENERAL EVENT LOG menu function allows the user to delete all logged general events from the 6100 memory.

At the CLEAR GENERAL EVENT LOG menu screen press the ↵ key to accept the option.

A warning screen (illustrated in Figure 34) will be displayed to verify if events should be cleared.

Press the ↵ key to clear the general event log and return to the main menu.

Press the ▲, ▼, ◄ or ► keys to return to the main menu without clearing the log.

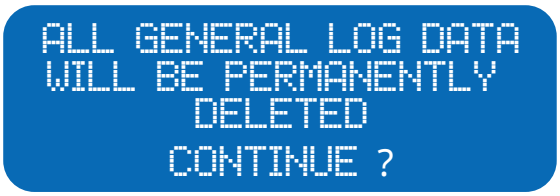


Figure 34 - Clear General Event Log warning display

9.26 Displaying Loop Device Data

The DISPLAY LOOP DEVICE DATA menu allows the engineer to view data relating to any loop device logged onto the 6100. During the commissioning phase this feature may be useful to determine the state of each loop device, the reply values for each channel and any missed replies.

Press the ↵ key at the DISPLAY LOOP DEVICE DATA menu option. The first screen is then displayed.

Using the ◄ or ► keys locate the address of the device to be viewed.

Press the ▲ key to scroll through the data screens for the device.

Press the ↵ key at any time to return to the main menu.

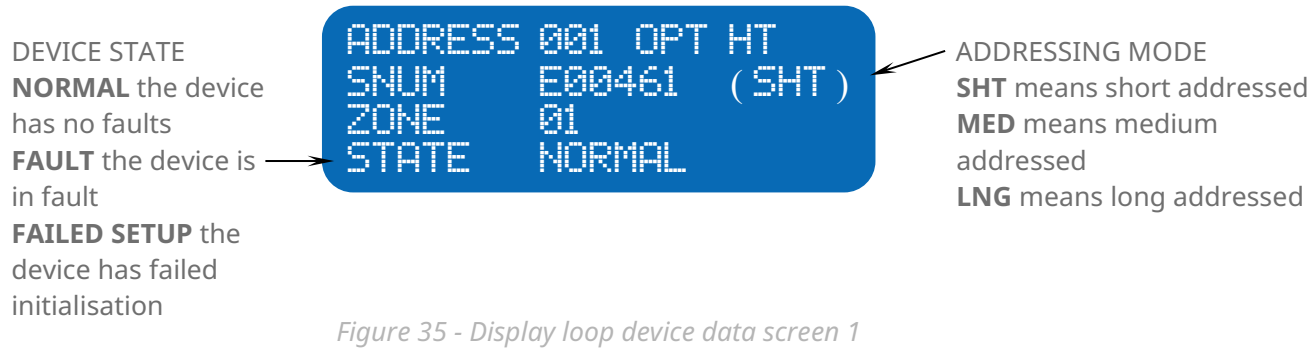


Figure 35 - Display loop device data screen 1

Screen 2 displays the current and the time averaged analogue values for the device.
Rows 2, 3 and 4 of the screen display return values for channel 1, 2 and 3 of the device. If the device does not use all channels the unused channels appear as 000.

