Product Manual

# Hy-Go/66 and Hy-Go/240 Fire Alarm Control Panels

## Version History

| Revision | Implemented by | Revision Date | Approved by | Approval Date | Reason for update |
|---|---|---|---|---|---|
| Draft A | G Howe | 13 Feb 23 | | | Hyfire branded document |
| Draft B | G Howe | 18 Apr 2023 | | | Requested tweaks on PDF |
| Draft C | G Howe | 20 Apr 23 | | | Sect 3.2 Specs and 7.2.2 Spares List SB |
| | | | | | |
| | | | | | |

## Disclaimer

*Every care has been taken by Hyfire Wireless Fire Solutions Ltd in compilation of the data contained herein and in verification of its accuracy and compliance when published, however the content of this manual is subject to change. This publication should, therefore, be checked against the Hyfire publications database to make sure that it contains the latest data. For example, the products referred to in this publication are continually improved through further research and development, this may cause information contained in this manual to be altered or discontinued.*

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# List of Abbreviations

| Term | Description |
|---|---|
| BMS | Building Management System |
| CIE | Control and Indicating Equipment |
| CZM | Conventional Zone Module |
| DACT | Digital Alarm Communicator Transmitter |
| DoP | Declaration of Performance |
| EOL | End Of Line |
| EOLR | End Of Line Resistor |
| EMC | Electromagnetic Compatibility |
| ESDS | Electrostatic Discharge Sensitive |
| ESP | Enhanced Systems Protocol (Hochiki ESP) |
| FACP | Fire Alarm Control Panel |
| FAM | False Alarm Management |
| IDC | Initiating Device Circuit |
| I/O | Input/Output |
| LED | Light Emitting Diode |
| NAC | Notification Appliance Circuit |
| PAS | Positive Alarm Sequence |
| PBUS | Peripheral Bus |
| PCB | Printed Circuit Board |
| SELV | Safety Extra Low Voltage |
| SLC | Signalling Line Circuit |
| SPD | Surge Protection Device |
| SSM | Special Sensitivity Mode |

# 1 Standards

Hyfire Wireless Fire Solutions Ltd declares that the products identified below conform to the essential requirements specified in the Construction Products Regulation:

D.o.P Hy-Go

### EN54 Functions

This Fire Alarm Control Panel is compliant with the requirements of EN54-2 (1997) and EN54-4 (1997) and EN54-13 (2005 and 2017).

In addition to the basic requirements, the following optional functions are provided, and these comply with the requirements of EN54.

## 1.1 EN54-2: 1997 + A1:2006

Control and indicating equipment for fire detection and fire alarm systems for buildings.

Provided options:

- Outputs to Fire Alarm Devices
- Output to Fire Routing Equipment
- Output to Fire Protection Equipment
- Output to Fault Routing Equipment
- Investigation Delays to Outputs
- Dependency on more than one alarm signal
- Fault Signals from Points
- Disablement of Points
- Alarm Counter
- Test Condition.

| CIE Optional Functions | | EN54-2 Clause |
|---|---|---|
| Indication: - | Outputs to Fire Alarm Devices | 7.8 |
| Outputs: - | Outputs to Fire Routing Equipment | 7.9 |
| | Output to Fire Protection Equipment | 7.10 |
| Controls: - | Investigation Delays to Outputs | 7.11 |
| | Co-incidence Detection | 7.12 |
| | | Type B & Type C |
| | Alarm Counter | 7.13 |
| | Fault Signals from Points | 8.3 |
| | Output to Fault Routing Equipment | 8.9 |
| | Disablement of Points | 9.5 |
| | Test Condition | 10 |

## 1.2 EN54-4: 1997 +A1:2002 +A2:2006

Power supply equipment for fire detection and fire alarm systems for buildings.


- Hy-Go/66
- Hy-Go/240

| P.S.E Functions | EN54-4 Clause |
|---|---|
| Operation from a main power supply | 5.1 |
| Operation from a standby battery | 5.2 |
| Monitor and Charge the Standby Battery | 5.3 |
| Recognise and Notify Supply Faults | 5.4 |

## 1.3 Low Voltage Directive 2014/35/EU

| | |
|---|---|
| EN62368-1:2014 | Audio/video, information and communication technology equipment |

## 1.4 Electromagnetic Compatibility Directive 2014/30/EU

| | |
|---|---|
| EN61000-6-3:2007 + A1:2011 | Emissions, Class B |
| EN50130-4: 1995 + A1:1998 + A2: 2003 | Immunity, Product Family Standard |
| EN50130-4: 2011 + A1:2014 | Immunity, Product Family Standard |

| System Functions | EN54-13 Clause |
|---|---|
| Transmission Path Integrity | 4.5 |

This Fire Alarm Control Panel also supports additional functions that are not covered by EN54. These are as follows:

| Additional Function | Refer to Paragraph |
|---|---|
| Auxiliary Power Supply Output | 4.5.6 |
| Auxiliary Relay Outputs | 4.5.5 |
| Programmable Cause/Effect on Outputs (Phased Evacuation) | 8.4 |

## 1.5 EN54 Optional Features with Requirements

In addition to the mandatory requirements of EN54 Part 2, the Control and Indicating Equipment (CIE) supports the following optional features with requirements: -

### 1.5.1 Outputs to Fire Alarm Devices (Section 7.8)

The CIE has provision for connection to fire alarm devices. It is possible to **SILENCE** and **RESOUND** the alarms at Level 2. Refer to the User Manual for further information.

Refer to Sections 5.3.18 and 5.3.19 for information on output programming.

### 1.5.2 Outputs to Fire Routing Equipment (Section 7.9)

The C.I.E has provision to signal the fire condition to a remote receiving station such as the fire brigade office. Requires installation of a routing interface card. Refer to Sections 4.4, 4.4.2, 5.3.18, and 5.3.19 for further information.

### 1.5.3 Outputs to Fire Protection Equipment (Section 7.10)

The C.I.E has provision to signal the fire condition to a remote receiving station such as the fire brigade office. Requires installation of a routing interface card. Refer to Sections 4.4, 4.4.2, 5.3.18, and 5.3.19 for further information.

### 1.5.4 Delays to Outputs (Section 7.11)

The C.I.E has provision for Output and Investigation Delays. Refer to Sections 5.3.18 and 5.3.19 for further information.

### 1.5.5 Coincidence Detection (Section 7.12)

The C.I.E has provision for Coincidence Detection. Refer to Section 5.3.18 for further information. Types A, B and C are supported.

### 1.5.6 Alarm Counter (Section 7.13)

The C.I.E has provision to record the number of times that the fire alarm condition is entered.

### 1.5.7 Fault Signals from Points (Section 8.3)

The C.I.E can receive and process fault signals from points. These are indicated on a per zone basis.

### 1.5.8 Outputs to Fault Routing Equipment (Section 8.9)

The C.I.E has provision to signal the fault condition to a remote receiving station such as the service centre office. Requires installation of a routing interface card. Refer to Sections 4.4, 4.4.2, 5.3.18, and 5.3.19 for further information.

### 1.5.9 Disablement of Points (Section 9.5)

The C.I.E has provision for enabling and disabling signals from points.

### 1.5.10 Test Condition (Section 10)

The C.I.E has provision for testing the installation on a per zone basis.

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# 2 Safety Precautions

## 2.1 General


**WARNING:**

**WARNINGS DEFINE A HAZARD THAT CAN CAUSE SERIOUS OR FATAL HARM. FAILURE TO OBEY A WARNING CAN KILL OR SERIOUSLY INJURE YOU.**

**WARNINGS CAN ALSO GIVE PROCEDURES OR PRACTICES WHICH WILL DAMAGE FACILITIES OR EQUIPMENT IF NOT OBEYED.**

**CAUTION:**

**Cautions define a hazard that can possibly cause damage to facilities or equipment, loss of data or cause a system to cease operating.**

*Note:*

*Notes draw your attention to extra information, relevant to the procedures or equipment.*

## 2.2 Precautions

**BEFORE YOU INSTALL THIS PRODUCT MAKE SURE THAT YOU COMPLY WITH THE RATINGS SHOWN INSIDE THE EQUIPMENT AND IN THE SPECIFICATIONS SECTION OF THIS MANUAL.**


**WARNING:**

**MAKE SURE THAT YOU HAVE READ AND UNDERSTOOD THE INSTRUCTIONS PROVIDED IN THIS MANUAL BEFORE YOU WORK ON THE PANEL. IF YOU ARE NOT SURE, STOP WORK AND SEEK GUIDANCE FROM THE MANUFACTURER OR SUPPLIER.**

**THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES. MAKE SURE THAT YOU OBEY ANTI-STATIC PRECAUTIONS AT ALL TIMES WHEN WORKING ON THE SYSTEM. FAILURE TO OBEY ESDS PROCEDURES CAN DAMAGE THE EQUIPMENT.**

**CAUTION:**

**Only trained, competent personnel should carry out installation, programming or maintenance on this equipment.**

**This equipment has been designed to comply with Low Voltage and Electromagnetic Compatibility (EMC) Directives. Failure to follow the installation and maintenance procedures can prevent the equipment from conforming to these standards.**

*Note:*

*Some set-up procedures and adjustments to the equipment can only be done using the PC Configuration Tool. These steps are clearly labelled in the manual as “PC Only”.*

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# 3 Introduction

*Figure 1 – Hy-Go Fire Alarm Control Panel*

## 3.1 Description

This manual covers the use, installation, programming and commissioning of the Hy-Go Fire Alarm Control Panel (FACP). This manual provides generic programming and installation information, refer to the appropriate protocol application note for further and specific information for each protocol.

### 3.1.1 Hy-Go Series

The Hy-Go is a single loop, analogue addressable FACP.

### 3.1.2 Hy-Go Series Protocol

The detector protocol supported by the Hy-Go panel.

- Argus Vega (Altair)

Panel, detection loops, sounder circuits, etc. should be installed in accordance with the instructions in Section 4 and then programmed in accordance with Section 5.

## 3.2 Specifications

| Item | Specification Details |
|---|---|
| Part Number: | Hy-Go/66, Hy-Go/240 |
| Enclosure | Steel IP30 RAL7035 |
| Dimensions H x W x D mm | 345 x 345 x 87 |
| Weight (excluding batteries) | 4Kg |
| Temperature range | -5°C to 40°C |
| Humidity (RH) | 95 % Max |
| Cable Entries (20mm knockouts) | 14x top |
| AC Supply<br>*(ratings marked on label inside panel – see section 4.2 for location)* | 220-240V<br>50 – 60 Hz<br>1.0A max |
| Safety | EN62368-1, Class 1, Pollution Degree 2, Overvoltage Category II |
| Battery Capacity | 24V 4Ah Internal (min)<br>24V 7Ah Internal (max) |
| Charging Current | 0.35A Temp Compensated |
| Deep discharge cut-off | 19.5V |
| Power Supply | On-board 24V DC, 1.5A High Efficiency Off-Line Switched Mode |
| Output Voltage [1] | 18.0V – 28.0V |
| Ripple (Vpkpk) | <1.0V |
| Max Battery Ohms | 1.8Ω ± 0.1 Ω |
| Imax(a)<br>Imax(b) [2] | 1.15A<br>1.5A |
| Number of Fire Zones | 50 max |
| Number of Loops | 1 |
| Loop Current [3] | 500mA max |
| Devices per Panel – Hy-Go/66 | Argus Protocol 66 devices (max) — EN54-2: Not more than 512 detection devices per panel |
| Devices per Panel – Hy-Go/240 | Argus Protocol 240 devices (max) |
| Sounder Outputs [3] | 2 x 1A Programmable (1A total) |
| Relay Outputs (Programmable) | 3 x1A 30VAC/DC (max) to 10mA 5V (min) |
| Auxiliary Output [3] [4] | 24V DC, 100mA (With GOP-001 Fitted) |
| Display | LCD White backlit 240 x 64 Graphical LCD |
| Programmable Inputs | 1 x Key switch, 1 x monitored |
| USB | USB type B interface for PC connection |
| Network | None |
| Ethernet | 10-Base-T, 100-Base-T |
| Event Log | 5000 Event & Diagnostic + 500 Fire |
| As our policy is one of constant product improvement, we reserve the right to modify product specifications without prior notice. E&OE | |

[1] Minimum/maximum specifications for the AUX and Sounder outputs. Detector Loop voltage is not dependant on AC or battery voltage.

[2] Only applicable if the panel is configured to turn off the charger in alarm. Otherwise, Imax(b) = Imax(a).

[3] Total output current from panel not to exceed Imax(b) less internal power consumption.

[4] Aux supply tracks a maximum of 0.5V below battery terminal voltage when no mains supply is available.

# 4 Installation

## 4.1 Installation Approvals

### 4.1.1 Fire System Installations

The panel must be installed and configured for operation in accordance with these instructions and the applicable code of practice or national standard regulations for fire systems installation (for example BS5839-1) appropriate to the country and location of the installation.

### 4.1.2 Wiring Regulations

The panel and system must be installed in accordance with these instructions and the applicable wiring codes and regulations (for example BS7671) appropriate to the country and location of the installation.

#### Insulation coordination for equipment within low voltage systems:

The normal category for fire detection and fire alarm products (and associated equipment) is as permanently connected equipment supplied from the building wiring (Overvoltage Category II). The equipment is not classified as being an integral part of the building wiring (Overvoltage Category III).

In accordance with EN62368-1, the products are assessed to, and comply with, the requirements for Overvoltage Category II devices for connection to the AC Mains supply.

This category is the normal category for this type of equipment and installation and the use of additional Surge Protection Devices (SPD) is not normally required.

However:

- If the equipment is subjected to special requirements regarding reliability and availability

or:

- The equipment is likely, when installed, to be subjected to transient over-voltages that exceed Category II

then:

- Additional surge protection devices (SPD) must be provided in the AC Mains Supply feed to the equipment to limit any overvoltage transients to the levels of Category II.

## 4.2 Part Location

Figure 2 shows the major parts of the panel assembly.

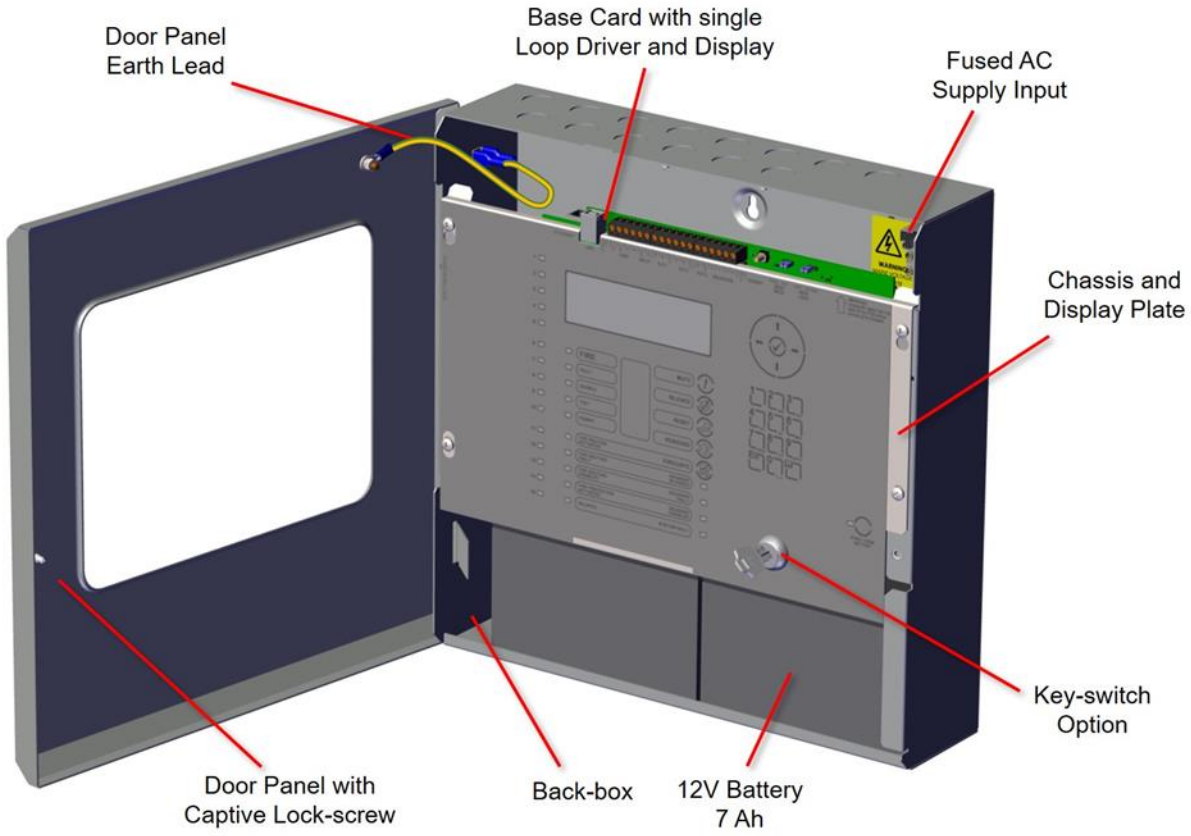


*Figure 2 - Hy-Go Part location*

## 4.3 Install the Panel


**WARNING:**

**THE PANEL ASSEMBLY IS HEAVY WHEN THE BATTERIES ARE INSTALLED. MAKE SURE THAT YOU OBEY THE RECOMMENDED LIFTING PRACTICES TO PREVENT PERSONAL INJURY OR DAMAGE TO THE EQUIPMENT.**

**MAKE SURE THAT YOU USE APPROPRIATE FIXING HARDWARE TO SECURE THE PANEL TO THE WALL.**

| Panel Weight | Maximum Battery | Combined Maximum Weight |
|---|---|---|
| 4Kg | Two 7Ah @ 2.5Kg each | 9Kg |

### 4.3.1 Open the Enclosure Cover

The enclosure cover is fitted with a captive screw to lock the hinged door to the back box. Undo the captive screw and hinge the panel door open.

The door can be removed from the panel as follows:

- Open the door to 90°
- Disconnect the earth terminal from the panel door.
- Lift the door off the hinge mountings on the back box.

### 4.3.2 Remove the Chassis

**WARNING:** **THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES. MAKE SURE THAT YOU OBEY ANTI-STATIC PRECAUTIONS AT ALL TIMES WHEN WORKING ON THE SYSTEM. FAILURE TO OBEY ESDS PROCEDURES CAN DAMAGE THE EQUIPMENT.**

**CAUTION:** **Do not hold any part of the printed circuit boards when you lift the chassis. Hold the chassis by the metal plate only. If you lift the chassis by the PCBs, you can damage the equipment.**

Hyfire recommend that you remove the chassis before you fit the enclosure to the wall.

To remove the chassis:

- Loosen the upper two screws holding the chassis to the back box and remove the two bottom screws (retain the screws). See Figure 3.
- Lift the chassis until it can be removed from the upper screws.
- Lower the chassis and hook the top lugs into the slots in the back-box that are below the top mounting screws.
- Disconnect the spade terminal that connects the chassis earth cable to the back-box.
- Unplug the 3-way connector feeding the AC supply to the Base Card.
- Unplug the ribbon cable connecting the optional Peripheral Bus Adaptor Board mounted in rear of enclosure (if fitted).
- Remove the chassis from the back-box and put it in a safe place to prevent accidental damage.

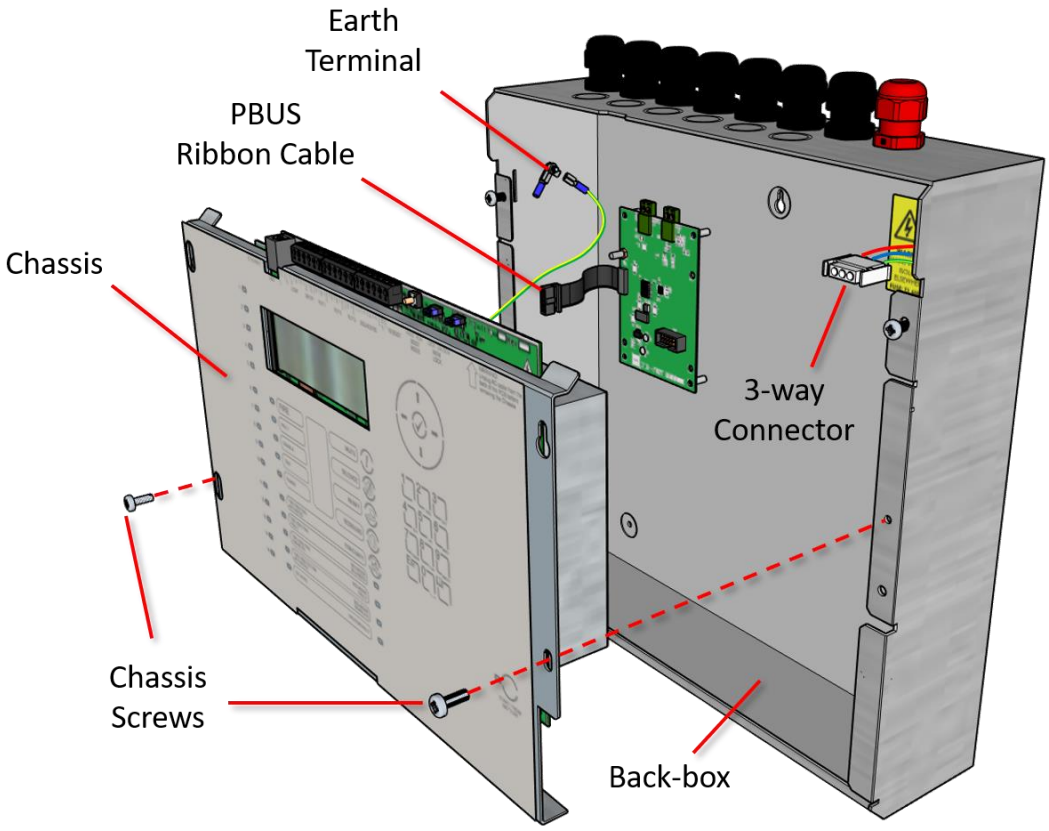


*Figure 3 - Chassis Remove/Install*

### 4.3.3 Mount the Back-box.

Remove the required knockouts for the installation wiring. There are enough knockouts on the top of the back-box for all installation wiring. See Figure 4.

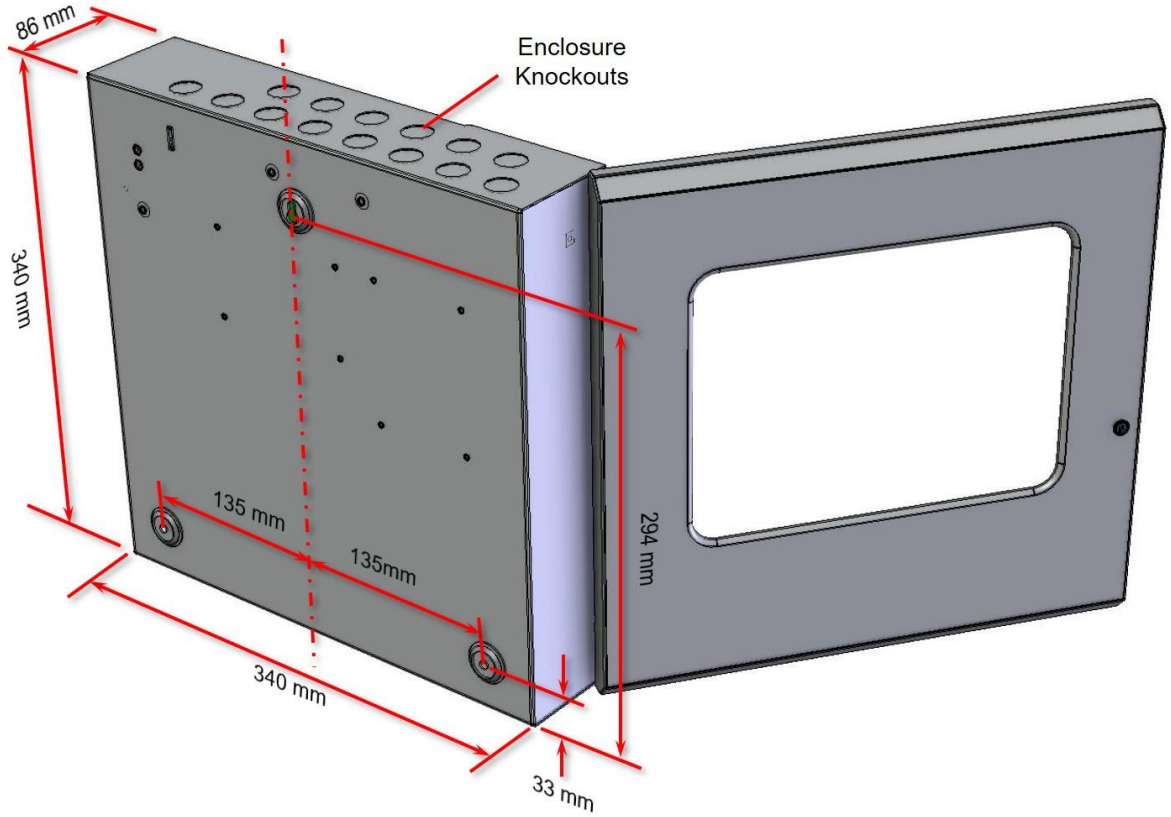


*Figure 4 - Back-box Enclosure*

The enclosure has three screw fixing points.

- Drill three holes in the supporting wall using a 7.0 mm diameter drill-bit and fit 40mm or longer expansion plugs. Install the panel to the wall with M5 or No.10 screws. Use appropriate fixings to support the weight of the panel including the batteries.
- Make sure that there is enough space for the door to be opened when the panel is mounted.
- Remove any dust or swarf from inside the enclosure.

### 4.3.4 Install the Chassis

**CAUTION:**

**Do not hold any part of the printed circuit boards when you lift the chassis. Hold the chassis by the metal plate only. If you lift the chassis by the PCBs, you can damage the equipment.**

- Put the top lugs on the chassis in the two slots on the back-box below the upper screws.
- Connect the Peripheral Bus Adaptor Board ribbon cable to the Base Card (if fitted)
- Connect the chassis earth cable to the spade terminal in the rear of the back-box
- Connect the AC supply wire
- Put the chassis over the two top mounting screws and slide it down to engage the keyhole slots
- Install the two bottom mounting screws and tighten all four screws.

### 4.3.5 Recommended Cable Routing

Hyfire recommend that you use the typical routing arrangement shown in Figure 5.

Make sure that any low voltage wiring (Loop Circuit, Sounder Circuits and other SELV circuits) is separated from the AC Mains Wiring.

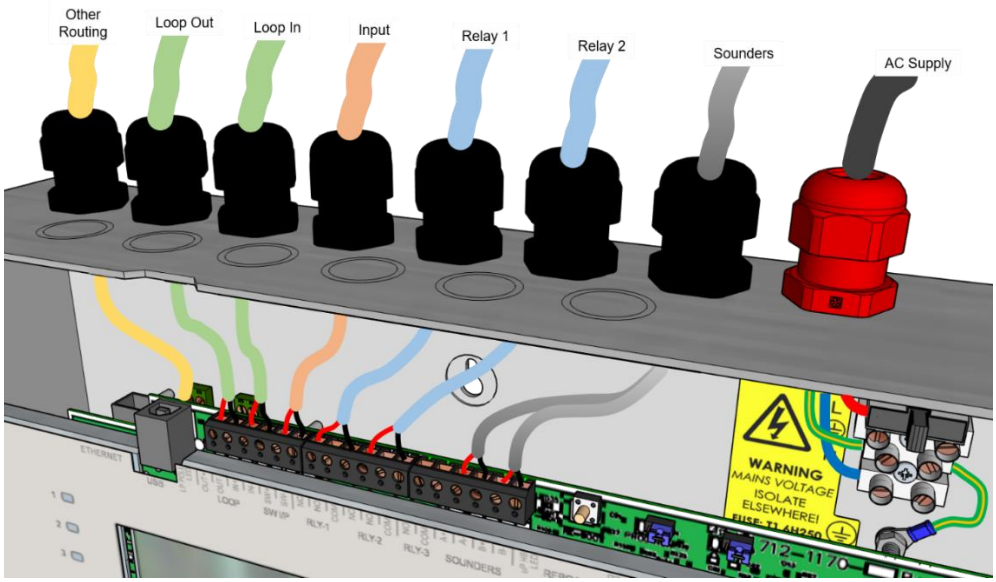


*Figure 5 - Recommended routing*

Make sure that any wires connected to the relay contacts are separate from each other.

Refer to Section 8.2 for further information on cable types to be used.

Refer to specific sections on how to install the AC Mains input and the loop, sounder, relay and other circuits.

## 4.4 Peripheral Bus (PBUS) Modules

The Hy-Go has provision for installation/use of local peripheral cards to provide additional functions. The peripherals are connected via an isolated bus interface. This requires a GOP-001 module to be mounted in the rear of the enclosure.

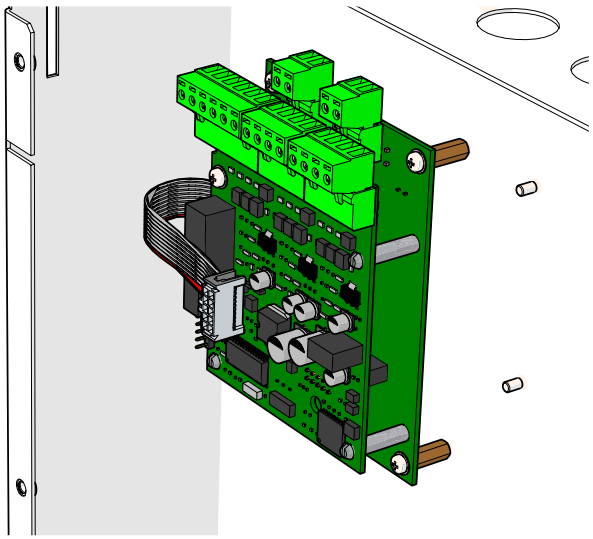

*Figure 6 - PBUS Assembly*

Refer to the wiring installation section 4.5 for details of how to connect the peripheral modules.

### 4.4.1 PBUS Adaptor Card GOP-001


**WARNING:** **THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES. MAKE SURE THAT YOU OBEY ANTI-STATIC PRECAUTIONS AT ALL TIMES WHEN WORKING ON THE SYSTEM. FAILURE TO OBEY ESDS PROCEDURES CAN DAMAGE THE EQUIPMENT.**

**CAUTION:** **Make sure that you isolate ALL sources of power before installing or removing any printed circuit board.**

The PBUS Adaptor Card GOP-001 is mounted on the rear wall of the back box using the 4 x 14mm female to female spacers supplied on the studs in the back-box.

Fit the PBUS Adaptor Card using the 4 x M3 fixing screws supplied.

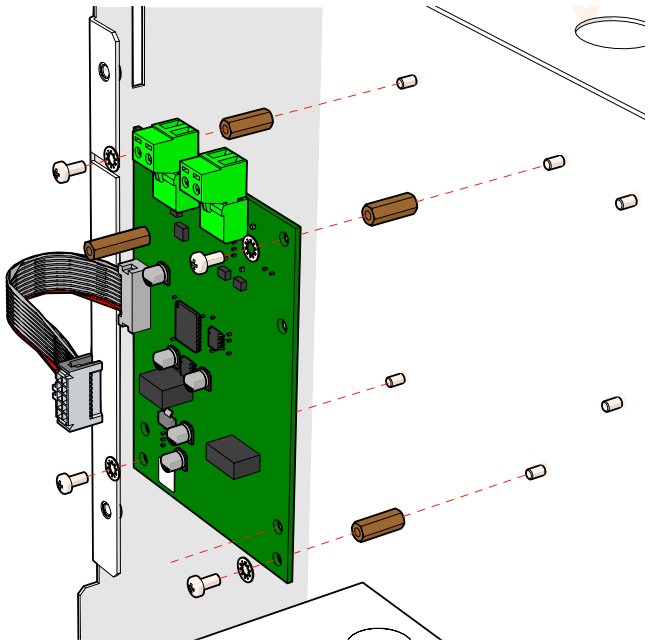

*Figure 7 - Peripheral Bus Adaptor Location*

The ribbon cable plugs into the 10-way header on the rear of the Hy-Go base card. See Figure 8.

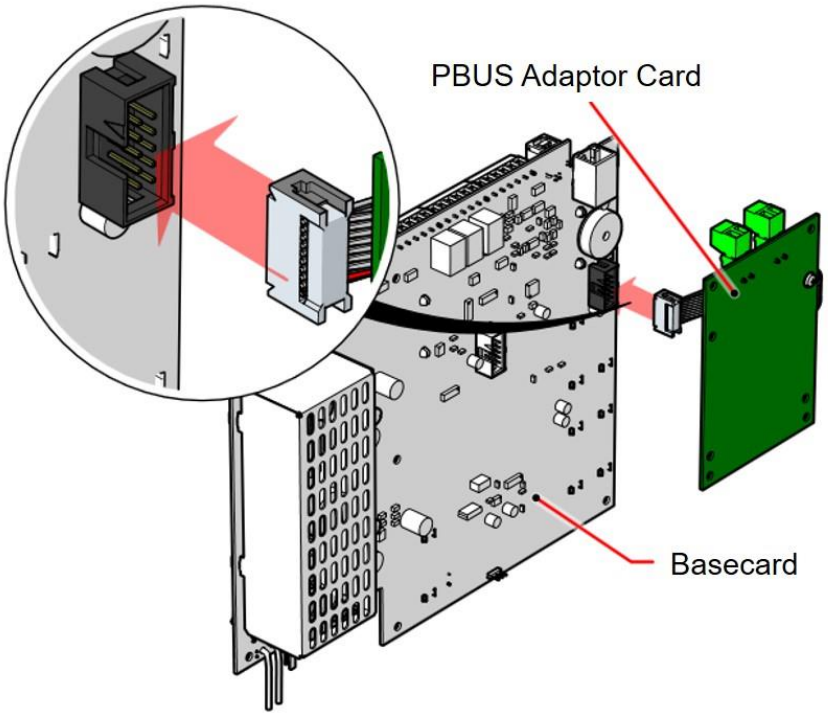


*Figure 8 - Connect the PBUS Adaptor Card*

### 4.4.2 Routing Interface Card MXP-532


**WARNING:** **THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES. MAKE SURE THAT YOU OBEY ANTI-STATIC PRECAUTIONS AT ALL TIMES WHEN WORKING ON THE SYSTEM. FAILURE TO OBEY ESDS PROCEDURES CAN DAMAGE THE EQUIPMENT.**

**CAUTION:** **Make sure that you isolate ALL sources of power before installing or removing any printed circuit board.**

Outputs to Routing Equipment – Clauses 7.9 and 8.9.

Output to Fire Protection Equipment – Clause 7.10

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The Routing Interface Card provides monitored outputs for connection to Fire Routing Equipment (Item E) and Fault Routing Equipment (Item J) or to Fire Protection Equipment (Item G) in accordance with EN54-2.

*The Mxp-532 Routing Interface card is fitted to the PBUS Adaptor Card using 1x M3 screw and 3x plastic pillars. A metal pillar is pre-installed on the adaptor card. See Figure 9.*

All signals and power required for operation of the card are provided by the plug-in connections.

Make sure that the connections are correctly aligned.

The screw fixing is essential for EMC Immunity protection.

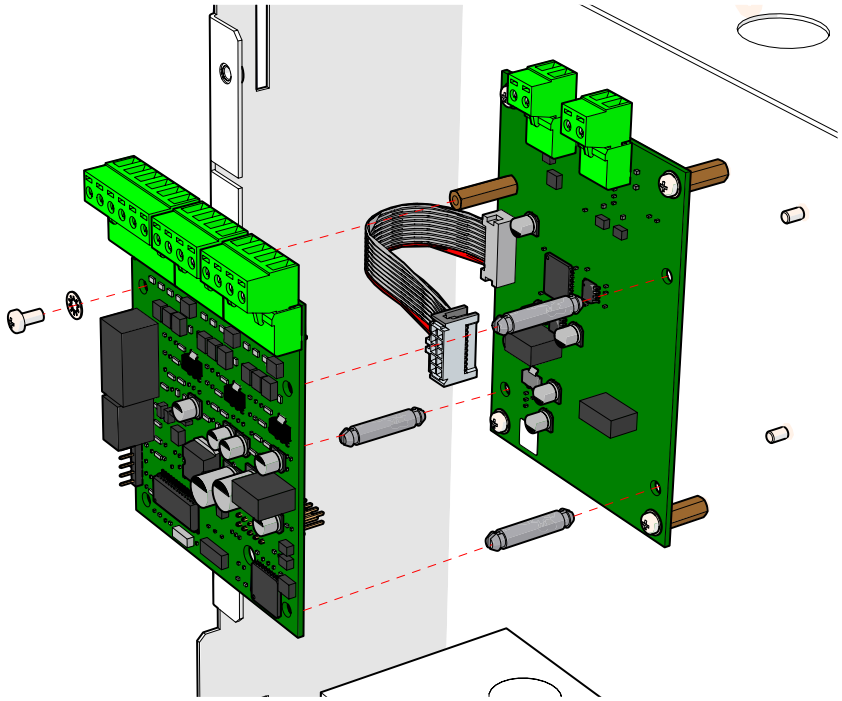

*Figure 9 – Install the routing card*

## 4.5 Wiring Installation

All electrical wiring installation work must be carried out in accordance with the code of practice or applicable national standards appropriate to the country of installation.

A Safety Extra Low Voltage (SELV) system is an extra low voltage electrical circuit that is electrically separate from other circuits that carry higher voltages. It is also isolated from the earth and protective earth conductors of other circuits.

To maintain electrical integrity of the SELV wiring on the input, output, loop and communications lines all SELV wiring should be segregated from mains wiring and be wired using cable with insulation suitable for the application.

To minimise the effects of EMC interference all data wiring circuits should be wired with a twisted pair of conductors with a cross sectional area suitable for the loading conditions.

In areas where cabling may be subject to high frequency interference, such as portable radio transceivers etc. the data wiring cable should be of a twisted pair construction within an overall screen. Care should be taken to correctly terminate this screen, refer to the appropriate sections of this manual for further information for each circuit type.

*Note:*

*Minimum/maximum cable size for all external connections is limited to 0.5mm²/2.5mm² (22-14 AWG).*

### 4.5.1 AC Mains Wiring

Connect the high voltage mains AC wiring into the enclosure at the upper right corner only. Keep the AC wiring away from the circuit boards and all other wiring.

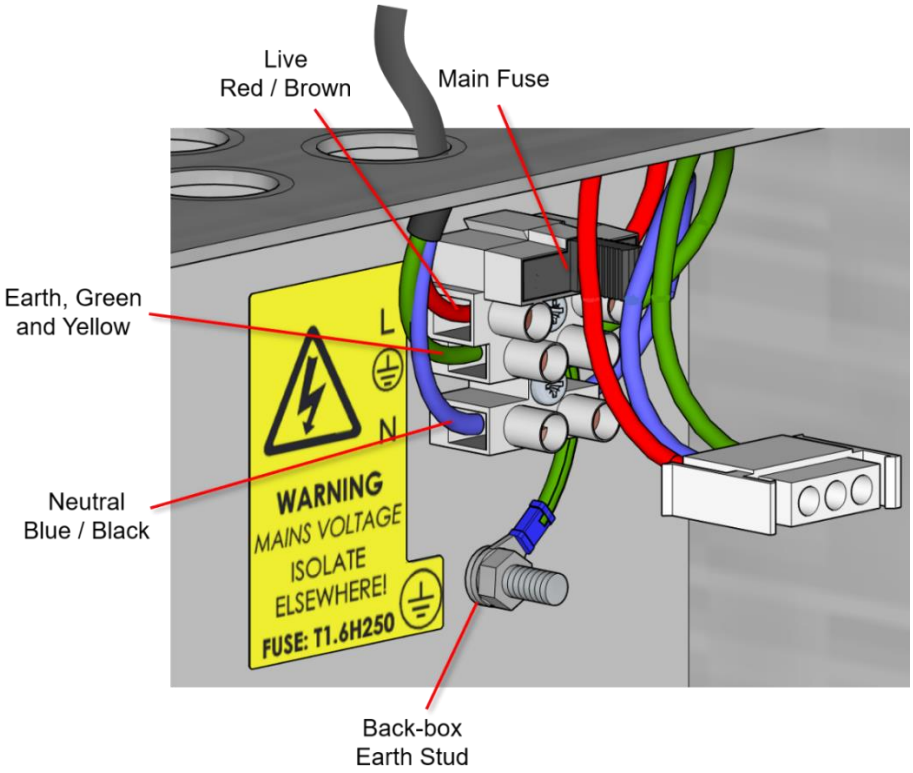


*Figure 10 - AC Mains terminations*

Replace the fuse with the correct rating and specification only. The fuse is rated as follows:

- T 1.6A H 250V

The panels must be connected to the supply earth through the power cable.

The mains input connector is shown in Figure 10. Note the positions of the earth, neutral and live terminal connections. These are clearly marked on the label next to the connector. The connector block contains an integral fuse holder.

Secure the mains input wiring by tie wrap to the anchor point as close to the terminal block as possible.

Connect the Control Panel to the mains supply via a readily accessible disconnect-device (Isolation Switch) and suitable earth fault protection incorporated in the building installation wiring. The Mains cable should be 0.75mm$^2$ cable rated at 250V and fused via a 5A anti-surge fuse.

#### 4.5.1.1 Cable Glands

**CAUTION:**

**Any cable glands, grommets or cord-clamp bushings used to route the mains cable through the 20mm knockouts must have a flame retardancy rating at UL94V-1 or better.**

### 4.5.2 Battery Installation

The panel requires two 12V batteries for standby operation. Refer to the Specifications for minimum and maximum battery sizes allowed.

The battery wires are located on the base card in the lower right-hand corner, see Figure 12.

**CAUTION:**

**Make sure that you follow the wiring diagram with respect to the polarity of the battery connections.**

*Note:*

*New batteries require 'top-charging' before installation. Refer to Section 7.2.1 for a list of recommended batteries.*

#### 4.5.2.1 Mounting the Batteries

For battery location and orientation for the 7Ah batteries within the panel, see Figure 11.

Locate the batteries to the right-hand side of the back-box, they are secured by the chassis plate.