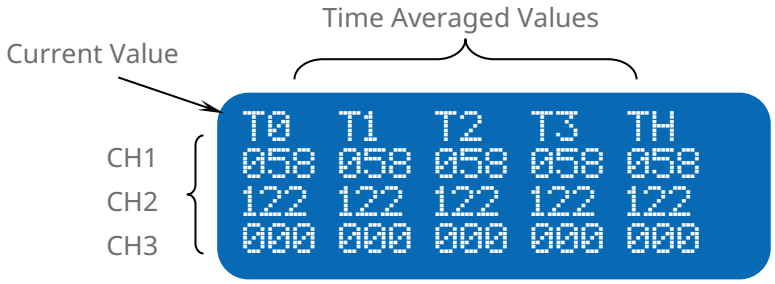


Figure 36 - Display loop device data screen 2

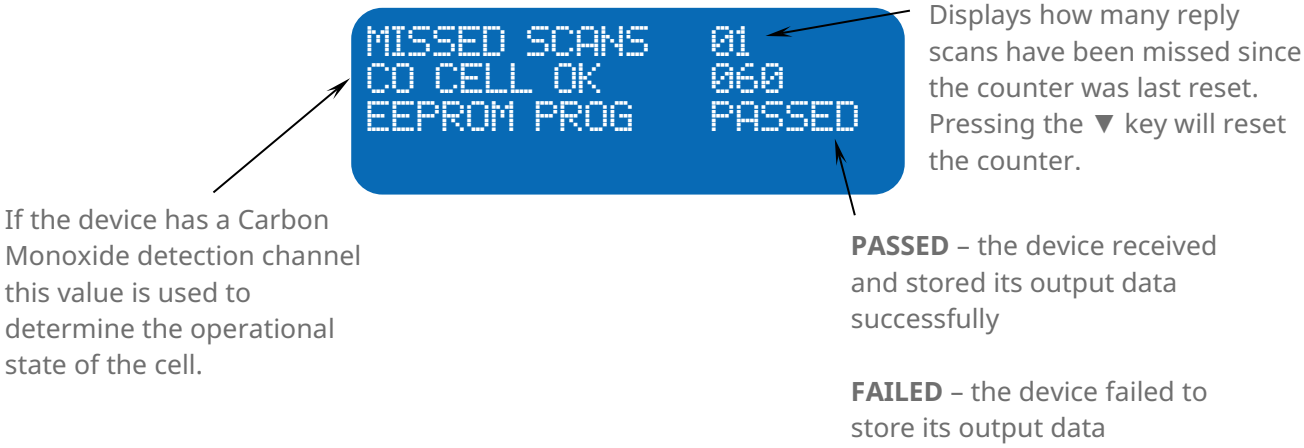


Figure 37 - Display loop device data screen 3

The two remaining screens show the programming data.



Figure 38 - Display loop device data screen 4



Figure 39 - Display loop device data screen 5

9.27 Displaying Panel Diagnostic Data

The DISPLAY DIAGNOSTIC DATA menu allows the engineer to view various values used within the panel and can be used as an aid when diagnosing problems.

Press the ↵ key to enter the DISPLAY DIAGNOSTICS DATA menu.

Press the ▲ or ▼ keys to move through the data screens.

Press the ↵ key in any screen to return to the main menu.

Screen 1 displays various levels associated with the 6100 power supplies.

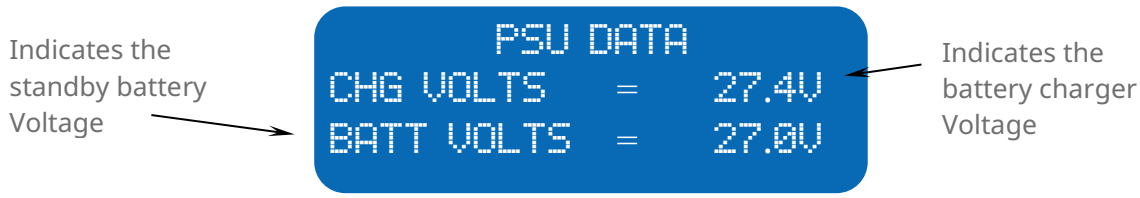


Figure 40 - Typical Panel Diagnostic data screen 1

Screen 2 displays the levels read from the Auxiliary 24 V, Firelink End of Line Monitoring and conventional alarm circuits. The numbers in brackets are internal data.

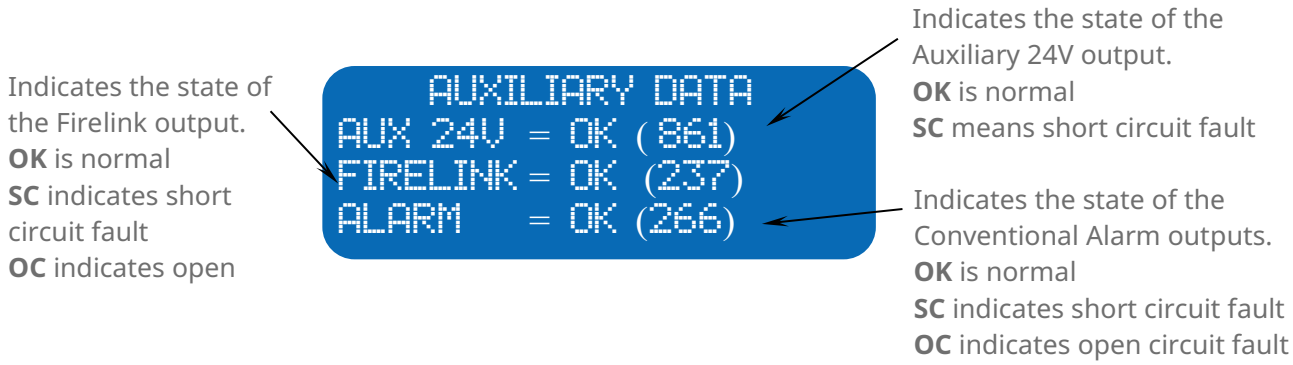


Figure 41 - Panel Diagnostic data screen 1 (showing typical values)

Screen 3 displays levels associated with the loop driver circuits.
The 'missed scans' and 'seen scans' numbers may be used to determine the integrity of the loop communications by comparing how many 'good' scans versus how many 'bad' scans have been detected since the counters were reset (20 minutes of detection time is given until the counters reach the end value).

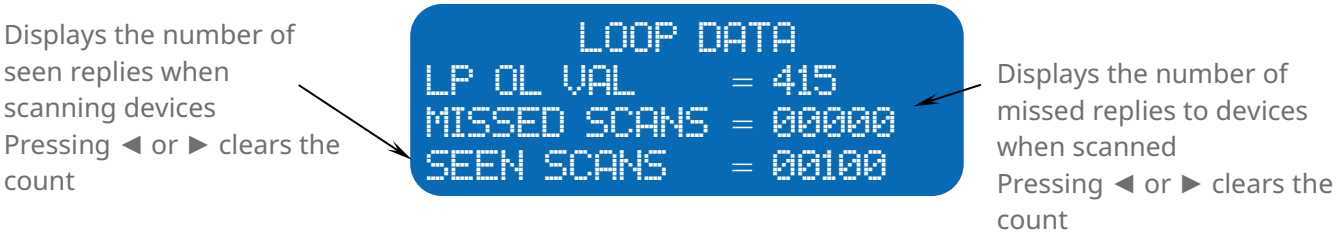


Figure 42 - Panel Diagnostic data screen 1

9.28 Displaying Panel Manufacturing Details

The DISPLAY PANEL DETAILS menu function allows the engineer to view the manufacturing details of the panel, which include software versions, panel serial number and the revision of the site file.

Press the ↵ key to enter the DISPLAY PANEL DETAILS menu as shown in Figure 43.

Press the ↵ key to return to the main menu



Figure 43 - Display Panel Data display

9.29 Connecting the 6100 to a PC

The CONNECT TO PC USING USB menu allows the engineer to connect the 6100 to a PC in order download panel firmware or update and backup the site-specific settings. Consult the 6100 Programming Manual for further details.

Before entering this menu ensure that suitable software and drivers are loaded on the PC and that the USB cable is connected from the 6100 panel to the PC.

When the 6100 is connected to the PC it **will not** operate as a fire alarm panel and the power to the loop circuits is removed.

When the USB cable is unplugged the 6100 will automatically reset.

- Connect a PC to the 6100 using the USB connection.
- Press the ↵ key at the CONNECT TO PC USING USB menu, the 6100 will display a warning screen (illustrated in Figure 44).
- Press the ↵ key to connect to the connected PC.
- Press the ▲, ▼, ◄ or ► keys to return to the main menu without connecting to the PC.



Figure 44 - Connect to PC using USB warning display

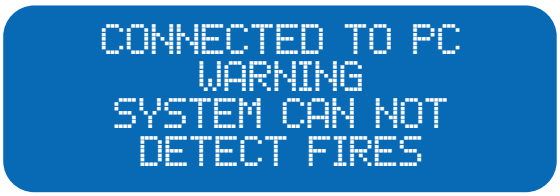


Figure 45 - Display shown when the 6100 is connected to the PC

9.30 Restarting the 6100

The RESTART SYSTEM menu function allows the engineer to fully reset the 6100. All loop devices will be re-programmed and re-initialised, and any faults will be regenerated.