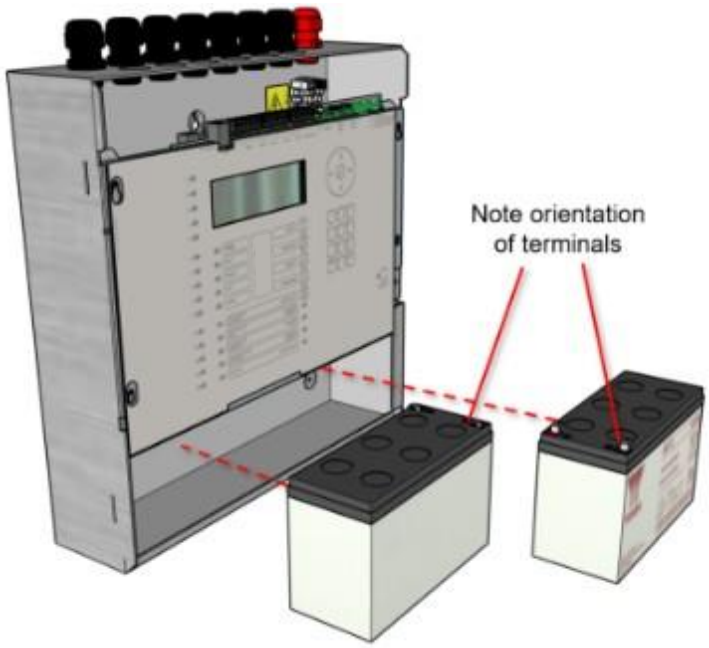


*Figure 11 – Battery Mounting*

#### 4.5.2.2 Battery Connection

Make sure that the battery terminals do not short out against any part of the enclosure, circuit board or chassis plate.

Do not make the final battery connections until the installation wiring is complete and the system is ready to be powered up.

Always connect the AC Mains input before connecting the battery.

Connect the red wire to the positive (+) terminal of battery #1 and the black wire to the negative (-) terminal of battery #2. Connect the negative of battery #1 to the positive of battery #2 using the supplied link cable. See Figure 12.

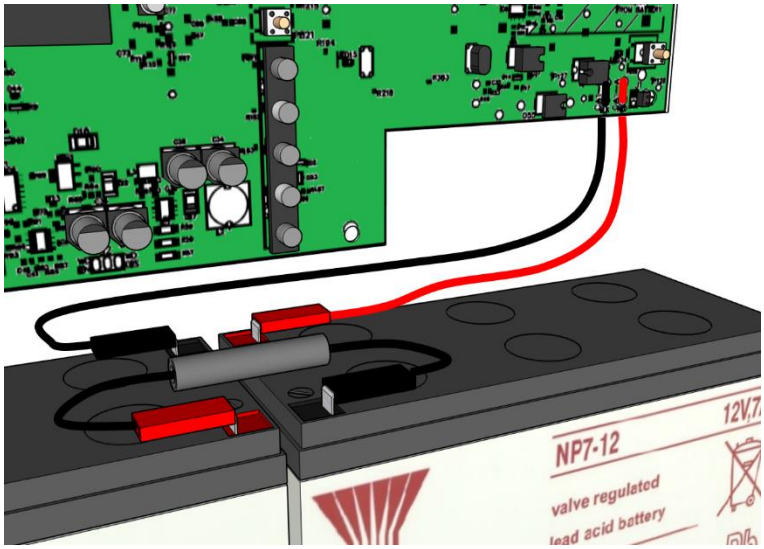


*Figure 12 - Battery Wiring*

### 4.5.3 Detector Loop Installation

Section 12.5.2

Maximum of 32 Sensors/Call Points in a Zone (between Isolators).

The Detection Loop Circuit should be installed as a continuous loop with isolator modules such that a short circuit condition does not remove more than one zone or 32 input devices or affect more than one function.

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Section 13.7

Not more than 512 fire detectors and/or manual call points and their associated mandatory functions shall be affected because of a system fault in the C.I.E. No more than 512 fire input devices per panel.

**CAUTION:**

**When you use screened cable, you must connect the screen/drain wire to the chassis/earth at the cable gland input/earth stud on the panel. Make sure that all segments of the cable loop have continuity of the screen and that the screen is not exposed to any other earth point (e.g., metalwork, cable trays, junction boxes, etc.).**

**CAUTION:**

**Make sure that the voltage drop at full load is within the detector rating – refer to the detector manufacturers' data sheet for minimum values.**

Form the loop starting at the Loop OUT + and – terminals on the base card. See Figure 13.

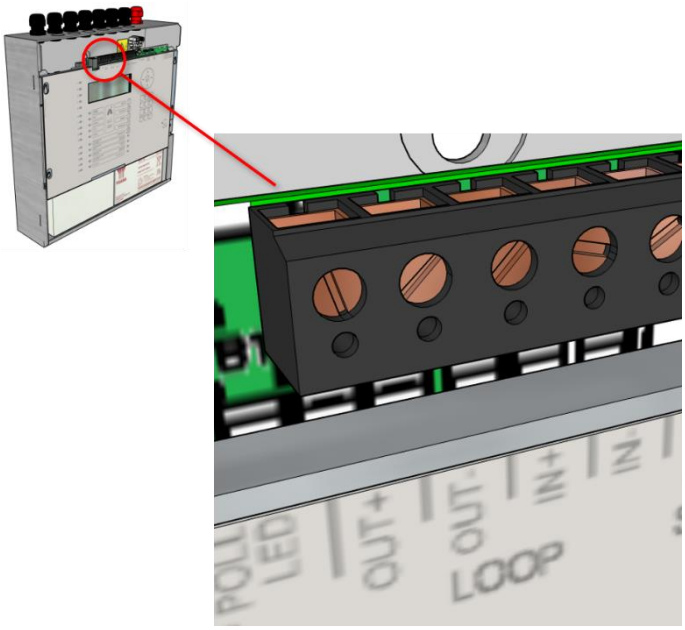


*Figure 13 - Base Card Detector Terminations*

Route the wires around the loop connecting all devices in accordance with the manufacturers' data sheet supplied with each unit.

Make sure that the devices are correctly installed regarding their positive and negative terminal polarity (especially Loop Isolator Modules).

Connect the return wires to the Loop IN + and – terminals on the base card.

A simple arrangement of the loop connections to the panel base card is shown in Figure 14.

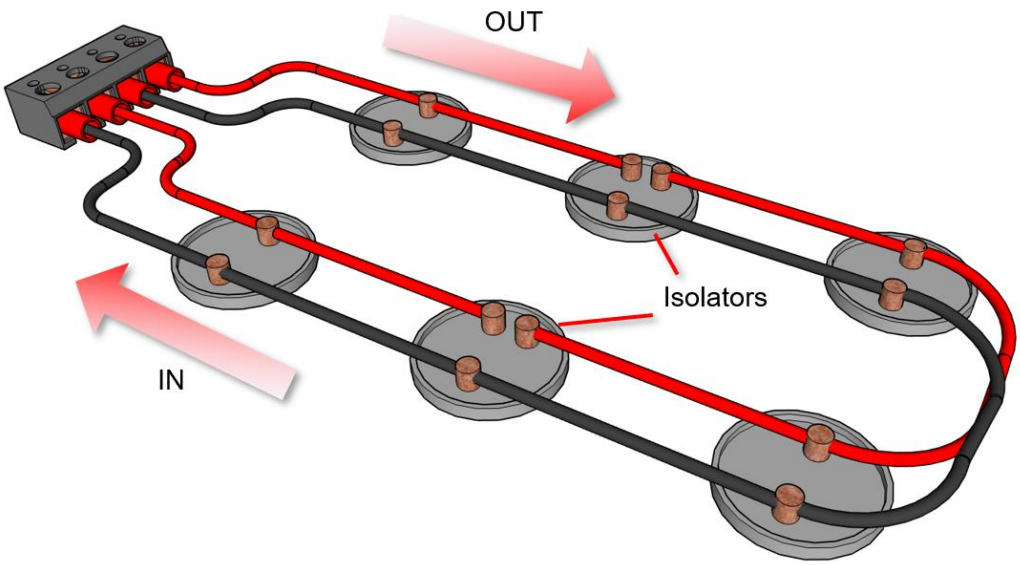


*Figure 14 - A Simple Detector Loop*

The Loop Driver Circuit on the base card has built-in isolators to cover short circuit conditions on the wiring between the panel and the first loop device. Do not fit loop isolators at the panel outputs.

Maximum recommended cable loop length is 1500 to 2000 Metres.

Refer to Section 8.2 – Recommended Fire Rated Cables for further information on cable types to be used.

To maintain signal line wiring supervision, break the wiring run at each loop device

### 4.5.4 Sounder Circuits

The Hy-Go has two supervised sounder circuits, A and B. The terminal connections on the base card are shown in Figure 15.

Each Sounder output is rated at a maximum of 1 Ampere (1A total).

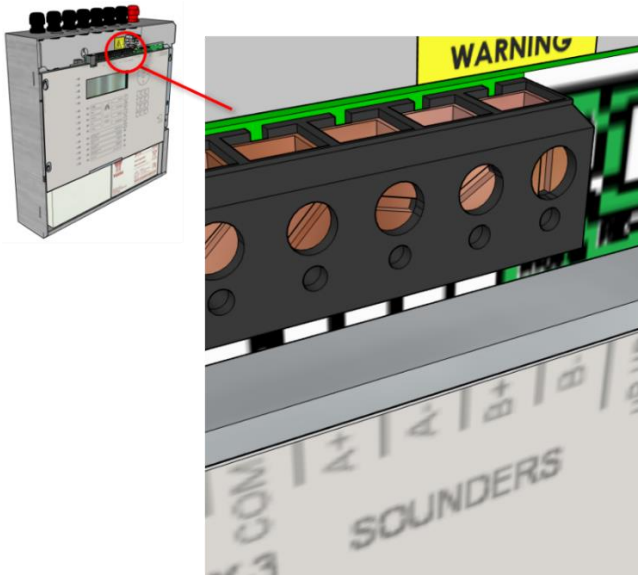


*Figure 15 - Base card Sounder Terminations*

The sounder outputs are monitored (supervised) for open and short circuit conditions using reverse polarity signals. Each sounder must be equipped with an in-built blocking diode to prevent it from taking power when the output is in the supervising condition.

An End-of-Line Resistor (EOLR) of value 6200Ω, 0.5 Watt must be fitted to the last sounder/bell.

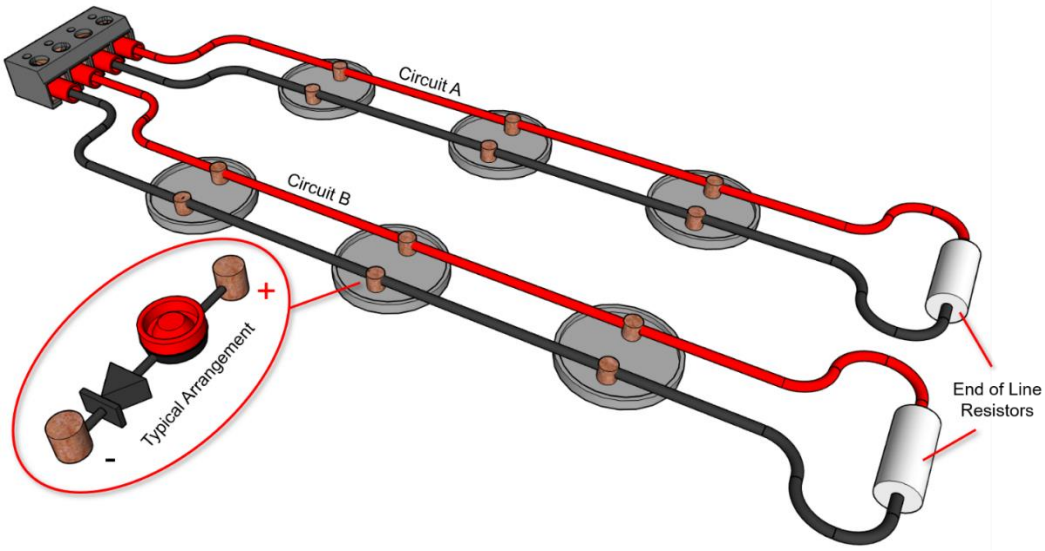


*Figure 16 - Simple Sounder Circuits A and B*

Refer to Section 8.2 – Recommended Fire Rated Cables for further information on cable types to be used.

**CAUTION:**

**When you use screened cable, you must connect the screen/drain wire to the chassis/earth at the cable gland input/earth stud on the panel. Make sure that all segments of the cable loop have continuity of the screen and that the screen is not exposed to any other earth point (e.g., metalwork, cable trays, junction boxes, etc.).**

The sounder outputs support monitoring with an Active EOL device to give circuit integrity in accordance with the requirements of EN54-13.

The sounder circuits can be configured for compliance with EN54-13 by programming and the use of an Active EOL device.

Both sounder outputs must be fitted with the Active EOL device (MXP-505).

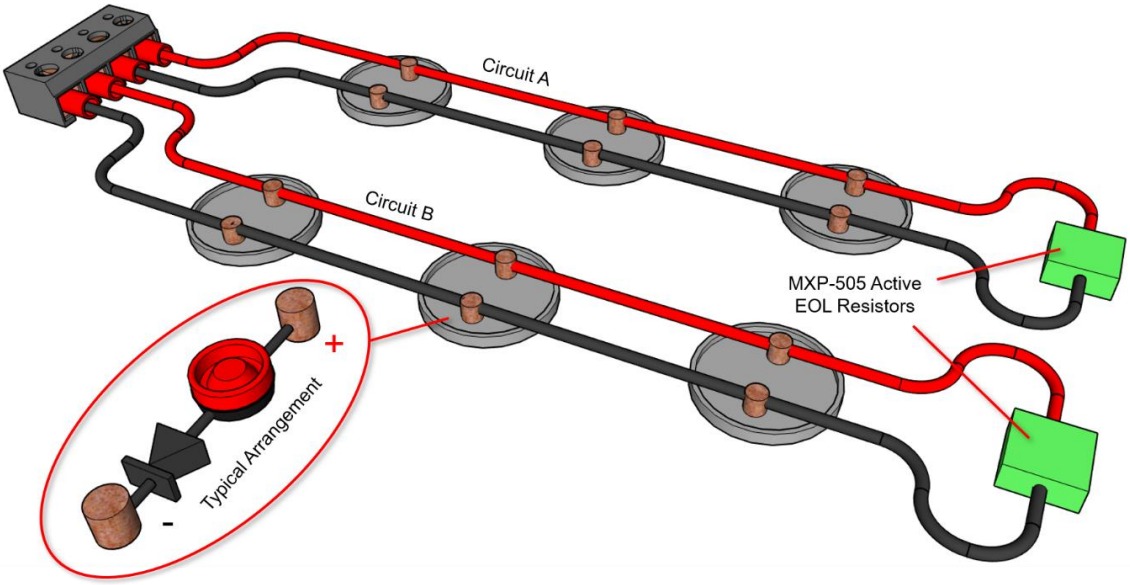


*Figure 17 - Sounders with Active EOL*

The panel makes sure that a fault warning condition is reported if the circuit resistance increases to a condition where the voltage at the last device may fall below its minimum operating voltage level. This is compatible for load currents from minimum up to maximum (1 ampere).

Install the Active EOL device at the end of the sounder circuit instead of the normal EOL resistor – this device is polarity sensitive. Connect the red wire to the sounder + signal line. See Figure 17.

**CAUTION:**

**Make sure that you observe the correct polarity when you connect the MXP-505 to the sounder circuit. The Active EOL device is polarity sensitive.**

**The Active EOL is fuse protected – if you do not connect it correctly and the sounder circuit is activated, the fuse will break. It is not user replaceable.**

### 4.5.5 Relay Circuits

Section 8.8

Fault Output.

Relay 1 is arranged for failsafe operation as standard.

The Hy-Go is equipped with three relay outputs. These are normally programmed to activate on Fault and Fire Alarm conditions respectively. See Figure 18.

Each output is unsupervised with volt-free changeover contacts rated at 30V AC/DC, 1 Ampere, resistive.

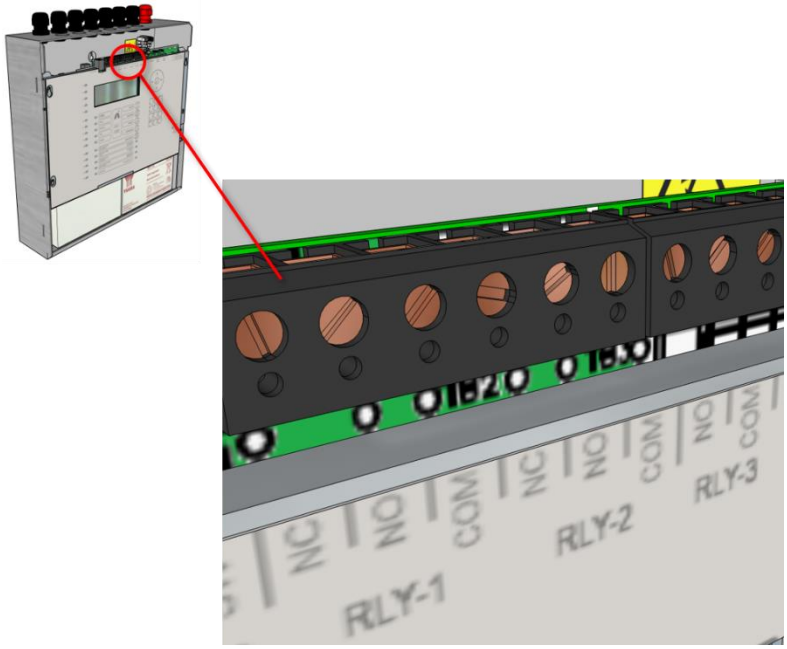


*Figure 18 - Basecard Relay Outputs*

Optional peripheral bus relays cards are available.

**CAUTION:**

**The Relay outputs can be used, instead of the Routing Interface Card, to provide non-monitored fire and fault routing outputs to appropriate routing equipment.**

**In this case, the panel will not indicate transmission path failures to the routing equipment – this feature must be incorporated into the routing equipment itself. [Not fully EN 54-2 compliant].**

### 4.5.6 Peripheral Bus Interface

Requires GOP-001 PBUS Adapter Card mounted in rear of enclosure. See Figure 19.

The Peripheral Bus (PBUS) Adapter is used to connect local peripheral equipment located inside or within 3 metres of the panel.

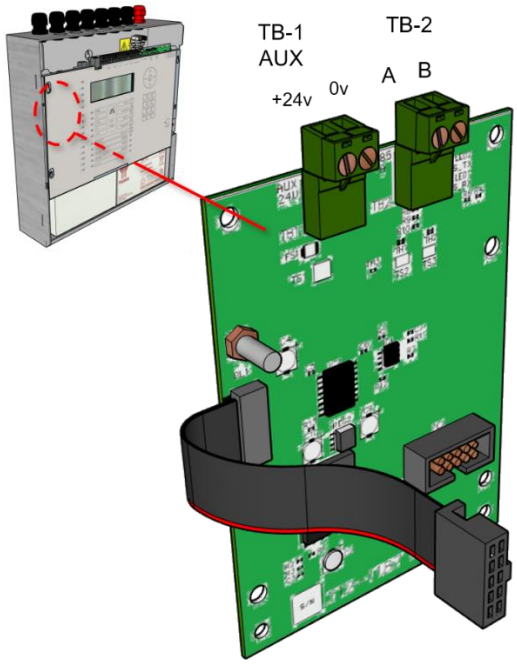


*Figure 19 - PBUS Adapter Card*

Connect the terminal blocks on the PBUS adapter card from 'A' to 'A' and from 'B' to 'B'.

External connections should be made using fire rated cable or run in rigid metal conduit between enclosures up to a maximum wire length of 3 metres.

AUX – Maximum 100mA

Any PBUS modules must be configured using the PC Tool.

### 4.5.7 Switch Inputs

One monitored switch input (I/P2) and one key switch input (I/P1) are provided.

Refer to Section 8.5 for further information.

#### Monitored Input

The monitored switch input requires a 3K3 EOL resistor and a 680R activation resistor.

This can be used for changing access level, performing “class change” etc. by changing the “Action” of these inputs.

#### Key-Switch

Using a sharp knife, carefully cut the fascia to the outline of the aperture in the chassis plate.

Mount the key-switch in the chassis and tighten the nut.

Connect the two-pin plug to PL2. See Figure 20.

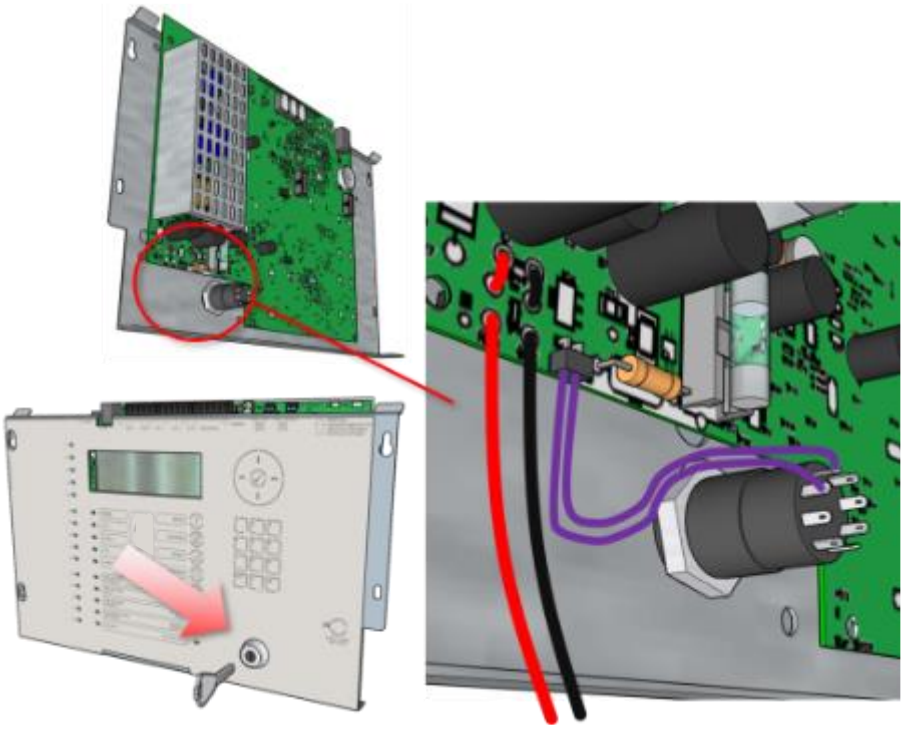

*Figure 20 - Optional Key Switch*

### 4.5.8 USB Interface (Type B)

The Hy-Go is equipped with a USB I/F Circuit at the top left of the base card.