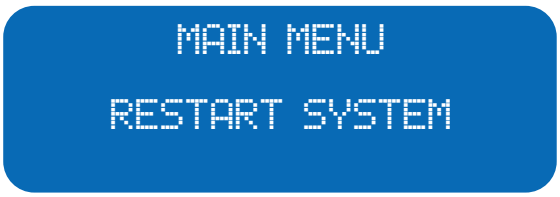


Figure 46 - Restart System menu option

10 Programming the system using the Windows software suite

The 6100 Windows software suite allows all the programming aspects of the 6100 to be accessed.

Please consult the accompanying 6100 Programming Manual for details on how to commission the 6100 using a PC.

11 General System Operation

11.1 Panel Initialisation

When the 6100 is powered up, rebooted, or when the RESTART SYSTEM menu option is accepted the 6100 performs a full initialisation.

The initialisation consists of the following tasks and, depending on loop device types, can take up to one minute to complete.

1. Any current faults are cancelled, and any faults are re-generated.
2. All loop device running data used by the panel is reset.
3. Loop devices are reset, then reprogrammed with any relevant site-specific data.
4. Automatic class loop devices are initialised as required.
5. The 6100 will log and display a Panel Reset event (which must be cleared manually).

11.2 Loop Initialisation

Automatic class loop devices require initialisation to calculate various running values used by the Algo-Tec™ algorithms.

Loop devices are initialised whenever the 6100 is initialised, or when a missing loop device is re-connected.

The initialisation process consists of several stabilisation scans (the exact number depends on the type of loop device) followed by four scans of each reply channel from the device.

The scan values are checked for stability; each scan value must be within 4 reply counts of any other for that channel. If a ‘noisy’ device is detected the 6100 issues a ‘Device Failed Setup’ event for that loop address and the device is not permitted to generate a fire. It will remain in fault until:

1. The 6100 is restarted.
2. The device is removed, seen as missing, then re-connected.
   (In this case the indicator on the loop device is illuminated for about three seconds to signal that the device is being initialised)

11.3 Added Loop Devices

The 6100 will process any devices that are stored in its memory. Periodically the 6100 checks for extra loop devices that may have been added. Up to 8 added devices can be detected.

Added loop devices generate a single ‘Added Loop Device’ event (only one event irrespective of how many devices are added). The indicator LED on the added loop device will flash at a rate of approximately 3 seconds on and 3 seconds off to signify it has been recognised by the 6100, but not fully programmed.



To enable them to operate correctly added devices must be logged on to the 6100 in the normal manner, then given a loop address and all relevant programming data as required.

12 6100 Technical Specification

Environmental Specification	
Operating Temperature	0 to 40 °C
Humidity Limit	95% RH (no condensation, or icing)
Ingress Protection (IP)	Meets IP30 if mounted in a dry position that does not exceed the temperature and humidity limits given. Do not position in areas subject to direct sunlight.
Mounting	3 points surface mount or flush Unit must be installed at a height no greater than 2 meters above the floor
Operating Altitude	<2,000 meters above sea level (unless otherwise specified by manufacturer)
Installation Environment	Indoor use only; avoid direct sunlight; surface or flush mount
Pollution Degree	2 (Indoor use only; non-conductive environment with occasional condensation)
Dimensions (mm)	228(W) x 345(H) x 111(D)
Product Weight	1.5 kg (excluding batteries)

Power Supply Specification	
Rated Voltage	100 to 240 V ac rms
Rated Frequency	50 to 60 Hz
Rated Current	600 mA rms
Maximum Inrush Current	20 A at 240 V from cold
Maximum Quiescent Load, Imax_a	647mA (22 mA panel, 200 mA loop, 150 mA aux. 24 V, 275 mA battery charge) 372 mA (22 mA panel, 200 mA loop, 150 mA aux. 24 V)
Maximum Alarm Load, Imax_b	1026 mA (56 mA panel, 600 mA loop, 200 mA alarm, 150 mA aux. 24 V, 20 mA fire-link). Batteries are not charged during an alarm condition
Minimum Load, Imin, panel only	22 mA (panel normal, 30 seconds after a mains failure) 56 mA (panel in alarm, 30 seconds after a mains failure)
Mains Input Fuse	1.6 A time delay (not user or engineer replaceable)
Output Voltage	24 - 29 V dc with mains present, 17 - 29 V dc on batteries
Output Ripple Voltage	400 mV maximum (peak to peak) at full output load
Battery Type	YUCEL Y3.2-12 (UL File Number MH28018) 2 × 12 V 3.2 Ah Valve Regulated Lead Acid (VRLA) batteries **Alternative batteries must be certified under UL Guide Number BAZR2 and compliant with UL 1989**
Battery Charge Voltage	27.3 V at 20 °C. Temperature compensated at – 40 mV/°C. Protected by 1.6 A self-resetting thermal fuse
Battery Charge Current	250 mA (± 25 mA)
Battery Test Load	47Ω (internal to the 6100)
Battery Over Voltage Fault Level	28.5V dc
Battery Under Voltage Fault Level	22 V dc
Battery Low Voltage Cut-off Level	18.5 V dc Battery Voltage (6100 turns off)
Battery Monitoring	Charger dip, battery load and internal impedance

Maximum Battery Resistance (Ri)	2 Ω (battery internal resistance + lead and connection resistances)
Standby Time (typical)	24 Hours, assuming 100 mA quiescent current then 700 mA in-alarm current for 30 minutes. (Note that currents are additions of panel, alarm, loop, auxiliary 24 V and fire link). The exact standby time must be calculated and then verified by measurement
Low battery cut-off condition	Less than 150 µA (6100 is turned off)

Control Panel Specification

Loop Driver Output Capability	600 mA average, 1.2 A peak
Auxiliary 24 V Output	150 mA maximum (limited by monitored, self-resetting thermal fuse). Any overload must be completely removed to clear a fault condition
Auxiliary 24 V Fault Thresholds	An 'Aux Supply Fault' is generated when the voltage on the Aux. 24 V output drops to 75% of the panel running voltage
Conventional Alarm Outputs	The alarm outputs can be connected in parallel to achieve a single alarm output with 200mA drive capability, in which case the end of line resistor must change to a 4.7kΩ ¼ W (± 5%) **All devices connected to the alarm outputs must be polarised and suppressed.** 100mA maximum current per output, monitored for open and short circuit faults. A 10kΩ ¼ W (± 5%) end of line resistor is required on each alarm output.
Conventional Alarm Output End of Line Fault thresholds	The alarm outputs are monitored as a pair. An alarm fault is generated if the measured resistance (both alarm circuits in parallel) is above 7.5kΩ or below 2.5kΩ
Remote Alarm and Class Change Inputs	50Ω or less to activate
Fire and Fault Outputs	Volt free changeover contacts rated at a maximum of 1A 24V dc
Fire Link Output	Monitored for open and short circuit faults. Requires Protec end of line module (see appendix 1) if used to signal to a remote station, otherwise a 4.7kΩ ¼ W (± 5%) termination resistor must be connected locally in the 6100
Fire link Output Current When Operated	20 mA
Fire Link Output End of Line Fault thresholds	A 'Fire Link Fault' is generated if the measured resistance is above 7.5kΩ or below 2.5kΩ