This can be used for connection to a PC/laptop with the PC Configuration Tool installed.

### 4.5.9 Ethernet Interface

The Hy-Go is equipped with an isolated Ethernet I/F Circuit, at the top left of the base card.

This can be used for connection to a cloud server.

### 4.5.10 Routing Interface MXP-532

Requires GOP-001 option board mounted in rear of enclosure.

The Plug-In Routing Interface is used to output monitored signals to Fire Routing Equipment and Fault Routing Equipment or to Fire Protection Equipment.

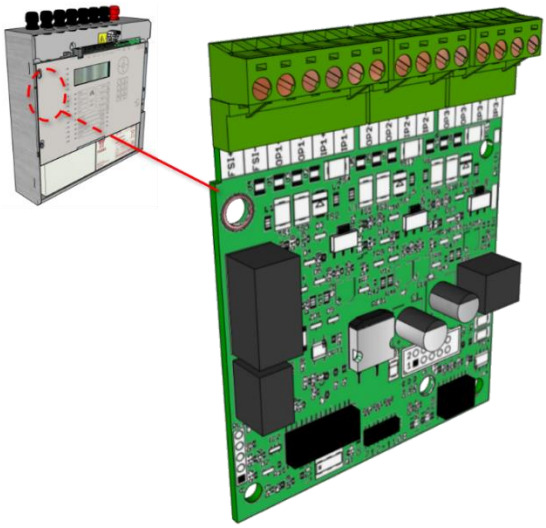

*Figure 21 - Routing Interface Card*

#### 4.5.10.1 Fire/Fault Routing

Each function comprises of an output circuit and an input (confirmatory) circuit.

Each output is monitored for open circuit and short circuit wiring conditions in both the activated and quiescent states and can be connected to a remote relay coil with a resistance of 1KΩ to 5KΩ. A suppression diode must be connected across the coil. Make sure that you observe the connection polarities. See Figure 22.

If an output is not used, install a 1KΩ ½W resistor across the output terminals.

The Fault Output is normally energised during the quiescent condition – it will de-energise on any fault or on total loss of power.

Each associated input circuit is monitored for open circuit and short circuit conditions using an EOL resistor (3.3KΩ).

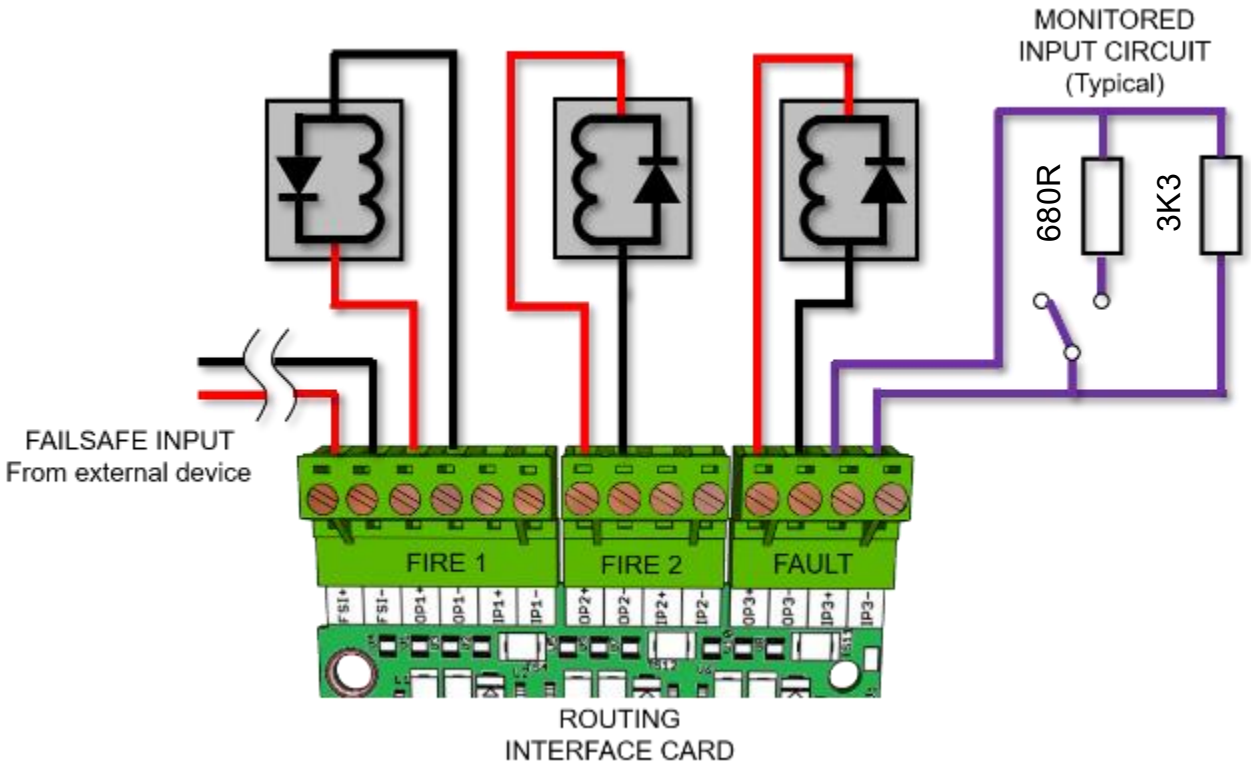


*Figure 22 - Routing Interface Card, Typical Arrangement*

The primary Fire Routing Circuit is automatically switched to a failsafe input should the panel suffer a system fault or total power failure. If required, this input should be connected to and driven by another fire routing output located on a separate panel. See Figure 23.

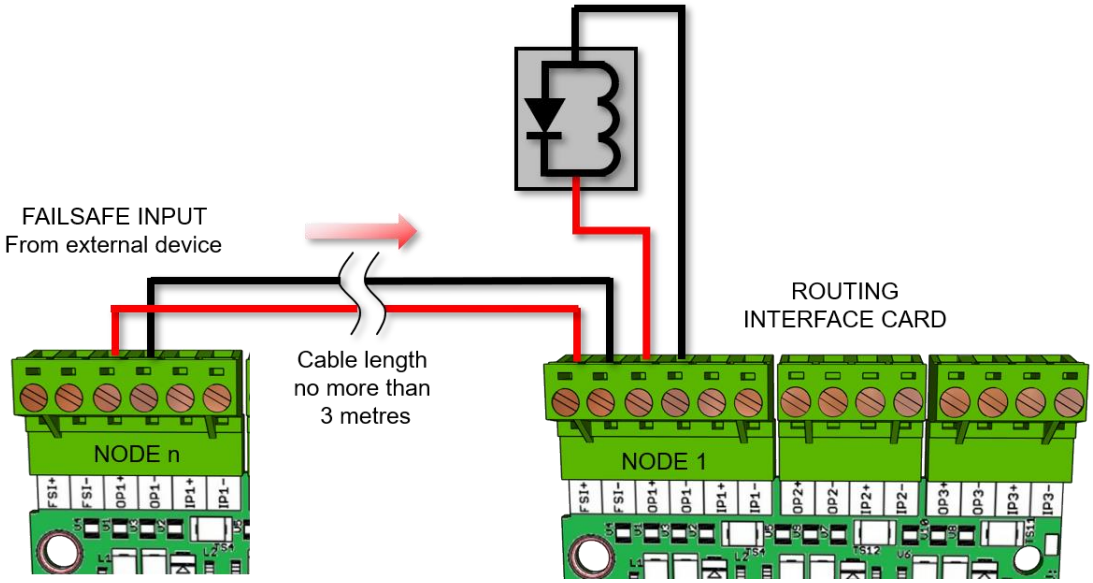


*Figure 23 - Fail Safe Arrangement*

#### 4.5.10.2 Fire Protection Routing

The Interface monitors the wiring to and from the Fire Protection function (i.e., Extinguishing panel).

A separate circuit card (MXP-506) is available to mount in the fire protection equipment to provide the required end of line relays for the output signals and end of line resistors for the return signals. See Figure 24.

The outputs are fully configurable in the software.

It is possible, for example, to provide two separate output release circuits where the fire protection equipment requires more than one physical activation signal.

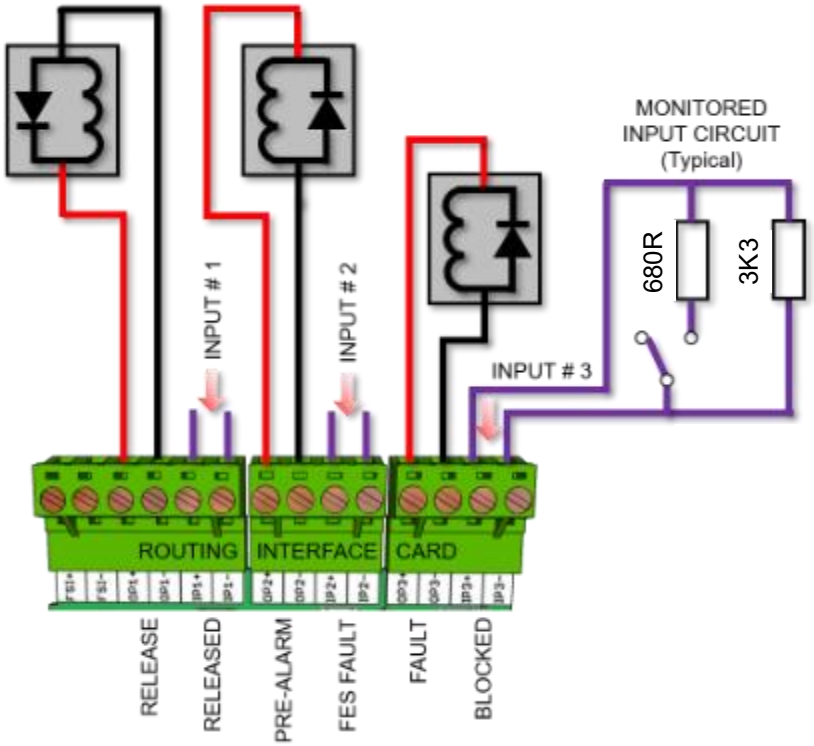


*Figure 24 - Fire Protection Routing*

Refer to Section 8.2 for further information on cable types to be used for these transmission paths.

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# 5 Programming

## 5.1 Introduction

These instructions cover the configuration and programming of the panels.

**PC Config**

Where you see the “PC Config” symbol:

- Can only be set-up using the PC Configuration Tool
- There are additional options that are only available via the PC Configuration Tool.

### 5.1.1 Access Levels

**Level-3 Passwords.**

**If this number is lost, it will not be possible to enter commission mode functions.**

**CAUTION:** **Refer to Section 6.1 for further information**.

The panel operation is protected from inadvertent and erroneous misuse by means of four access levels:

- Level 1 Untrained user
- Level 2 Authorised User
- Level 3 Commissioning, Service and Maintenance
- Level 4 Commissioning, Service and Maintenance – Special Tools Required

A level-3 password is required to enter the commissioning menus. The default password is “7654”.

For details of passwords, refer to Section 5.3.11.

### 5.1.2 Memory Lock

The configuration memory may be protected against inadvertent change by means of a memory lock.

Before you make any configuration data changes, move the jumper strap to the UNLOCK position.

When you have made the changes, move the jumper strap back to the LOCK position to protect the memory from accidental change.

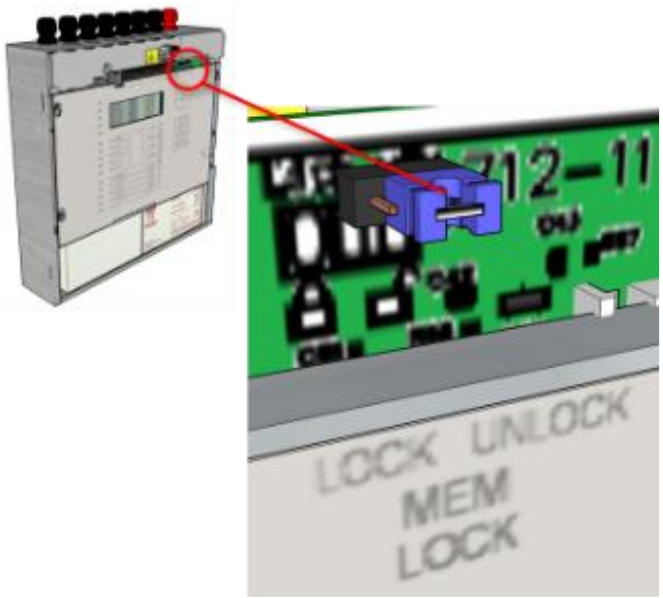
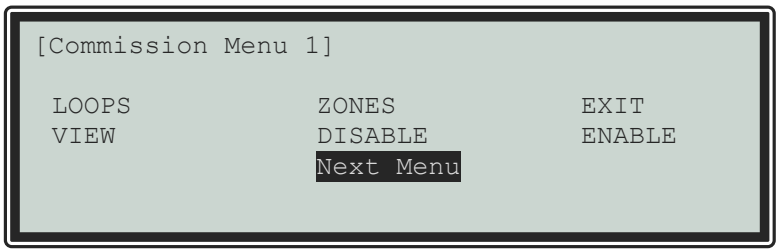



*Figure 25 - Memory Lock (Unlock shown)*

### 5.1.3 Navigating through menus




When a menu is displayed, use the ←→↑↓ buttons to highlight the required menu option and then press the ✓ button to select it.

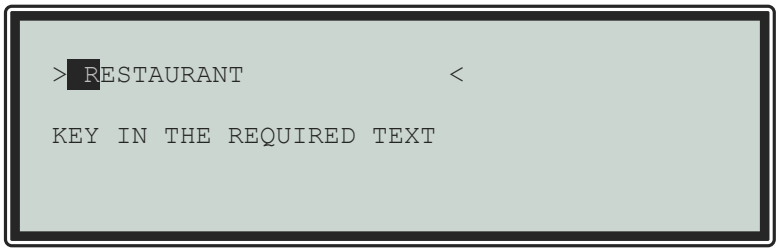
Press the **ESC** button from within a menu option to return to the previous menu.

The display will revert to status mode after 60s. Press the **MENU** button to restore the display.

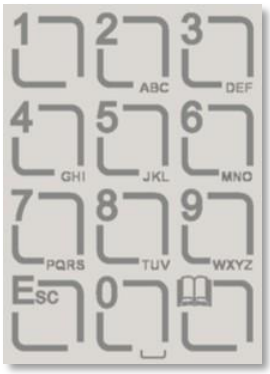
### 5.1.4 Changing Text Descriptions

Various parameters can have a text description defined. These include loop devices, zones, etc. The zone and device text descriptions will be shown on the display in the Fire Alarm, Fault and Warning Conditions, etc. to provide a quick and clear indication of the source of the problem.

To change the text description, first highlight the text description within the appropriate programming option and then press the ✓ button. The display then changes to show the text entry dialogue screen. For example:




The method of entering the characters is the same as a push-button telephone. The number buttons provide both their number and some letters/symbols.




For example, Button 5 allows entry of the number 5 and letters J, K and L.

When a button is pressed, the first character is shown on the display at the current cursor position. If the button is pressed again within ½ second, the second character replaces the first. A further press displays the third available character and so on, see the table below. After pressing the button to obtain the required character, wait for 1-second and the character will be entered and the cursor will move to the next character in the text description.

Pressing another button will immediately enter the previous character and move the cursor on to the next character.

Use the ←→ buttons to move backwards or forwards along the line. When the text description is as required, press the ✓ button to confirm the change.

If the text has been entered incorrectly, press the **ESC** button to cancel all changes and return to the previous display.

The following table shows the numbers, characters and symbols assigned to each button on the keypad.

| Button | 1st Press | 2nd Press | 3rd Press | 4th Press | 5th Press | Further Characters |
|---|---|---|---|---|---|---|
| 1 | 1 | N/A | N/A | N/A | N/A | N/A |
| 2 | A | B | C | 2 | N/A | Ä, Æ, Å, À, Á, Â, Ã, Ç |
| 3 | D | E | F | 3 | N/A | È, É, Ê, Ë, Đ |
| 4 | G | H | I | 4 | N/A | Ì, Í, Î, Ï |
| 5 | J | K | L | 5 | N/A | N/A |
| 6 | M | N | O | 6 | N/A | Ö, Ø, Ò, Ó, Ô, Õ, Ñ |
| 7 | P | Q | R | S | 7 | N/A |
| 8 | T | U | V | 8 | N/A | Ù, Ú, Û, Ü |
| 9 | W | X | Y | Z | 9 | Ý, Þ |
| 0 | Blank | 0 | Blank | 0 | Blank | Toggle 0/Blank |

Alternatively, press the ↑↓ buttons to scroll through a list of characters. When the required character is shown, press the ➔ button to move on to the next character. The list of characters available and the order of presentation is as follows:

Blank !“#$%&‘()*+,-./ 0123456789 :;<=>?@ ABCDEFGHIJKLMNOPQRSTUVWXYZ [‘]^_

### 5.1.5 Numeric data entry

Numbers are entered by moving to the required field, and then typing in the required number, followed by the ✓ button.

If the number is entered incorrectly, press the **ESC** button to restore the previous number.

## 5.2 Level 3 Menu Functions

The following table gives a list of the Level 3 Menu Functions, the sub-functions available within each main function and a brief description for each function. The menu options are available on three pages – select “Next Menu” to switch between pages.

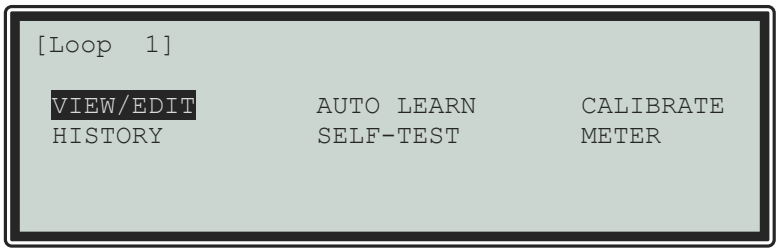
| Main Menu Option | Sub Menus | Comments | Menu Page |
|---|---|---|---|
| Loops | View/Edit | View, test and configure the loop devices. | One |
| | Auto Learn | Learn the Devices Present on the Loop. | |
| | Calibrate | Calibrate devices on the loop. | |
| | History | View historic information (last activation, last test, etc.) of each device. | |
| | Meter | View information on the driver circuit performance. | |
| | Self-Test | TBD | |
| Zones | - | Configure the Zone texts. | |
| Exit | - | Cancel Level 3 Access and return to Level 2 Menu Options. | |
| Disable | See 5.3.8. | Disable Zones/inputs, Outputs and Groups. | |
| Enable | See 5.3.9. | Enable Zones/Inputs, Outputs and Groups. | |
| View | Fires | View Zones and Inputs that are reporting a fire alarm condition. | |
| | Faults | View Zones and Inputs that are reporting a fault condition. | |
| | Alarms | View Zones and Inputs that are reporting an alarm condition during test. | |
| | Disabled | View Zones, Inputs and Outputs that are disabled. | |
| | Inputs | View the current state of Zones and Inputs. | |
| | Outputs | View the current operational condition of all output circuits. | |
| | Log | View the Event Log. | |
| | Panel | View the software of all installed components and the operational state, voltage & current loading of the panel I/O hardware. | |
| | Warnings | View Zones and Inputs that are reporting a warning condition. | |
| | Supervisory | View Zones and Inputs that are reporting a supervisory condition. | |
| Passwords | - | Configure the Level 2 and Level 3 passwords. | Two |
| Time/Date | - | Change the Date and Time Settings. | |
| PC-Config | - | Enable the PC Link for transfer of configuration data to and from the panel. | |
| EN54-13 | - | Configure the Operating Characteristics of the Output Circuits. | |
| Setup | - | Configure General Operating Parameters. | |
| Display | - | Adjust the display contrast setting. | |
| Panel | - | View and configure all panel internal circuits. | Three |
| Output Groups | - | Configure Output Group Cause and Effect Programming. | |
| Test | - | Test Zones, Display, Buzzer and Outputs. | |

## 5.3 Recommended Programming Procedure

The main programming steps required will be different for each installation. However, the following is the minimum recommended.

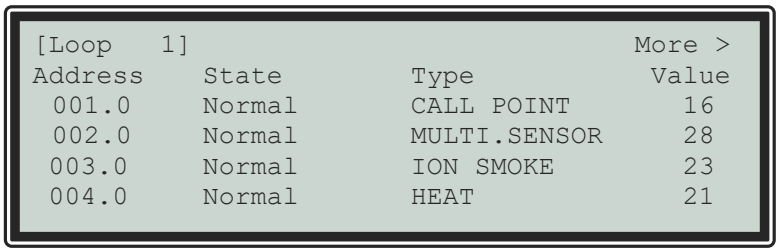
| | |
|---|---|
| 1. SET-UP | Define general setup information (Service phone number, etc.). |
| 2. PASSWORDS | Define level 2 and level 3 passwords as required. |
| 3. AUTO-LEARN | Let the panel find the devices on the loop(s) automatically. |
| 4. VIEW DEVICES | Enter zone numbers, location text and change group assignments if required. |
| 5. OUTPUTS | Program output groups as required. |
| 6. ZONES | Enter zone text as required. |

The display will show a list of programming options as follows:




### 5.3.1 Loops – View/Edit

The VIEW/EDIT option shows a list of the devices connected to the loop learnt by the panel. For example:




The first device on the loop is shown at the top of the list and is highlighted. Press the ↑↓ buttons to scroll through the list of devices.

Press the ←→ buttons to view additional information. The display highlights a parameter. To change the value of this parameter (if not view only), press the ✓ button and appropriate options will be shown on the display.

#### 5.3.1.1 Address

The address field is always shown for reference.

#### 5.3.1.2 State

This parameter shows the current operational status of the device. For example, this can show Normal, Fire Alarm, Device Missing, etc.

This parameter cannot be changed.

#### 5.3.1.3 Type

This parameter shows the type of device learnt by the panel. For example, this can show Call Point, Multi-Sensor, ION Smoke, Heat, etc.

This parameter cannot be changed.

#### 5.3.1.4 Value

This parameter shows the analogue value returned by the device. The number displayed will vary according to the type of device fitted. An 'H' (High) and 'L' (Low) is shown for logic inputs. This parameter cannot be changed. For specific device types, the mode of operation/sensitivity band is also shown.

#### 5.3.1.5 Zone

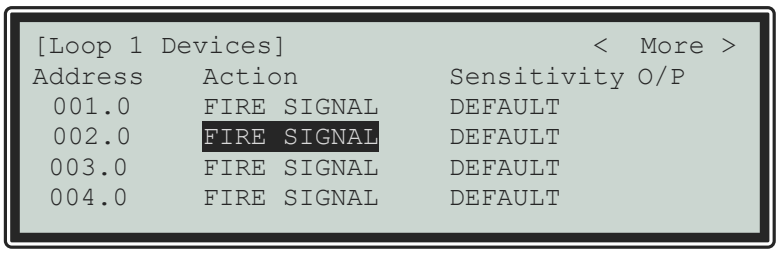
This parameter shows the Zone to which this device has been assigned. Use the number keys to change the zone assigned to the device. Zones used must be unique to this panel.

#### 5.3.1.6 Device Text

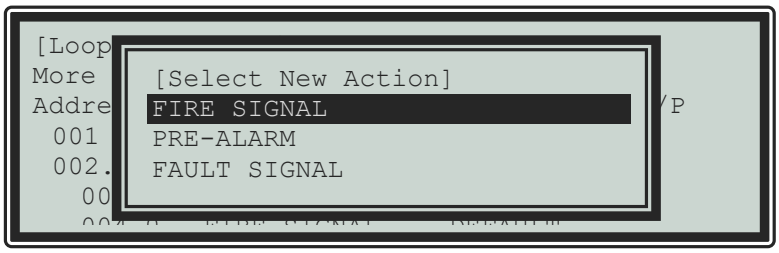
This parameter shows the 26-character location text assigned to this device. For guidance on how to change the text, refer to Section 3.1.4.

#### 5.3.1.7 Action

This parameter shows the action that will be performed when this device indicates an active (alarm) condition. For example:




Press the ✓ button to change the action assigned to this input device. A pop-up window is then shown on the display from which an action can be selected.




Press the ↑↓ buttons to scroll through the list of Actions and then press the ✓ button to confirm the change. The display reverts to the device list showing the new action assigned to this device. Alternatively, press the **ESC** button to cancel the changes and return to the device list display.

The following actions are available:

| Action | Description |
|---|---|
| Fire Signal | A Fire Alarm Condition will be generated whenever the input is active. |
| Pre-Alarm | A Pre-Alarm Condition will be generated whenever the input is active. |
| Supervisory | A Supervisory Condition will be generated whenever the input is active. |
| Create Alarm 1 | An “Alarm 1” condition will be generated whenever this input is active. |
| Control Signal | Allows control of Outputs without displaying “Fault” or “Fire” or sounding buzzer. |
| Fault Signal | A Fault Condition will be generated whenever the input is active. |
| Key Lock | Enables/Disables front panel controls (Disable, **MUTE**, **RESET** etc.) |
| Acknowledge | Activation of the input acknowledges a Stage 1 Investigation Delay and invokes the Stage 2 Timer. |
| Security | A Security Alert Condition will be generated whenever the input is active. |
| - | No Action is assigned to the input. |
| LED Test | Activation invokes a test of the panel LED Indicators. |

Additional actions are available via the PC Tool.

**PC Config**

#### 5.3.1.8 Sensitivity

**Make sure that the values chosen are suitable for the installation and that reliable fire coverage is always maintained.**

**CAUTION:**

Refer to the appropriate protocol application note for further information.

This parameter shows if the device sensitivity is set to its “DEFAULT” or “CUSTOM” settings. For example:

```
[Loop 1 Devices]                    <  More >
Address    Sensitivity
 001.0     DEFAULT
 002.0     DEFAULT
 003.0     CUSTOM
 004.0     DEFAULT
```

Press the ✓ button to change the sensitivity assigned to an input device. When selected a new screen displays the sensitivity settings assigned. For example:

```
SENSITIVITY ADJUST MODE       (ION SMOKE    )

[ Alarm      =  55  ] [ Mode   =        3  ]
[ Pre-Alarm  =  45  ] [ Delay  =        5s ]
[ Min .Value =   8  ]
                 [SAM/SSM]
```

Press the ←→↑↓ buttons to highlight the required menu option and then press the ✓ button to select it. Use the number buttons to enter the required value. Alternatively, press the **ESC** button to cancel the changes.

The alarm thresholds and delay times can be unique for every device if required.

### Mode

This option is shown on the display for specific device types only. Refer to the appropriate protocol application note for further information.

### Delay

The value in this field defines the delay from detecting an alarm to entering the alarm condition. The delay time can be changed in 1-second increments.

### Alarm Level

The Alarm Level is the level of the analogue value returned by the detector at which the panel will enter a Fire Alarm Condition. Refer to the appropriate protocol application note for further information.

### Pre-Alarm

The Pre-Alarm Level is the level of the analogue value returned by the detector at which the panel will enter a pre-alarm condition.

### Minimum Value

If the detector analogue output falls below the minimum value programmed, the panel will enter a fault warning condition. Refer to the appropriate protocol application note for further information.

### Special Sensitivity Mode SSM/Clock

In addition to the “SENSITIVITY ADJUST MODE”, a device can also run in a “SPECIAL SENSITIVITY MODE” (SSM) under time-clock control.

All panels support 10 independent, 7-day time clocks.

With the SAM/SSM Option highlighted, press the ✓ button to view the Special Sensitivity Mode settings. For example:

```
SPECIAL SENSITIVITY MODE     ( MULTI SENSOR )

 [ SSM/CLOCK =     2  ] [ Alarm     =    55 ]
 [ Mode      =     5  ] [ Pre-Alarm =    40 ]
 [ Delay     =    5s  ] [ Min.Value =     8 ]
                  [SAM/SSM]
```

In the above example the panel is using special sensitivity mode 5 (and time clock number 2). Enter “0” in the SSM/Clock field to cancel Special Sensitivity Mode.

A number must be entered in the SSM/Clock field to select the appropriate SSM number and time clock. To view the time clock settings, highlight the SSM/Clock field, and press the ✓ button.

For example:

```
[ TIME CLOCK 2 ]
DAY    ON     - >  OFF      ON     - >   OFF
MON   00:00        00:00    19:00        00:00
TUE   00:00        06:30    00:00        00:00
WED   00:00        00:00    00:00        00:00
THU   00:00        00:00    00:00        00:00
```

The panel supports two independent times for each day of the week during which the SSM mode will be switched on (i.e., during which the Special Sensitivity Mode settings are active)

In the above example the SSM will be active between 19:00 on Monday and 06:30 on Tuesday.

Press the ←→↑↓ buttons to select the appropriate time field and use the number buttons to enter the required times. Press the **ESC** button to return to the previous menu display.

Every type of device supports unique SSM settings for each SSM/Clock number. In the previous example the Special Sensitivity Mode settings have been defined for a Multi-Sensor that is using SSM/Clock number 2. If other Multi-sensors on the same panel also require the same settings, then you only need to set them to SSM/Clock 2. If another Multi-Sensor requires a different setting, use a different SSM/Clock number.

#### 5.3.1.9 O/P Group

The Output Group assigned to the Sounder or Relay Devices determines the way the outputs will operate when a fire alarm or other programmed condition occurs.

For example:


Use the number buttons to change the value of the O/P Group setting.

For detailed information and guidance on the programming and use of Output Groups, see Section 8.4.2.

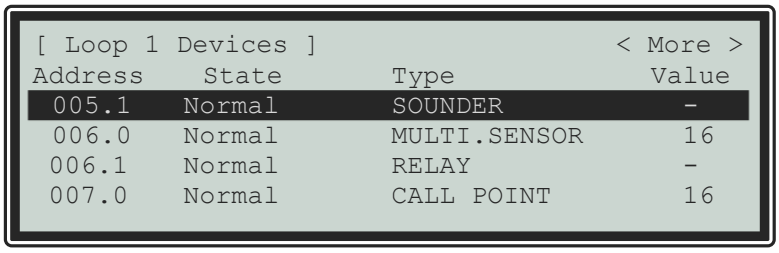
#### 5.3.1.10 Additional Info

This parameter shows additional information for the device, if available.

#### 5.3.1.11 Device Testing

Individual detectors can be tested to check the chamber response and illuminate the detector LED and individual outputs (sounders and relays) can be tested to check output connections and operation.

While the address field is highlighted, press the ↑↓ buttons to scroll through the list of devices to the desired device (or key in the address, and then press the ✓ button).




A menu will appear to confirm that you want to “Test This Device.”

Press the ✓ button to confirm or press the **ESC** button to cancel.

Once selected, commands are sent to the detector to turn on the detector LED and put the chamber into test or are sent to the output device to turn the output on. The “Test” LED lights up and the panel display returns to the list of devices.

A few seconds after a detector is placed into test, the analogue signal will be seen to rise. If the detector is then left in the test condition, the Detector State will change to a “Fire Test” status.

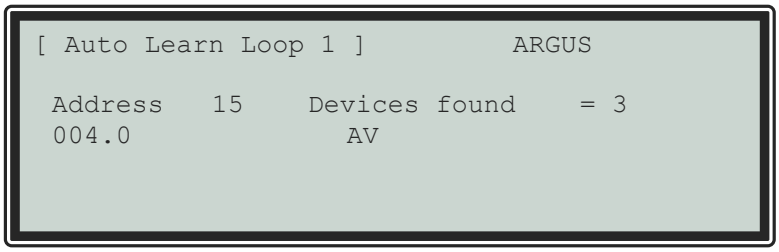
The test is cancelled as soon as the display is scrolled up or down or when the ‘View Devices’ option is exited.

### 5.3.2 Loops – Auto Learn

#### 5.3.2.1 Normal Procedure/Initial learn

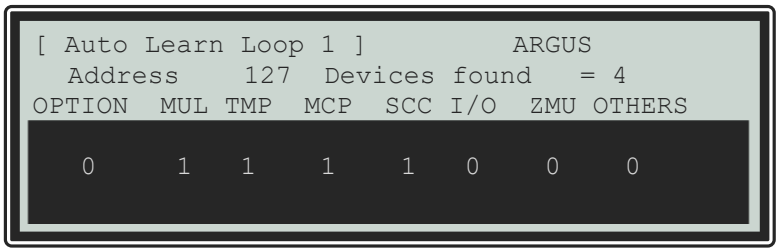
The panel can automatically learn the presence or absence of devices at all addresses connected to the loop. When the Auto Learn option is selected, the panel starts searching each address on the loop to locate and find all the devices connected. A display is shown to indicate the progress of this procedure.

For example:




When all addresses have been searched, the panel displays a summary screen showing the quantity of devices found for each type of device.

For example:




This summary provides a quick check to ensure that the panel has found all the devices that should be connected to the loop.

Press the **ESC** button to return to the main Loops Menu.

#### 5.3.2.2 Procedure if the Panel finds a Missing Device

When the panel cannot communicate with a device previously programmed into the panel, the Auto Learn process is suspended and the display shows a pop-up window with options. For example:


If the missing device is kept (or all missing devices are kept), the panel remembers the programming for these devices. The panel will report a fault condition until such time as the missing devices are reconnected.

If the missing device is deleted (or all missing devices are deleted), the panel clears all previous programming for these devices. This includes any sensitivity threshold changes, text assignments, zone assignment, action, etc.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear, and the panel will continue with the auto learn process.

If a single device is deleted and another missing device is subsequently registered, the display will again show the pop-up window to keep or delete this device.

#### 5.3.2.3 Procedure if the Panel finds Devices Added

When the panel finds a device not previously learnt and programmed in the panel, the Auto Learn process is suspended and the display shows a pop-up window with options. For example:


If the new device is accepted (or all new devices are accepted), the panel will configure the memory to register these devices. All data will be configured to initial settings for sensitivity threshold changes, text assignments, zone assignment, action, etc. for these devices.

If the new device is rejected (or all new devices are rejected), the panel clears all programming for these devices and will not attempt to communicate with the devices at these addresses.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear, and the panel will continue with the auto learn process.

If a single device is accepted/rejected and another new device is subsequently registered, the display will again show the pop-up window to accept or reject this device.

#### 5.3.2.4 Procedure if the Panel finds Devices Changed

When the panel finds a new type of device installed at an address previously learnt and programmed in the panel, the Auto Learn process is suspended and the display shows a pop-up window with options. For example:


This situation could arise for example if a heat detector has been installed in place of an optical smoke detector.

If the new device type is accepted (or all new device types are accepted), the panel will configure the memory to register these devices. All data will be configured to initial settings for sensitivity threshold changes, text assignments, zone assignment, action, etc. for these devices.

If the new device type is rejected (or all new device types are rejected), the panel remembers the programming for the original devices. The panel will report a fault condition until such time as the correct device types are reconnected.

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to confirm. The pop-up window will disappear, and the panel will continue with the auto learn process.

If a single device is accepted/rejected and another new device type is subsequently registered, the display will again show the pop-up window to accept or reject this device.

### 5.3.3 Loop – Calibrate

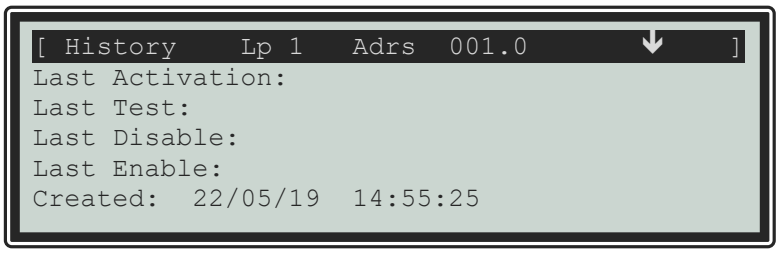
Automatically calibrates loop devices. Refer to the specific protocol appendices for details.

*Note:*

*Calibration can take up to several minutes if many detectors & sounder bases are installed.*

### 5.3.4 Loop - History

Displays basic event history for each device and sub-address.




| Item | Description |
|---|---|
| Last Activation | The date and time that the device was last activated (e.g., smoke level detected is at pre-alarm or alarm levels or the last time that an output was turned on). |
| Last Test | The date and time that the device was last tested (e.g., smoke level detected is at pre-alarm or alarm levels or the last time that an output was turned on). |
| Last Disable | The date and time that the device was last disabled. |
| Last Enable | The date and time that the device was last re-enabled. |
| Created | The date and time that the device was either auto-learnt at the panel or added to the device list from a PC configuration. |

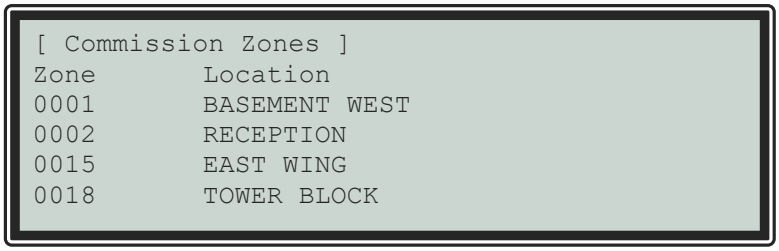
### 5.3.5 Loop – Meter

Displays loop output and input voltages and loop loading.

A diagnostic display with automatic scanning of the loop to find devices with minimum and maximum communication pulse heights is available.

### 5.3.6 Zones

The Commission Zones option lists all the zones in use by this panel and allows the zone text description to be changed.




To change the location text assigned to the Zone, press the ✓ button when the Zone Location Text is highlighted. Refer to Section 5.1.4 for guidance on how to change text descriptions.

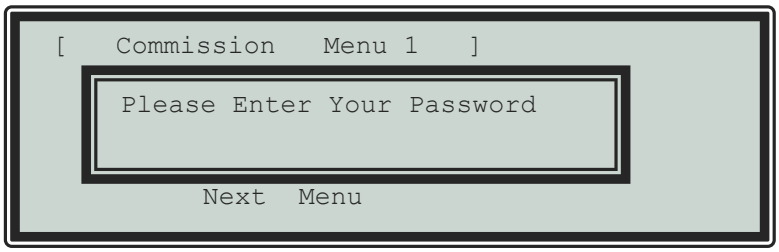
To select a different zone, use either the ↑↓ keys, or just type in the number of the required zone, followed by the ✓ button.

*Note:* *Only zones that are currently in use are displayed.*

### 5.3.7 Exit

To exit the Commission Mode and return the panel to normal operation (i.e., level 2), select the “Exit” option. The display will prompt for confirmation of the Level 3 password.

For example:




If the password is incorrect (this will be indicated) or if the password is not entered within 5-seconds, the display will revert to the Commission Level Menu and level-2 will not be entered.

After commissioning, the panel must always be returned to level 2 (or level 1) to give normal fire coverage.

### 5.3.8 Disable


CAUTION: PC Config

**If you configure the beacon outputs so that they can be independently disabled/enabled, you must configure one of the front panel "Function" LED indicators to indicate the disabled state of these devices.**

This function is the same as User Level 2 function – refer to Section 6.11 for further information.

The following options can be disabled:

- Zones/Inputs
- Outputs
- Groups

### 5.3.9 Enable

This function is the same as User Level 2 function – refer to Section 6.12 for further information.

The following options can be disabled:

- Zones/Inputs
- Outputs
- Groups

### 5.3.10 View Options

The View Menu Options are identical to those available during Level-2 operation – refer to Section 6.10 for further information.

### 5.3.11 Passwords

The panel provides up to 3 User Level-2 passwords and 2 Level-3 passwords. All the passwords can be changed.

On entry to the function, the display shows a list of the passwords. For example:


To change a password, use the ↑↓ buttons to highlight the required password and then enter the new password using the number buttons. When the password is correct, press the ✓ button to confirm.

**Level-3 Passwords.**

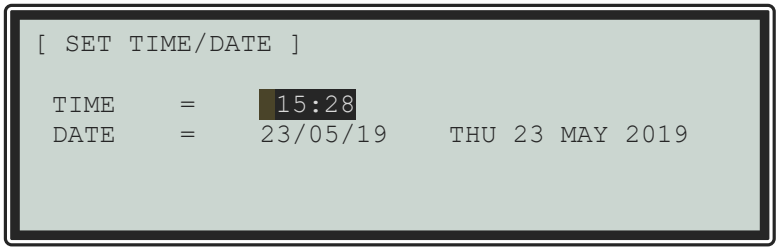
**If this number is lost, it will not be possible to enter commission mode functions.**

CAUTION: **Refer to Section 6.1 for further information**.

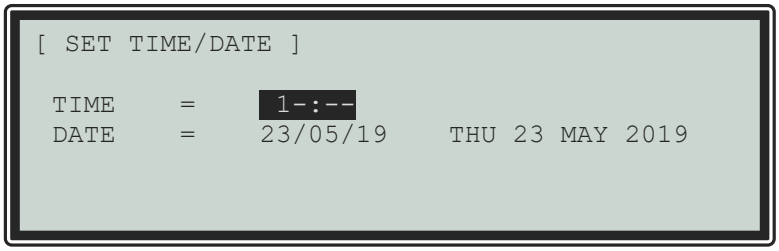
The factory default level 3 password is 7654

### 5.3.12 Time and Date

This function allows the time and date in the panel to be changed. On entry to the function, the display shows the current time and date with confirmation of the day of the week on the bottom line. For example:




To change the settings, use the ↑↓ buttons to highlight the required option. Directly enter the new time or date using the number buttons. As soon as a number button is pressed, the display will clear the current setting and show the new value as it is entered. For example:




### 5.3.13 PC Config

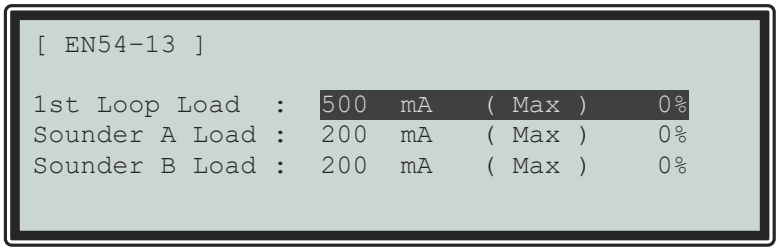
The PC Link Option enables the connection of the PC Configuration Tool for retrieving configuration data from the panel and programming configuration data from a file on the PC.