13 Conformity

CE 2797	UKCA 0086
12	**21**
Protec Fire Detection PLC, Protec House, Churchill Way, Nelson, Lancashire, BB9 6RT, United Kingdom	
PFD-CPR-0055	PFD-UKCA-0055
BS EN 54-2:1997+A1:2006 BS EN 54-4:1997 + A1 + A2:2006 Control / Indicating and Power Supply equipment for fire detection and fire alarm systems for buildings **6100 Fire Alarm Control Panel** **Options with requirements:** 7.8 Output to fire alarm devices 7.9.1 Output to fire alarm routing equipment 7.11 Delays to outputs 7.12.3 Dependencies on more than one alarm signal (Type C) 7.13 Alarm counter 8.3 Fault signals from points 10 Test condition **Control & Indicating:** Performance under fire conditions: Pass Response delay (response time to fire): Pass Operational reliability: Pass Durability of operational reliability, Temperature resistance: Pass Durability of operational reliability, Vibration resistance: Pass Durability of operational reliability, Electrical stability: Pass Durability of operational reliability, Humidity resistance: Pass **Power supply:** Performance of power supply: Pass Operational reliability: Pass Durability of operational reliability, Temperature resistance: Pass Durability of operational reliability, Vibration resistance: Pass Durability of operational reliability, Electrical stability: Pass Durability of operational reliability, Humidity resistance: Pass	

UKCA This equipment has been manufactured in conformance with the requirements of all applicable UK council directives and regulations.

CE This equipment has been manufactured in conformance with the requirements of all applicable EU council directives and regulations.

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Waste Electrical and Electronic Equipment Directive). To dispose of old electrical or electronic devices, you should use the return and collection systems put in place in the country concerned.

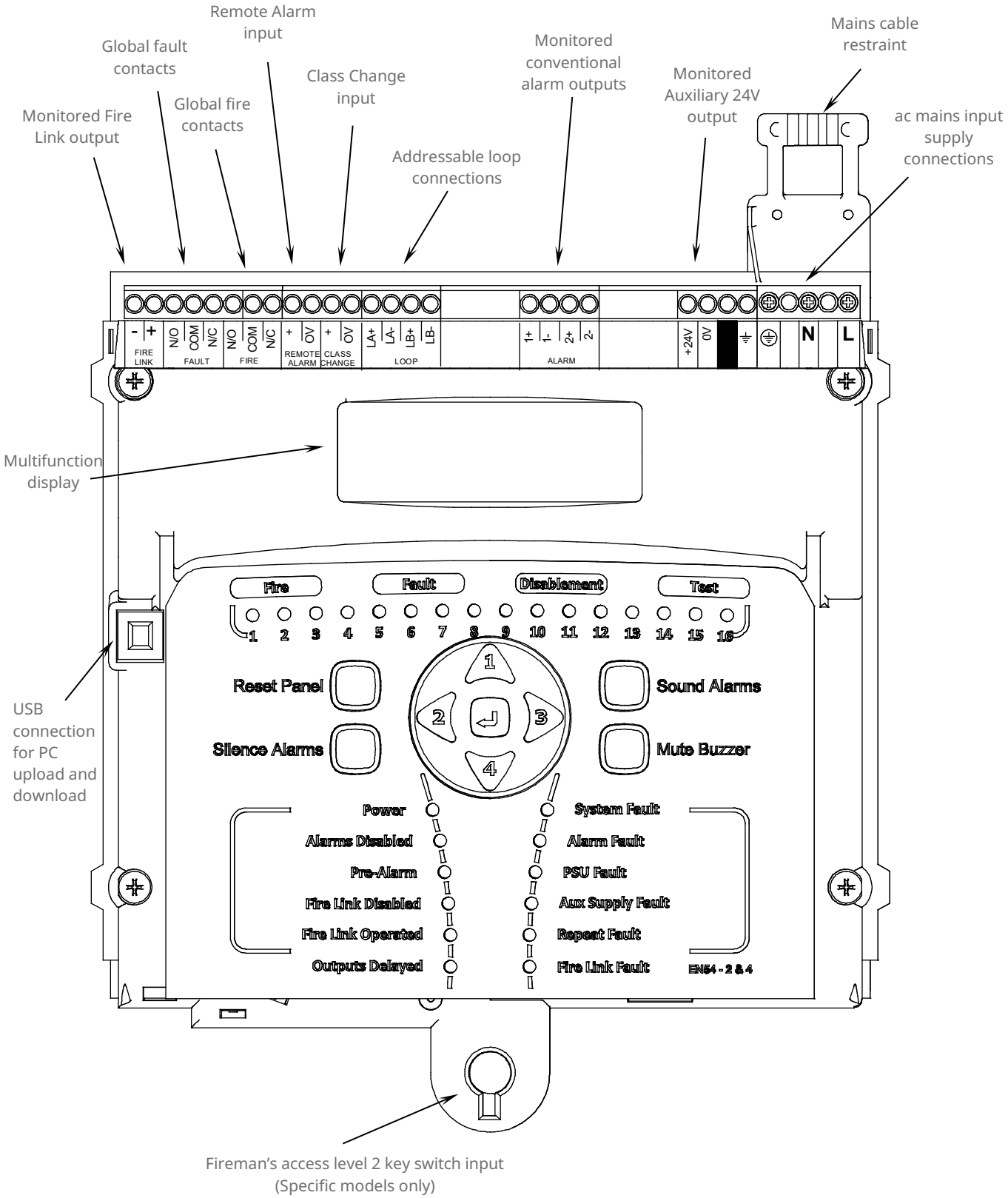
The policy of Protec Fire Detection PLC is one of continuous improvement. As such we reserve the right to make changes to product specifications at any time and without prior notice. Errors and omissions excepted.