For further information, refer to the Manual supplied with the PC Configuration Tool.

### 5.3.14 EN54-13

The EN54-13 menu defines whether EN54-13 transmission path monitoring is in use and defines the actual load current (shown in milliamps) to be used in the calculation for each of the base card loop and sounder circuits.

If enabled, the panel monitors the circuits to ensure that at the specified load current, the circuit can deliver the load current whilst still maintaining circuit device voltage compatibility levels via the transmission path resistance.




Use the ↑↓ buttons to scroll through the list of options.

Press the ✓ button to select between “in use” and “not in use” .

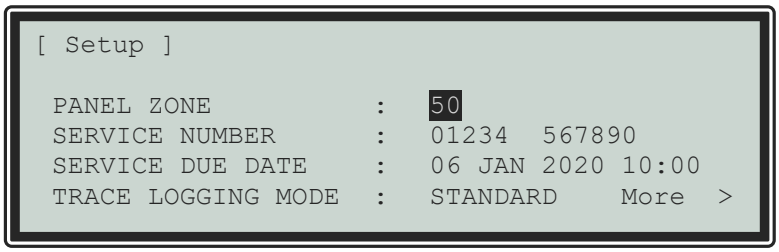
Use the number keys to enter/change the load current for each circuit. The default values are the circuit maximum.

| Circuit | I minimum | I maximum | EOL Voltage |
|---|---|---|---|
| Loop Circuit | 0 mA | 500 mA | 17 V |
| Sounder Circuit | 0 mA | 1000 mA | 16 V |

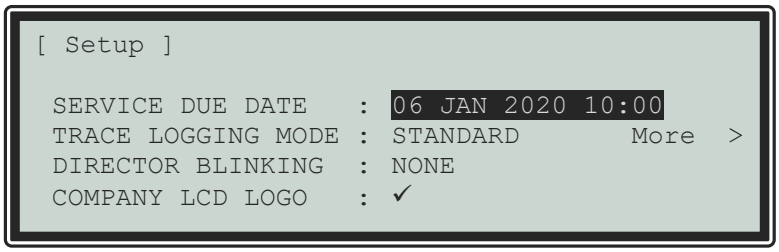
The actual load for each circuit in alarm can be viewed using the View Panel option (see 5.3.10 and 6.1).

### 5.3.15 Setup

The Setup Options Menu enables the configuration of panel generic operating parameters. When the option is selected, the display shows a list of the available parameters. For example:




Use the ↑↓ buttons to scroll through the list of options. The following will then be shown:




#### 5.3.15.1 Panel Zone

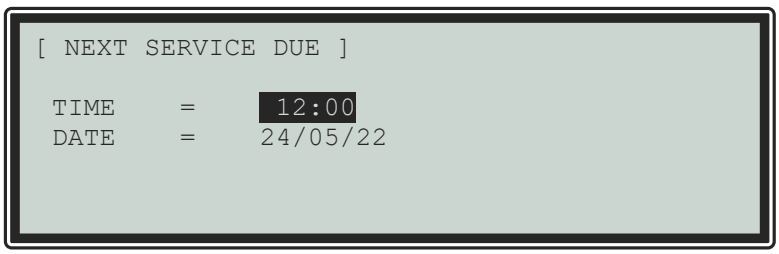
By default, all the panel inputs are assigned to the Panel Zone. Alternatively, the PC configuration program allows individual inputs to have different zones if required.

#### 5.3.15.2 Service Number

The Service Number is the telephone number that is shown on the status display whenever a fault condition is accepted. To change the number, press the ✓ button when the option is highlighted. The number is entered using the text entry facility; refer to Section 5.1.4 for guidance on how to enter text.

#### 5.3.15.3 Service Due Date

The next service (over) due date can be entered in the panel memory. When this date is reached, the panel will enter a fault condition to alert the site operator that a service visit is overdue. To change the due date, press the ✓ button when the option is highlighted. The display prompts for entry of the next service date. For example:




Use the ↑↓ buttons to select between the time and date. Use the number buttons to enter the required time or date.

Once the new service date is entered, the panel will cancel any Service Due fault condition.

### 5.3.15.4 Trace Logging Mode

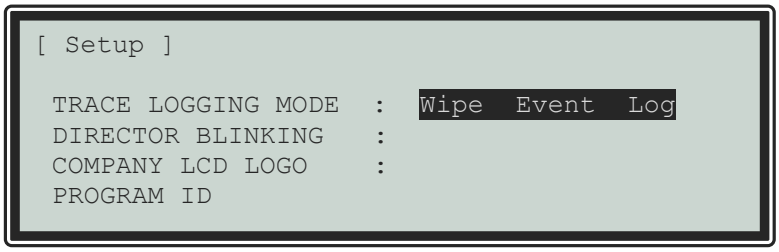
The Trace Logging Option determines what type of information and to what level is stored in the Event Log.

There are three options:

- STANDARD the normal operating mode logging fire alarm, fault and warning conditions as they occur.
- STANDARD + an extended version of the standard operating mode where the removal of fault and warning conditions are also logged.
- DIAGNOSTIC a full diagnostic trace of all conditions with greater depth to aid diagnosis of fault conditions.

To change the option, press the ✓ button.

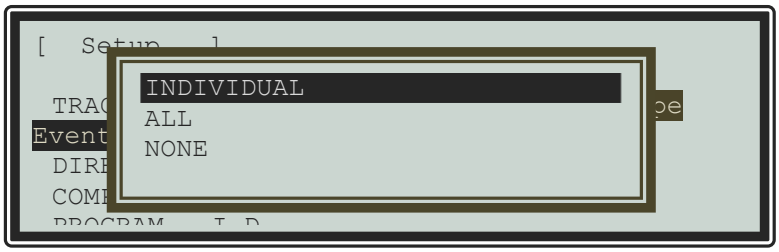
To erase the event log, press the ➔ button to view the additional command option as follows:




Press the ✓ button and the display will show that the event log is being erased by display the message "WORKING…" After the event log is erased, the display reverts to the Set-up Options screen.

### 5.3.15.5 Detector Blinking

The Detector Blinking option determines whether the LED indicators on the devices will blink whenever the panel polls the device. To change the operation, press the ✓ button. The display presents a list of options. For example:




Use the ↑↓ buttons to scroll through the list of options and press the ✓ button to confirm the selection.

The device LED indicators will not blink if NONE is chosen or will blink if ALL is chosen. Note that only certain devices, such as Apollo Discovery, support this feature.

If a device, such as a Discovery device, is changed it may be necessary to select and reconfirm the blinking command so that the new device will blink its LED.

**PC Config**

The INDIVIDUAL option should be chosen when it is required that specific devices should blink their LED. This option can only be programmed using the PC Configuration Tool.

#### 5.3.15.6 Earth Fault Notification

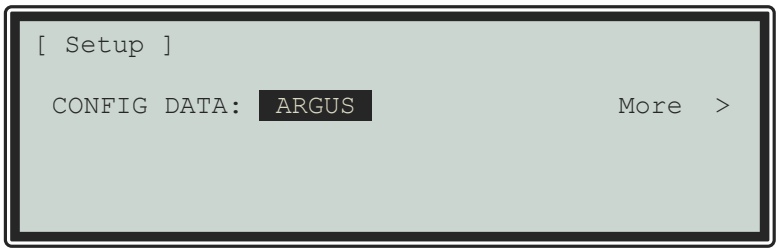
This parameter determines whether an Earth Fault is shown on the display during normal operation. To change the setting, press the ✓ button. The status changes from ✓ to X and vice versa.

#### 5.3.15.7 Resound

The Resound option defines whether silenced sounders shall resound when either a new zone (default EN54-2 setting) or a new device is in alarm.

#### 5.3.15.8 Config Data

The Config Data option shows the loop protocol selected and the checksum for the configuration data. A note of this number can be taken and then checked on the next service visit to see if any changes have been made to the configuration data. The Hy-Go Panel is fixed to the Argus protocol.



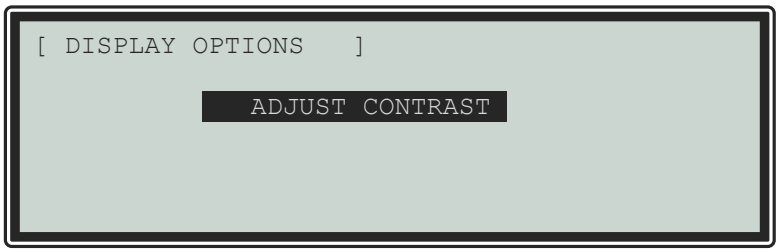

To view the Config Data Checksum, press the ➔ button. The display then shows:


In addition, there is an option to erase the Config Data. Press the ➔ button. The display then shows:

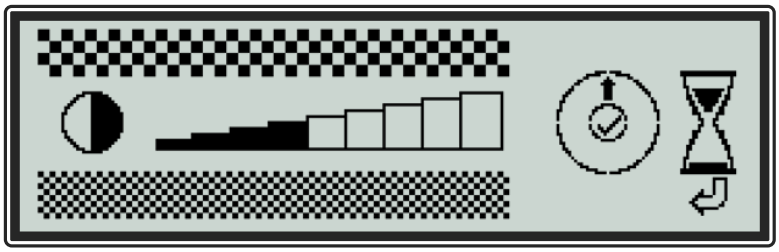

Press the ✓ button. A pop-up menu will be shown to confirm whether the configuration data shall be erased.

### 5.3.16 Display

Depending on the physical mounted height of the panel, the contrast of the LCD may need adjusting to obtain optimum viewing. The display option permits the contrast adjustment of the LCD.




Press the ✓ button. The following display is shown:



Use the ↑↓ buttons to adjust the contrast viewing angle for darker or lighter as required (the setting is confirmed by the bar graph) and the press the ✓ button to confirm the change.

Press **ESC** to cancel. The display will automatically cancel if no button is pressed for 15 seconds (hourglass).

### 5.3.17 Panel

The Panel Menu option shows a list of the internal panel circuits, and you can change their default configuration settings.

Only use this menu if changes are to be made to the default settings for the panel's internal circuits. Use the VIEW-PANEL Menu Option to view the state and operating condition of each circuit.

The display shows for example:

```
                                        More  >
Address     State           Type        Value
  001.0     Normal          VOLTAGE     5.6 V
  001.1     Normal          VOLTAGE     5.6 V
  002.0     Normal          CURRENT       0 mA
  002.1     Normal          CURRENT       0 mA
```

Use the ↑↓ buttons to scroll through the circuits. Use the ←→ buttons to view additional information. The zone and Output Group Assignments can be modified if required.

For further information on View – Panel Options and the information shown, refer to Section 6.10.7.

#### 5.3.17.1 AC Fail Delay

The panel can be configured to delay the reporting of a loss of AC Mains supply (Address 14).

The front panel Green Power LED will immediately flash on the loss of the AC Supply, but the fault condition is only reported after the delay time (default 10s) has elapsed.

```
SENSITIVITY ADJUST MODE        (  MONITOR  )

                      [ Alarm       =      *** ]
                      [ Pre-Alarm   =      *** ]
[ Delay       = 10s ][ Min.Value   =      372 ]
                   [  SAM/SSM  ]
```

To delay the reporting of an AC Supply Loss, change the "Delay" setting.

**CAUTION:**

**For compliance with EN54-4, the loss of the AC Mains supply must not be delayed for longer than 1800 seconds (30 minutes).**

### 5.3.18 Output Groups

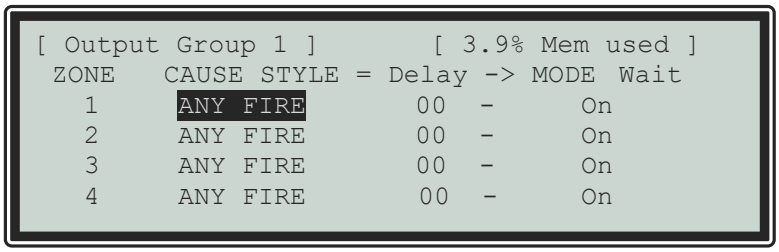
The “Cause and Effect” programming is a schedule of actions that will turn on one or more outputs dependant on a set of input events.

The Outputs Option provides the means to create simple or complex “cause and effect” programming within the panel. Delays can be introduced to allow a phased evacuation of a building (Note this is different to an “Investigation Delay” which is detailed in section 3.3.19).

This section describes the settings and options in detail for each parameter. Refer to Appendix 4 – Cause and Effect Programming Example for a description of how to program a typical requirement.

More complex “Cause and Effect” programming may be undertaken using the PC Configuration tool.

When the OUTPUT GROUPS option is selected, the display shows the cause and effect programming for Output Group 1. For example:




To simplify the cause & effect programming, one or more outputs that will respond in the same way when the same set of input events occurs can be grouped together. This association of outputs is called an Output Group.

The panel can support up to 126 of these Output Groups.

To select a different Output Group, press the ↑ button to highlight the Output Group Number field and then enter the number of the output group required using the number buttons. The display will always show the Output Group in the top left corner.

Press the ↑↓ buttons to scroll through the list of zones.

Press the ←→ buttons to select the fields for a specific zone.

Press the ✓ button to select a specific field option to change its setting.

#### 5.3.18.1 Default Output Settings

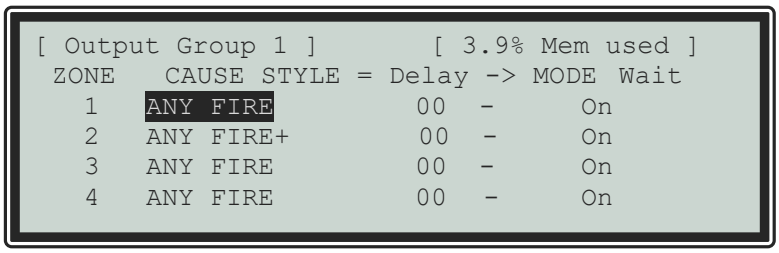
On initial installation, or after clearing the configuration memory, all outputs are assigned to specific Output Groups and will turn on immediately a single fire alarm occurs in any zone (any fault condition for the fault relay). The default assignments are as follows:

| Output Device | Output Group | Cause and Effect |
|---|---|---|
| On-board Sounder A | 1 | Any fire in any zone – no delay |
| On-board Sounder B | 1 | Any fire in any zone – no delay |
| On-board Relay 1 [5] | 126 | Any fault in any zone – no delay |
| On-board Relay 2 [5] | 125 | Any fire in any zone – no delay |
| On-board Relay 3 | 122 | Any supervisory in any zone – no delay |
| Fault Routing Output [6] | 126 | Any fault in any zone – no delay |
| Fire Routing Output-A [6] | 125 | Any fire in any zone – no delay |
| Fire Routing Output-B [6] | 125 | Any fire in any zone – no delay |
| All Loop Beacon Output Devices | 123 | Any fire in any zone – no delay |
| All Loop Sounder Output Devices | 124 | Any fire in any zone – no delay |
| All other Loop Output Devices | 125 | Any fire in any zone – no delay |

#### 5.3.18.2 Cause

Each Output Group can be programmed to respond in a unique way to events from each individual zone. An input event may be a fire alarm condition, or it may be a fault, disablement or other condition. A combination of criteria may also be applied to each zone.

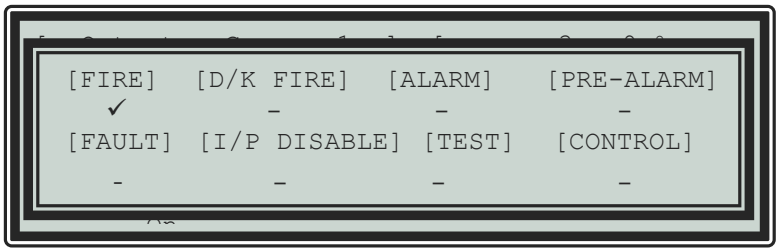
The Cause field determines what type of input event (or a combination of input events) will generate an output response for the selected input zone.




Press the ✓ button to change the setting and a pop-up window will appear showing the options available. For example:

[5] This output is used for routing when the non-monitored routing option is selected.

[6] This output is available on the optional Routing Interface Peripheral Card.




Press the ←↑→↓ buttons to highlight the required menu option and then press the ✓ to change its setting. An input action type is enabled when a '✓' is shown beneath the option. You can select multiple input types in which case a combination of input events will result in an output action. If there is a combination of input events, the CAUSE display above shows this extended programming by adding a '+' to the text. For example, Zone 2 above shows that the basic event is ANY FIRE + other criteria.

Press the **ESC** button to return to the previous display.

The definition for each cause is as follows:

| Cause | Definition |
|---|---|
| Fire | Any single fire. |
| Double Knock (D/K) | Coincidence of 2 or more fire detectors or a single manual call point in the same zone. |
| Alarm | Activation of an input device programmed with an 'Alarm' action. |
| Pre-Alarm | A device in a pre-alarm condition. |
| Fault | Any device entering a fault condition. |
| Input Disabled | Whenever an input device is disabled. |
| Test | A 'Walk Test' fire in the zone. |
| Control | A control input in this zone will cause activation. |

Section 7.12

Type C: Coincidence Detection.

The operation of the Coincidence Detection (Double Knock) feature is on a per zone basis.

Type B: Confirmation.

Optional confirmation filters can be configured via the PC Tool on individual devices.

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### 5.3.18.3 Style

The way in which an output turns on in response to an input event can be programmed.

An output may turn on immediately, it may turn on after a delay or it may pulse for a set time and then turn on. This method of operation is called a Style. A style may have up to three different methods of operation. For example,

Delay ➔ Mode, Wait ➔ Mode, Wait ➔ Mode.

- Style 00 is fixed to turn on immediately if an input event occurs.
- Style 01 is fixed to pulse immediately if an input event occurs.
- Styles 02 to 20 are programmable.

Press the ➔ button to step on to the style field. Change the setting using number entry to select the required output style. If the style is already programmed elsewhere, the relevant style parameters are automatically populated in the appropriate fields.

#### 5.3.18.4 Delay

The delay field is the time from qualification of the input event to something happening at the output. The delay time can be set in intervals of 1 second up to a maximum of 250 seconds.

Press the ➔ button to step on to the delay field and use number entry to change the value.

#### 5.3.18.5 Mode

The mode field defines the method of operation of the output when it is first activated. This can be ON or PULSE.

Press the ➔ button to step on to the delay field and use the ✓ button to change the value.

*Note:*

*Pulse settings are by default 1-second ON/1-second OFF.*

*Other pulse options can be specified on the PC Tool (such as 2s ON/3s OFF) – these can be assigned to on-board outputs only.*

#### 5.3.18.6 Wait

The wait field is the time from first activation of the output to the next operational condition (mode) of the output.

For example, the output could initially be delayed for 20 seconds and turn on in a pulsing mode. After a wait of a further 30 seconds, it can be programmed to turn on differently such as ON. The wait time can be set in intervals of 1 second up to a maximum of 250 seconds.

Press the ➔ button to step on to the wait field and use number entry to change the value.

#### 5.3.18.7 Copying Output Settings to Multiple Zones

To save time in the entry of similar Output Group Settings for each zone, it is possible to copy the information programmed for one zone to subsequent zones.

Press the ➔ button to highlight the required zone number and then press the ✓ button. The display shows a pop-up window prompting for the number of the zone to which to copy the information.

Use the number entry to select the required zone number. The Output Group programming for all zones between the currently selected zone and the zone number entered will be programmed with the same information as the currently selected zone.

### 5.3.19 Investigation Delays

**PC Config**

In addition to the “Cause and Effect” programming described above; the panel also supports an “Investigation Delay Mode” which allows time for a building supervisor to investigate fire signals before turning outputs on. This mode can only be configured from the PC software.

There are two stages to this delay. The first stage is set short. If the building supervisor does not acknowledge the fire signal within the first stage, the delayed outputs will turn on. The second stage gives a longer period to investigate the fire signal. This delay can be cancelled at any time by pressing the **EVACUATE** button, or any nominated input devices (by default, all call points cancel this mode).

Each input and output device can be individually programmed to use the investigation delay from the PC configuration software, together with the times appropriate to each stage of the delay. Section 0 gives details of how the building occupier can turn the investigation delay feature on or off.

Section 7.11 Delays to Outputs.

It must be possible to override the operation of any delays at Level 1. Refer to Section 3.3.19.1 for information on overriding delays.

For compliance, the maximum total delay permitted is 10 minutes.

#### 5.3.19.1 Overriding Delays at Level 1

A facility to override any programmed delays and immediately activate the sounder circuits should be provided at Level 1. It is possible to override the delay using the panel controls (see the user manual for details). This can also be achieved from an input device (such as a manual call point) that is programmed to turn on all outputs immediately.

### 5.3.20 Test

This function is the same as User Level 2 function – refer to Section 6.14 for further information.

The following functions can be tested:

- Zones
- Display
- Buzzer
- Outputs

### 5.3.21 LED Indications

**PC Config**

Panels equipped with integral panel LED indicators will default to indicate fire alarms in Zones 1-15. The operation of these can be adjusted using the PC Tool.

Each LED can be individually configured via the PC Tool to either zone assignment, output group assignment or other function.

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# 6 Operation

## 6.1 Access Levels

The panel operation is protected from inadvertent and erroneous misuse by means of four access levels. These levels are as follows:

- Level 1 Untrained user
- Level 2 Authorised User
- Level 3 Service and Maintenance Engineer
- Level 4 Service and Maintenance Engineer – Special Tools required

A Level 1 Untrained User can view the current operational condition of the system and can **MUTE** the internal buzzer.

Note:

*Depending on the configuration settings, a Level 1 user may also be permitted to **EVACUATE** and/or **SILENCE** and/or **RESET** the system by pressing the appropriate button and entering a password.*

A Level 2 Authorised User can view the operational condition of the system and can **MUTE** the internal buzzer. In addition, the **EVACUATE**, **SILENCE** and **RESET** buttons are enabled and access to the Level 2 Menu functions is available.

Note:

*There are up to 3 User ID codes available, each with its own password, which can be configured with varying permissions to specific menu function options.*

A Level 3 User has access to program and configure the operation of the panel. This is described in detail in the Product (Installation and Commissioning) Manual (Part Number 680-165).

A Level 4 User has all the access permissions of Level 3 but uses diagnostic equipment and software to program/change settings and values not available using the FACP controls and buttons.

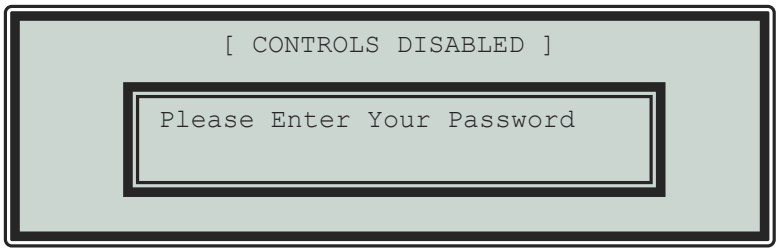
### 6.1.1 Changing from Access Level 1 to Level 2

If the panel has an access key switch fitted, use the key in preference to the menu options shown below.

#### 6.1.1.1 Menu Access

Press the **MENU** button. The level 1 menu will be displayed as shown below:

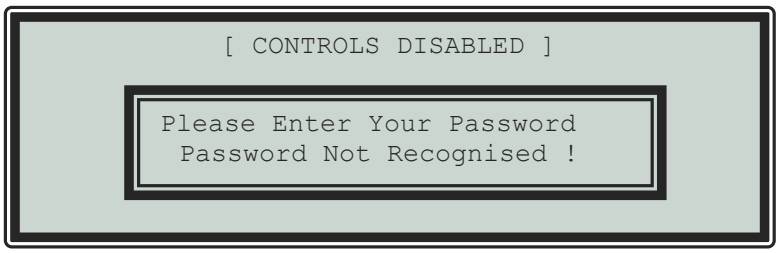

To enable the controls, ensure the “Enable Controls” option is highlighted and then press the ✓ button. The display then requests entry of the Level 2 or 3 passwords as follows:




Enter the password using the number buttons and then press the ✓ button. As each number is entered, an asterisk (*) is shown on the display. For example:


If the password is correct, the Level 2 Menu options will be shown.

If the password is incorrect, the display briefly shows the following message.




#### 6.1.1.2 Control Buttons at Level 1

If any of the control buttons (**RESET**, **SILENCE**, **RESOUND** or **EVACUATE**) are pressed, the display automatically prompts for the password. Enter the password as above.

### 6.1.2 Changing from Access Level 2 to 1

If the panel has an access key switch fitted, use the key switch.

Alternatively, if passwords are used, select the “DISABLE ” menu and then select “CONTROLS” – see Section 6.11.3 for details.

## 6.2 Controls and Indications

The Hy-Go has indication and control functions as shown in Figure 26. The layout shown is the UK version.

The LED functions and BUTTON functions may be assigned and used differently in specific countries dependent on the market and standards requirements.

Slide-in labels are used to allow alternative languages.

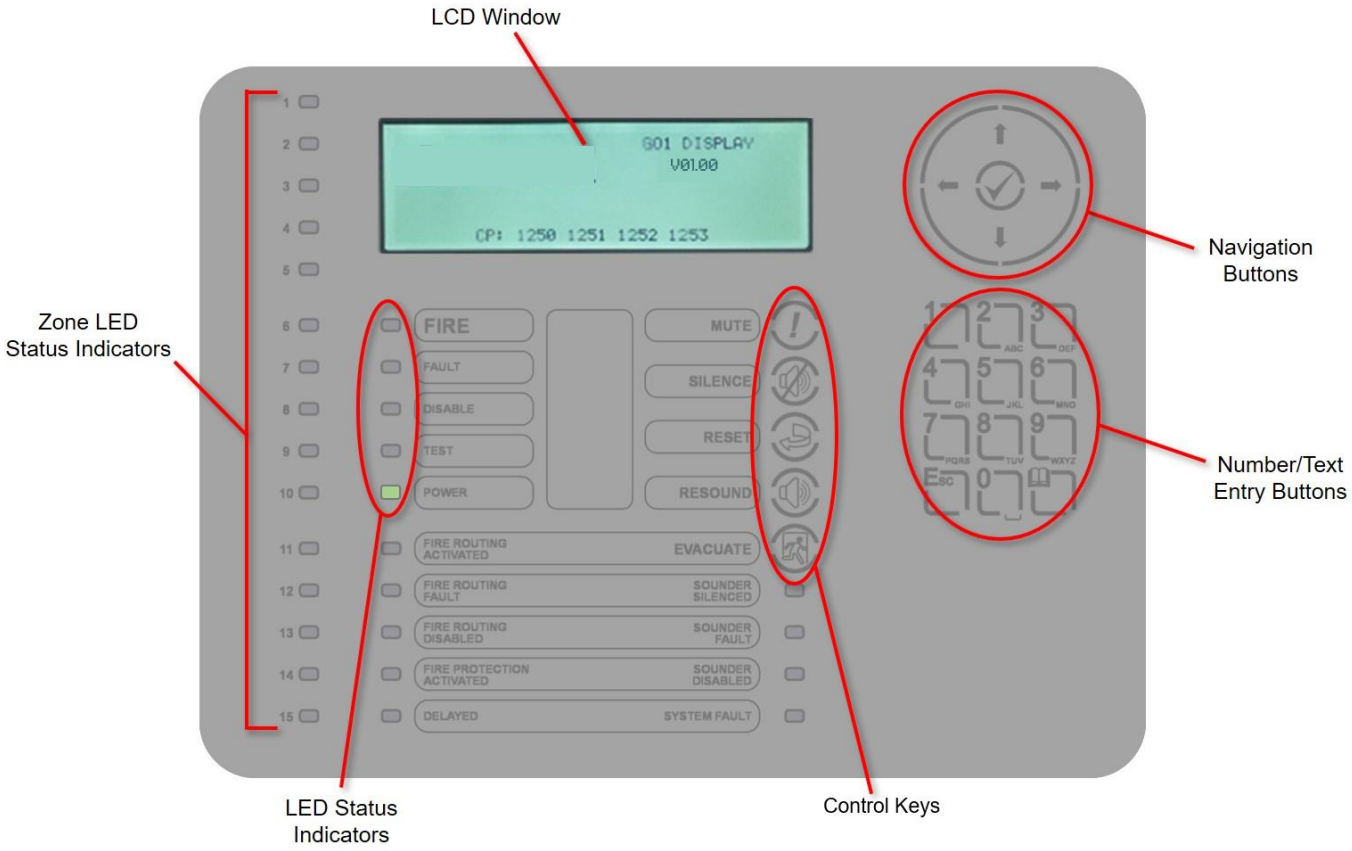



*Figure 26 - Hy-Go Front Panel Controls*

### 6.2.1 Graphical Display

The graphical display provides detailed information of the source of fire alarms, faults and warnings. It also shows menus for use when inspecting or programming the operation of the panel.

Under normal conditions the panel display shows the access level, time, date and status:

### 6.2.2 LED Status Indicators

The LED Status Indicators show the basic operational state of the panel and whether the panel is in a fire alarm, fault, disabled or test condition.

| Function | Colour | Description |
|---|---|---|
| FIRE | Red | Indicates that the system has detected a fire alarm condition. |
| Fault | Yellow | Indicates that the system has detected a fault condition. |
| Disable | Yellow | Indicates that part of the system has been disable (i.e., isolated). |
| Test | Yellow | Indicates that part of the system is in a test condition. |
| Power | Green | Indicates the presence of power. |
| Fire Routing Activated | Red | Indicates that the output to call the Fire Brigade has been activated. |
| Fire Routing Fault | Yellow | Indicates that there is a fault condition in the Fire Brigade signalling equipment. |
| Fire Routing Disabled | Yellow | Indicates that the output signal to the Fire Brigade is Disabled. |
| Delayed | Yellow | Indicates that one or more output circuits are in a delayed operating condition. |
| Fire Protection Activated | Red | Indicates that the circuit to fire extinguishing or other fire protection equipment has been activated or that the fire protection equipment itself has been activated. |
| Sounder Silenced | Yellow | Indicates that the sounders have been silenced. |
| Sounder Fault | Yellow | Indicates the presence of a fault in one or more sounder wiring circuits. |
| Sounder Disabled | Yellow | Indicates that one or more sounders have been disabled (i.e., isolated). |
| System Fault | Yellow | Indicates the presence of a system fault. |

### 6.2.3 Zone LED Status Indicators

The Zone LED Status Indications can be included on the main display (up to 15 zones – fire alarm indication only). These show the basic operational state of the zone and can indicate whether the zone is in a fire alarm.

### 6.2.4 Control Buttons

The following table contains a list of all the control button functions available. The buttons available on each product depend on the country of installation and specific market requirements.

| Button | Description | Access Level |
|---|---|---|
|  | **MUTE**<br>Press to mute the internal buzzer. | Available in both Level 1 and Level 2 |
|  | **SILENCE**<br>Press to silence the sounders. | Only available with Level 2 Access. |
|  | **RESET**<br>Press to reset the panel from a fire alarm or latched fault condition. | Only available with Level 2 Access. |
|  | **RESOUND**<br>Press to re-activate the sounders. | Only available with Level 2 Access. |
|  | **EVACUATE**<br>Press to initiate a manual evacuation and sound the alarms. | Only available with Level 2 Access. |

### 6.2.5 Navigation Buttons

| Button | Description |
|---|---|
|  | ←↑→↓<br>Press to scroll through Menu Options.<br>Press to display more information.<br>Press to scroll through lists of zones or devices. |
|  | Press to confirm entry of numeric or letter information entry.<br>Press to confirm selection of a menu option.<br>Press to change any configuration options. |

### 6.2.6 Number and Letter Buttons

| Button | Description |
|---|---|
|  | Use to enter numbers or letters. |
|  | Press to return to a previous menu.<br>Press to exit the menu functions and return to the normal display. |
|  | Press to show or return to Menu Functions. |

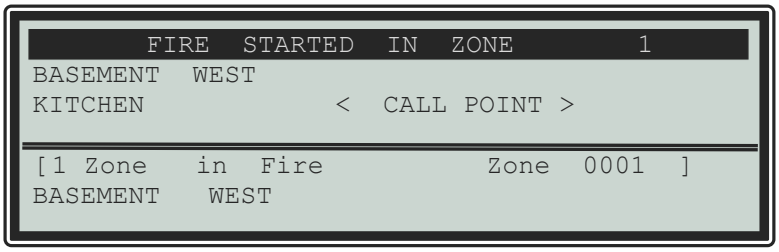
### 6.2.7 Buzzer

The buzzer produces two different sounds to differentiate between fire alarm conditions and fault conditions.

| Condition | Condition |
|---|---|
| Fire Alarm | The buzzer operates with a continuous tone. |
| Fault | The buzzer operates intermittently. |

## 6.3 Fire Alarm Condition

When the system registers a fire alarm condition the red FIRE indicator illuminate, the internal buzzer sounds continuously, and the display shows the zone in which the fire originated. The sounders, relays and other outputs will be turned on depending on the programming in the panel. An example of the display is shown below:

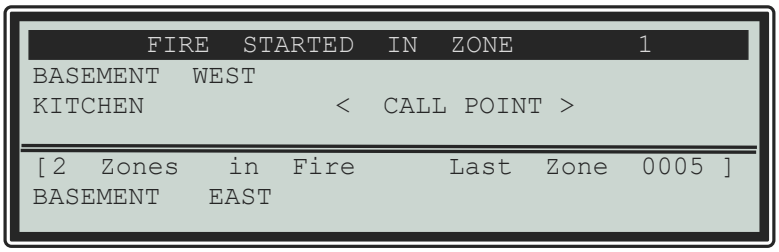



Header – Zone Number
Location text for first zone
Location text and type of device

Number of zones in fire and last zone number
Zone description for last zone

The upper part of the display shows the origin of the fire. The lower part of the display shows the number of zones in a fire alarm condition and the last zone to enter the fire alarm condition.

If more than one fire alarm condition occurs, the total number of zones in an alarm condition and the last zone in an alarm condition will be updated on the display. If the sounders were silenced, they will sound again whenever the fire spreads to a new zone.




Header – Zone Number
Location text for first zone
Location text and type of device

Number of zones in fire and last zone number
Zone description for last zone

Press the **MUTE** button to silence the internal buzzer (the FIRE LED will change from flashing to steady illumination).

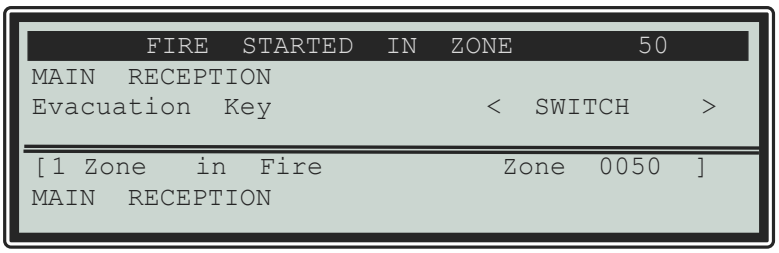
When the panel is enabled for Level 2 Access or, if configured, by entering a password at Level 1, the following functions are available.

Press the **SILENCE** button to silence the sounders.

Press the **RESOUND** button again to re-activate the sounders.

Press the **RESET** button to clear the alarm condition and restore the panel to normal operation.

Press the **EVACUATE** button to initiate a manual evacuation and to activate the sounders. The display will show this fire alarm condition. For example:



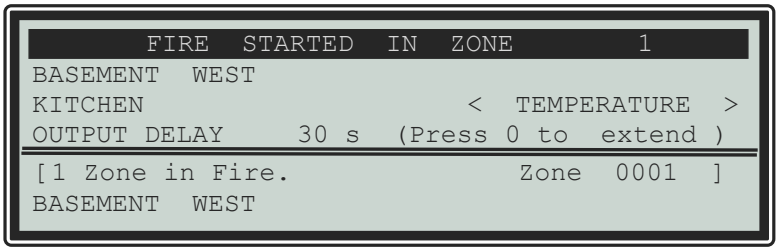

Location text for first zone
Confirmation of evacuation

Number of zones in fire and last zone
Zone description for last zone

### 6.3.1 Investigation Delays

The Investigation Delay Function can be disabled or enabled as required by EN54: 2. Refer to Section 6.13.

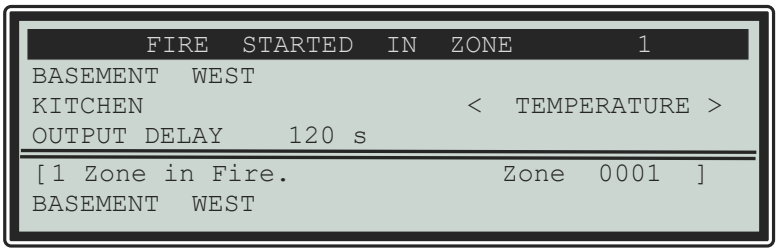
If the Investigation Delay Function (Stage 1/Stage 2 Investigation Delay) is enabled, a fire alarm is registered at the panel but does not immediately activate the sounders. On registering the alarm, the display shows:




Header – Zone number
Location text for first zone
Location text and type of device
Delay timer (Stage 1)

The Output Delay Timer shows the amount of time left for investigation. If the alarm is not acknowledged before the Stage 1 timer elapses, the panel will enter a full alarm condition and will activate the sounders.

Press the '0' button to acknowledge the alarm. This extends the time allowed to investigate the source of the fire.




Header – Zone number
Location text for first zone
Location text and type of device
Delay timer (Stage 2)

The cause of the alarm can now be investigated. If the alarm is a false alarm, press the **RESET** button to clear the alarm condition. This must be done before the Stage 2 timer has elapsed or the panel will enter a full alarm condition and will activate the sounders.

*Note:*

*The* ***EVACUATION*** *button will terminate the investigation delays and activate all programmed sounders.*

## 6.4 Fault Condition

When the system registers a fault condition the Yellow Fault Indicator is illuminated, the internal buzzer sounds intermittently, and the display shows the cause of the fault in more detail.

An example of the display is shown below:

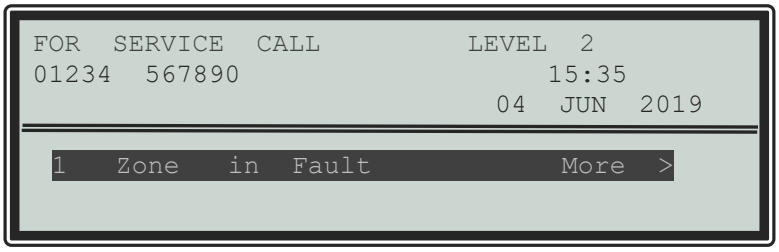

Location text for first zone
Location text and type of device

Number of zones in fault

If more than one fault condition occurs, these will be shown on the display. If the internal buzzer was muted, it will sound again when a new fault condition is registered.

When the fault condition is corrected, the panel automatically clears the appropriate fault Status Indicators and Display information.

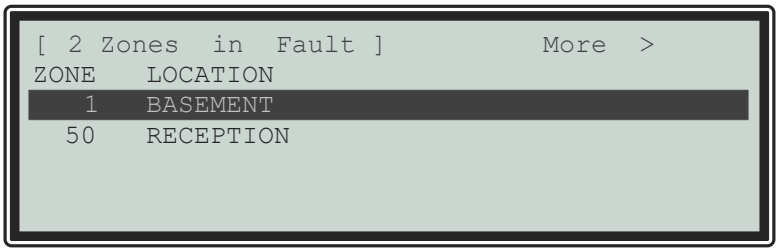
Press the **MUTE** button to silence the internal buzzer The display then shows the current time and date and service centre telephone number along with the indication of the fault.




Panel access level
Service call number and time
Date

Number of zones in fault

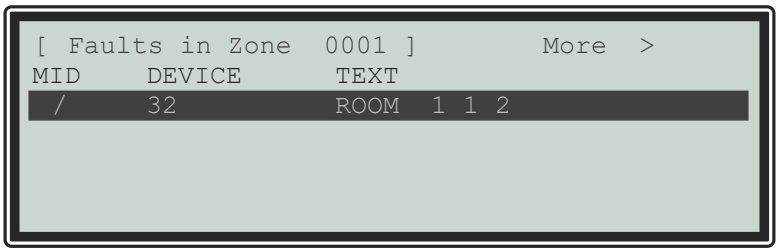
To obtain more detailed information about the faults, press the ➔ button. The display presents a list of all zones in a fault condition with the first fault highlighted. For example:




Number of zones in fault

Zone and location for each fault

Press the ↑↓ buttons to highlight the required fault and then press the ➔ button to show further information. For example:




Device ID and text description

Press the ➔ button to show further information on device state, type, analogue/digital values and loop, address , etc.

Press the **ESC** key to return to the previous display.

If no button is pressed within a minute, the display automatically reverts to the main display.

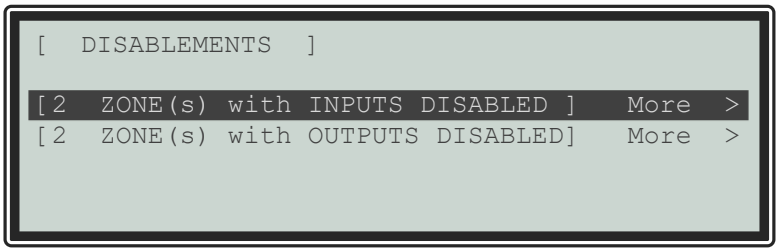
## 6.5 Disablement Condition

If any zones, input devices or output devices have been disabled, the DISABLE Indicator is illuminated. In addition, the SOUNDER DISABLE Indicator is illuminated if one or more sounder circuits or devices have been disabled. The display indicates the presence of zone disablement conditions in the lower half of the display as follows:


When the disablement conditions are removed, the appropriate indications are cleared from the display and from the Indicators. When all disablement conditions are removed, the DISABLE Indicator is also turned off.

To obtain more detailed information about the disablement conditions, press the ➔ button. The display will then present the disablement conditions in the following sequence:

- Zone/Individual Inputs.
- Outputs

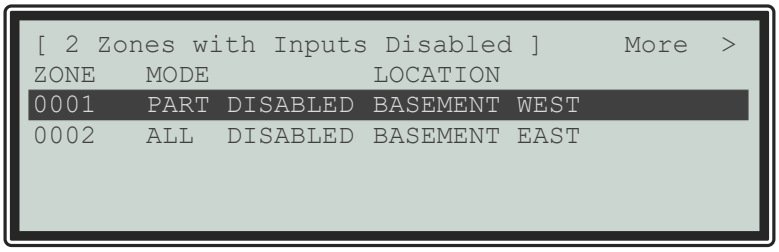



Zones, disablement and condition

Press the ↑↓ buttons to highlight the required option and then press the ➔ button to view further information.