Appendix 1 List of 6100 Spares and Accessories

Description	Protec Stock Code
Standby Battery Interconnection Lead	N 41-796-44
MH28018 Yuasa Yucel 12V 3.2Ah	N 13-120-24YU
6100 Spares Kit	N 62-587-76
6100 User Manual	RDM0052
6100 Installation & Commissioning Manual (this manual)	RDM0053
6100 Programming Manual	RDM0054
6100 Loop Commissioning Booklet	N 93-574-89
6100 Fire Link end-of-line Module	SF 41-657-59

Appendix 2 6100 Control PCB Housing

The diagram below shows the 6100 Control PCB housing and highlights the main connections and controls.



Appendix 3 Loop Devices Supported by the 6100

Detection/Sounder Device Support

Description	Compatible from device software version
All 6000PLUS devices	15

Sounder/Beacon Device Support

Description	Compatible from device software version
All 6000PLUS devices	15
6000/ASB2*	28
6000/ASB4*	8
6000/ASBEA2*	4
6000/ASBEA4*	8
6000/LED/RED	1
6000/SSR2 (UK and Dutch)	31
6000/SSR/LED (UK and Dutch)	2

Input / Output Device Support

Description	Compatible from device software version
6000/MCP	11
6000/FRI	5
6000/MIP	10
6000/CCO	7
6000/MICCO	15
6000/RESET MICCO	2
6000/ZAI	9
6000/16ZAI, 6000/16ZCI, 6000/16ZOI	26
6000/16WAY I/O Interfaces (PAI and FRI)	7
6000/DIU (Damper Interface)	2
6000/LCM	1
6000/EVAC	8
6000/EVAC MIMIC	9
6000/LCD	25
6000/PROPOINT	6
6000/PROPOINTPLUS	1
6000/TSR2	1
6000/LPZA	10
6000/APZA	10
6000/2APZA	2
6000/2LPZA	2
6000/2IO	2
6000/4IO	2
6000/VAD/C/X (X = RED or WHITE)	20
6000/VAD/W/X (X = RED or WHITE)	20
6000/TSX/VAD (X = R or W depending on colour)	20
6000/LP4IO	1
Cirrus CCD	1
Cirrus Hybrid	1

* Any non 6000PLUS series detection device attached to this device is **not** supported by the 6100.

Appendix 4 6100 Event Descriptions

DEVICE IN ALARM
The loop device at the address shown has entered the alarm state.

DEVICE FAULT
The loop device at the address shown has entered the fault state. It may no longer be operating correctly and must be investigated immediately.

DEVICE FAILED SETUP
The loop device at the address shown has failed to setup correctly when the system initialised. The device will not detect fires. The system must be restarted, or the device must be removed for 30 seconds, then replaced to attempt to rectify the fault.

DEVICE PREALARM
The loop device at the address shown has detected a level of smoke, heat or carbon monoxide that is indicative of a fire but not quite at the fire threshold. To view devices in pre-alarm, use the 'View Faults' menu.

DEVICE DISABLED
The device at the address shown has been disabled. Activations from this device **will not** generate an alarm. If the device develops a fault, the fault **will not** be registered on the 6100. Disabled output devices will still activate.

DEVICE INVISIBLE SW
A device, at the address shown, programmed as class ‘Invisible Switch’ has activated.

CONT OPGRPS DISABLED
A loop device programmed to disable control output groups has operated, and output devices programmed into control type output groups will not have been able to activate.

OPGROUP 31 DISABLED
A loop device programmed to disable output group 31 has operated, and output devices programmed into output group 31 will not have been able to activate.

OPGROUP 32 DISABLED
A loop device programmed to disable output group 32 has operated, and output devices programmed into output group 32 will not have been able to activate.

ZONE IN TEST
The zone shown has been programmed into walk test mode.

ZONE DISABLEMENT
The zone shown has been disabled. Activations from devices in this zone **will not** generate an alarm. If devices in this zone develop a fault, the fault **will not** be registered on the 6100. Disabled output devices will still activate.

ZONE FAULT
One, or more, loop devices in this zone have developed a fault.

ALARM FAULT
A fault has been detected with an alarm output device on the loop, or a fault has been detected on one or both conventional alarm outputs.

ALARMS DISABLED
The alarm outputs have been disabled. Alarm outputs from loop devices or connected to the conventional alarm outputs will not activate.

FIRE LINK FAULT
A fault has been detected on the fire link output. The fire link may not operate when the 6100 detects a fire.

FIRE LINK DISABLED
The fire link output has been disabled. Fire link faults and activations will not occur.

BATTERY FAULT
The 6100 has detected a fault with the internal standby battery. This may be due to a fault with the batteries, or the connections to the batteries. The 6100 may not operate correctly in the event of a mains failure.

REPEAT FAULT
A fault has been detected with one, or more loop powered LCD repeat units.

FBP COMMS FAULT
A communications fault has been reported between the 6100 main board, and the internal Fire Brigade Panel interface module. Only applicable to Australian 6100 models.

AUX SUPPLY FAULT
A fault has been detected with the Auxiliary 24 V output. This may be a wiring fault, or the output may have been overloaded. The connection to the auxiliary 24 V output must be disconnected for 10 seconds to allow the internal thermal 'fuse' to reset.

CLASS CHANGE
The Class Change input (if enabled) has been operated.

REMOTE ALARM
The Remote Alarm input (if enabled) has been operated.

USER CODE ENTERED
ENG CODE ENTERED
ADV ENG CODE ENTERED
The relevant code entry sequence has been entered into the 6100.

PANEL RESET
The 6100 has been reset either via the menu system, or the 6100 has been powered up from cold.

LOOP FAULT
A fault, or overload has been detected on the loop driver outputs. This may be due to an open circuit loop wiring fault, a short circuit loop wiring fault or a fault on a loop device. This event can take up to 5 minutes to clear once the fault condition has been rectified.

PC CONNECTED
The 6100 has been connected to a PC to upgrade its operating system or site-specific data.

SITE DATA CORRUPT
An error has been detected in the site-specific data memory.

ADDED DEVICE FAULT
One, or more new loop devices have been detected on the 6100 loop. Added devices must be logged onto the system for them to function correctly.

LOOP ALARM FAULT
A fault has been detected with one, or more loop alarm output devices. One or more loop alarm output devices may no longer operate correctly.

LOOP LOGGED
The loop devices on the 6100 have been logged.

SITE DATA CHANGED
The site-specific data memory has been altered. This may be due to logging, allocating and saving new loop devices or editing device or zone text.

NIGHT SENS ON
The 6100 has switched from day sensitivity operation to night sensitivity operation.

EVAC PNL ACTIVE
A 6000 series loop evacuation panel has activated the 6100.

OP GROUP DISABLED
The output group shown has been disabled. Devices programmed into this output group will no longer activate.

SITEFILE ERROR
The revision of 'site file' in the 6100 is incompatible with the version of 6100 operating system.

The correct 'site file' revision must be programmed into the 6100, or the operating system must be updated as required.

6100 Control Panel – Installation and Commissioning Manual
22/09/2026 RDM0053 Issue 16

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