### 6.5.1 Disabled Inputs

The display presents a list of all the zones in a disabled condition with the first disablement highlighted. For example:

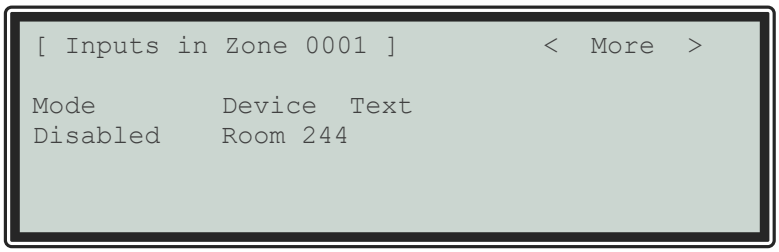



Zone, disablement, condition and location

The display shows the status as ALL DISABLED if every input device within the zone has been disabled and shows the status as PART DISABLED if there is at least one input device within the zone still active.

Press the ↑↓ buttons to highlight the required zone and then press the ➔ button to view the location text assigned to the zone in full.

Press the ➔ button again to view the inputs within the zone and their status. For example:

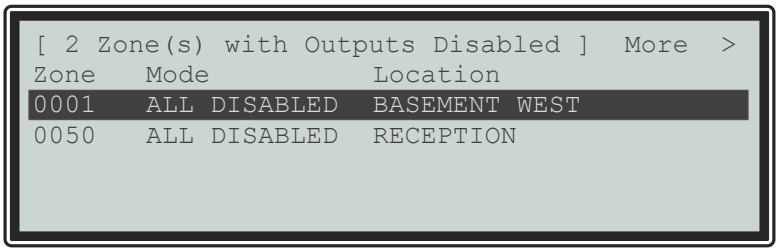



The display shows the current disablement condition (mode) and the device text. Press the ↑↓ buttons to scroll through the inputs.

Press the ➔ button to show further information on the state, type, analogue/digital values, the detection loop (LP) and address (ADRS), etc. Press the **ESC** key to return.

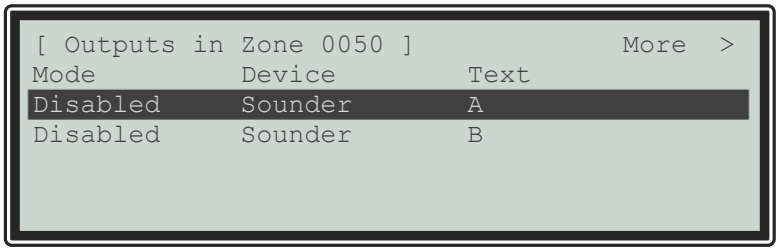
### 6.5.2 Disabled Outputs

The display presents a list of all the zones in a disabled condition with the first disablement highlighted. For example:



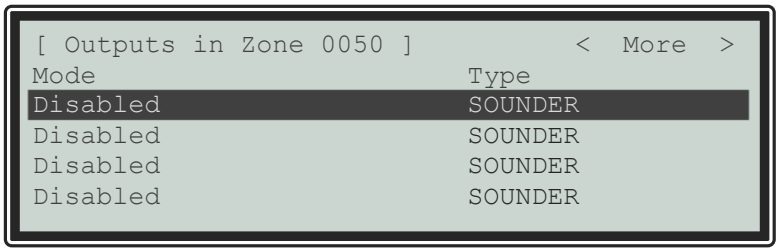

Zone, mode and location

Press the ↑↓ buttons to highlight the required zone and then press the ➔ button to view the individual outputs and their disablement condition. For example:




The above example shows that the panel sounder circuits are disabled.

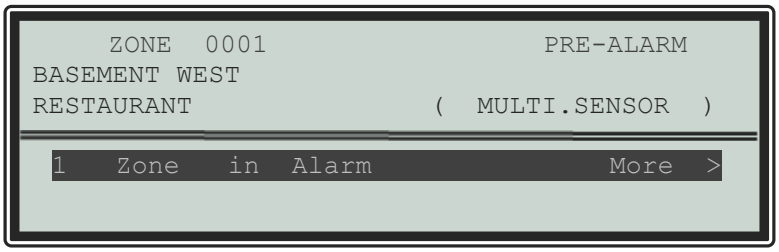
Press the ➔ button to view further information including type, value and state, etc.




Press the ↑↓ buttons to scroll through the list of individual outputs within the selected zone. Press the **ESC** button to return to previous views and the main display.

## 6.6 Alarm Condition

When the system registers a pre-alarm or plant alarm condition, the internal buzzer sounds intermittently, and the display shows the cause of the fault in more detail. An example of the display is shown below:




Location for first zone

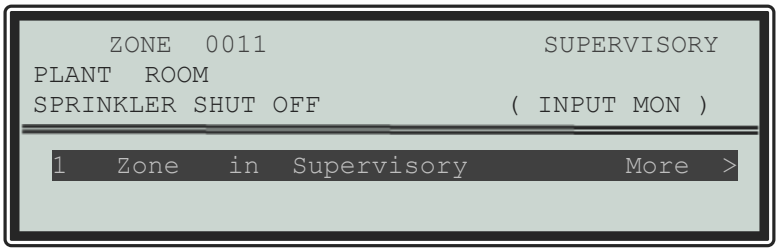
Location text and device type

Number of zones in alarm

To obtain more detailed information about the alarms, press the ➔ button. The display will show a list of all zones in an alarm condition.

## 6.7 Supervisory Condition

When the system registers a supervisory condition, the internal buzzer sounds intermittently, and the display shows the cause of the fault in more detail. An example of the display is shown below:




Location for first zone

Location text and device type

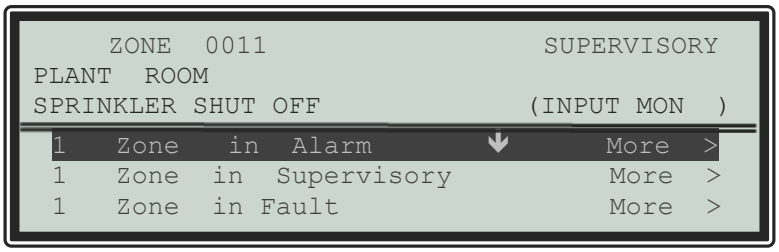
Number of zones in supervisory

To obtain more detailed information about the alarms, press the ➔ button. The display will show a list of all zones in a supervisory condition.

Supervisory conditions are typically (although not exclusively) used to indicate the presence of operating conditions that could prevent the operation of sprinkler valves e.g., frozen water, valve shut-off, low pressure, etc.

## 6.8 Multiple Conditions

When the system registers alarm, pre-alarm, fault, disablement, warning, security and supervisory conditions simultaneously, the display shows these in the lower half in priority order. The detail of the most recent unacknowledged condition to occur, however, is shown at the top of the display. An example of the display is shown below:




Location for first zone

Location text and device type

Number of zones and condition

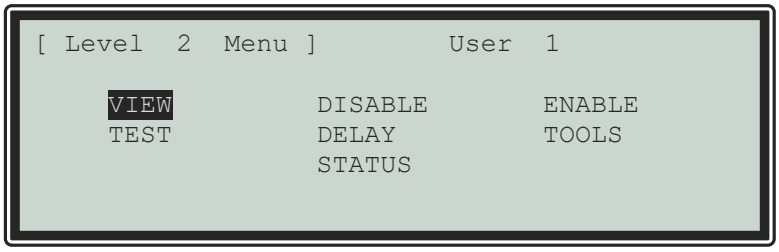
An arrow is shown on the display to indicate the scroll options. 🡻 (first row), 🡹 (last row) are shown depending on the row highlighted.

Press the 🡹🡻 buttons to scroll through the list to highlight the required condition and then press the ➔ button to view more detail as described for each condition.

If the system registers a fire alarm condition, the display is totally devoted to the indication of the fire alarm. Use the View Menu option to display these other conditions.

## 6.9 Menu Functions

The following Menu Functions are available at Level 2. The display shows the primary Level 2 Menu, and the Level 2 User as follows:




The following table gives a list of the Level 2 Menu Functions, the sub-functions available within each main function and a brief description for each function.

| Main Menu Option | Sub Menus | Comments |
|---|---|---|
| VIEW | Fires | View Zones and Inputs that are reporting a fire alarm condition. |
| | Faults | View Zones and Inputs that are reporting a fault condition. |
| | Alarms | View Zones and Inputs that are reporting an alarm condition. |
| | Disabled | View Zones, Inputs and Outputs that are disabled. |
| | Inputs | View the current state of Inputs. |
| | Outputs | View the current operational condition of all output circuits/devices. |
| | Log | View the Event Log/Alarm Counter. |
| | Panel | View the operational state, voltage and current loading of the panel input and output circuits. |
| | Warnings | View Zones and Inputs that are reporting a warning condition. |
| | Supervisory | View Zones and Inputs that are reporting a supervisory condition. |
| DISABLE | Zones/Inputs[7] | Disable a complete zone or an individual input. |
| | Outputs[7] | Disable sounder outputs or other devices. |
| | Controls[8] | Cancel Level 2 access. |
| | User ID[8] | Return Level 2 access to the default User 1. |
| | Groups | Disable a user-defined disablement group. |
| ENABLE | Zones/Inputs | Enable a complete zone or an individual input. |
| | Outputs | Enable sounder outputs or other devices. |
| | Groups | Enable a user-defined disablement group. |
| TEST | Zones[7] | Configure one or more zones for walk test. |
| | Display | Test the Graphics Display, Status Indicators and Keyboard. |
| | Buzzer | Test the Internal Buzzer. |
| | Outputs | Test Output Devices. |
| DELAY | | Turn Investigation delays ON/OFF. |
| TOOLS | Commission | Enter the Level 3 Commissioning and Panel Programming Functions. |
| | Change Time[7] | Allows authorised level 2 users to change the time setting. |

[7] This option can be configured per Level 2 user ID. User 1 does not have permission to change these options.

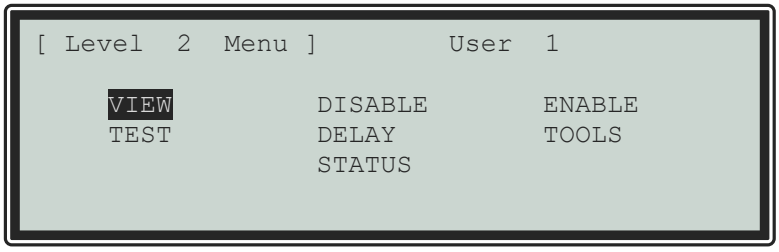
[8] Not required if a key switch is fitted to change access levels.

### 6.9.1 Using the Buttons to Navigate Menus

Press the **MENU** button to bring up the display menu.

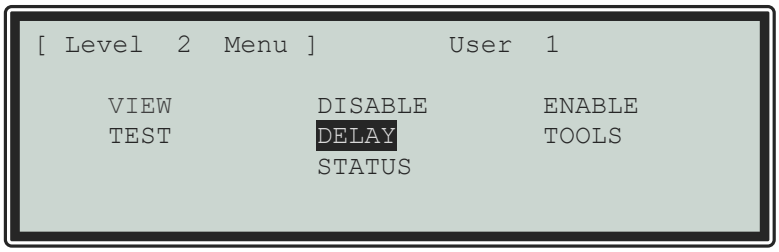
#### 6.9.1.1 Selecting Menu Options

The Level 2 Menu is shown below:




Press the ←↑→↓ buttons to highlight the required menu option and then press the ✓ button to select it.

For example, press the → button followed by the ↓ button to highlight the DELAY option (as shown below) and then press the ✓ button to select this option.



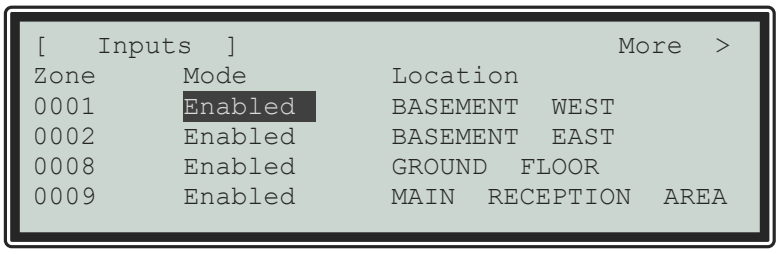

Press the **ESC** button from within a menu option to return to the previous menu.

Press the **ESC** button from the Main Level 2 Menu (shown above) to return to the normal operating display.

If a button is not pressed for one minute (15-seconds if the panel is in a fire alarm condition) the display will automatically revert to the normal operating display. Press the **MENU** button to return directly to the Level 2 Menu display previously shown.

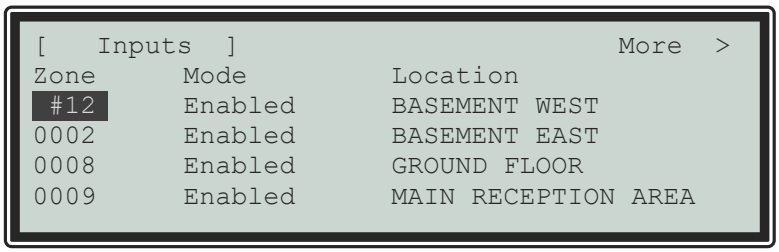
#### 6.9.1.2 Selecting Individual Zone Numbers

When the display is showing a list of Zone Numbers, it is possible to select a specific zone number by using the number keys. For example, if the display is showing a list of zones:




To select a Zone, move to the zone number column. The existing zone number will then be highlighted.

Enter the required Zone Number using the number buttons, for example 12.

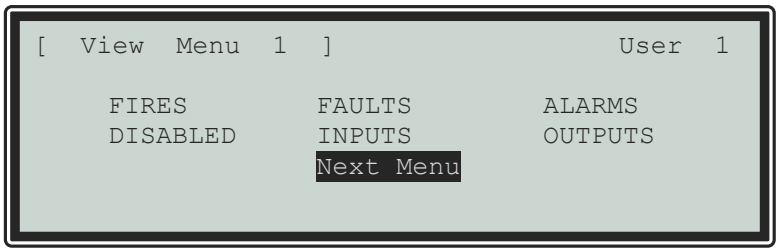


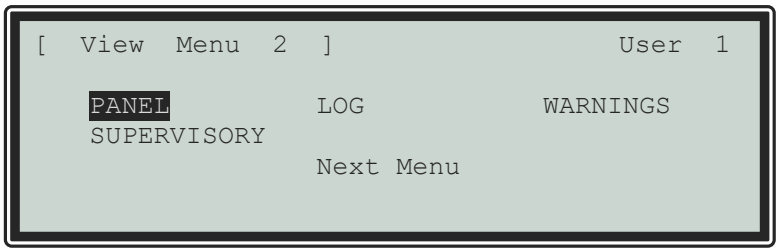

Finally press the ✓ button to confirm. The display will then show a new list of Zones with the selected Zone highlighted at the top of the list.

If the number is entered incorrectly, press the **ESC** button.

## 6.10 Viewing

The View menu is available on two pages. Highlight the “Next Menu” option and press the ✓ button to select the next page.




Note:

*Fires, Faults, Alarms, Disablements and Supervisory conditions are all normally shown without having to select the view menu. If you wish to manually View any of these, they can be selected from this menu.*

### 6.10.1 View - Fires

This function shows the Zones and Inputs that are currently in a Fire Alarm condition.

The operation of the panel and the information that can be shown is identical to the views available from the main operating display. Refer to Section 5.3.10 for further information.

If there are no Zones or Inputs in a Fire Alarm condition, the display automatically reverts to the Main View Menu.

### 6.10.2 View - Faults

This function shows the Zones, Inputs and Outputs that are currently in a Fault condition.

The operation of the panel and the information that can be shown is identical to the views available from the main operating display. Refer to Section 5.3.10 for further information.

### 6.10.3 View - Alarms

This function shows the Zones and Inputs that are currently in an Alarm condition. These may occur if:

- The Zone or Input is currently in a Fire Test condition and/or
- Inputs that are configured to generate an alarm or pre-alarm condition when operated are active.

The operation of the panel and the information that can be shown is identical to the views available from the main operating display.

### 6.10.4 View - Disabled

This function shows only Inputs and Outputs that are currently in a Disabled condition.

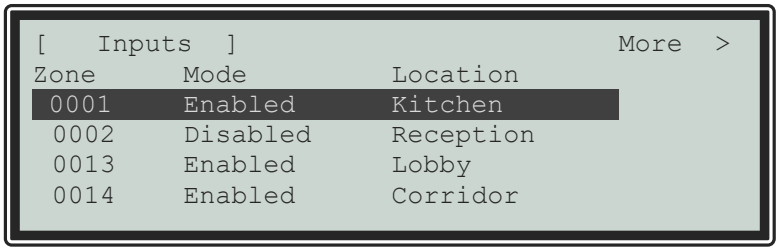
The operation of the panel and the information that can be shown is identical to the views available from the main operating display. Refer to Section 5.3.10 for further information.

If there are both Inputs and Outputs in a Disabled condition, the display presents the inputs first followed by the outputs.

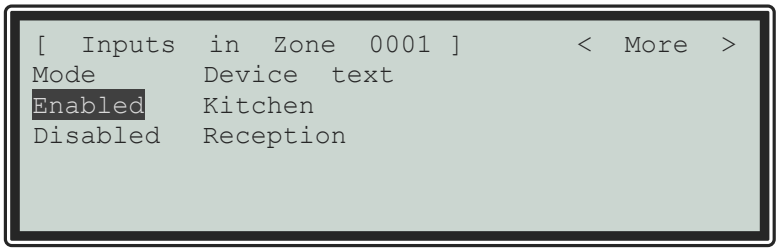
If there are no Inputs or Outputs in a Disabled condition, the display does not change and continues to show the Main View Menu.

### 6.10.5 View - Inputs

This function shows the current operational condition for all Zones and Individual Inputs. The display presents a list of all the zones containing input devices, with the first zone highlighted. For example:



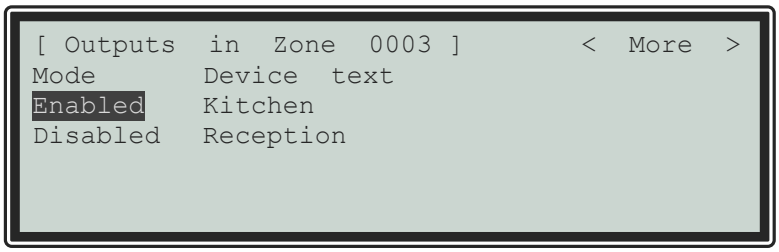

Press the ↑↓ buttons to highlight the required zone and then press the ➔ button to view the individual inputs. For example:



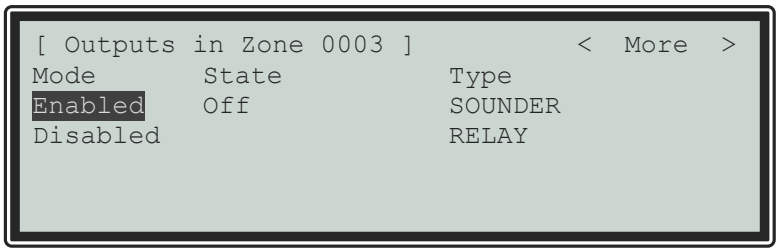

### 6.10.6 View - Outputs

This function shows the current operational condition for all Outputs.

Press the ↑↓ buttons to highlight the required zone and then press the ➔ button to view the individual outputs. For example:




Press the ➔ button to view further information on each point, for example:

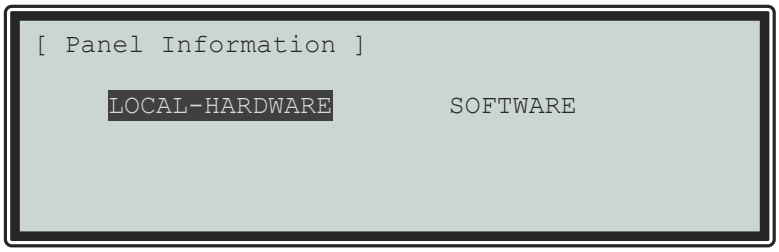



A * symbol preceding the state (e.g., *On) indicates the device has been configured as an inverted output (e.g. a fault relay that is designed to de-energise when a fault occurs).

The state of an output that is disabled is not shown, as it will by default, be in the off condition.

### 6.10.7 View - Panel

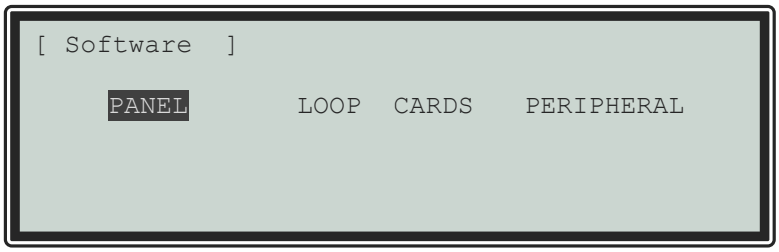
The View Panel Option provides two items to view panel diagnostics.



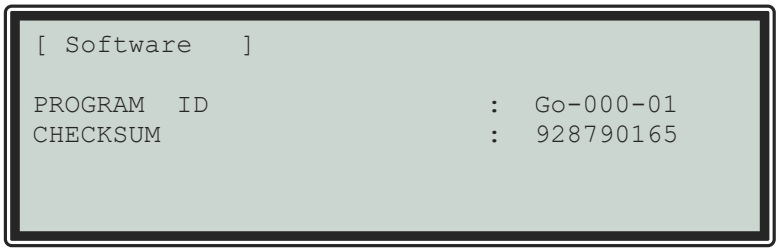

Press the ←↑➔↓ buttons to highlight the required menu option and then press the ✓ button to select it.

- Local hardware provides information on the circuits of this panel.
- Software provides information on the operating software of this panel and its optional interface cards.

#### 6.10.7.1 Software

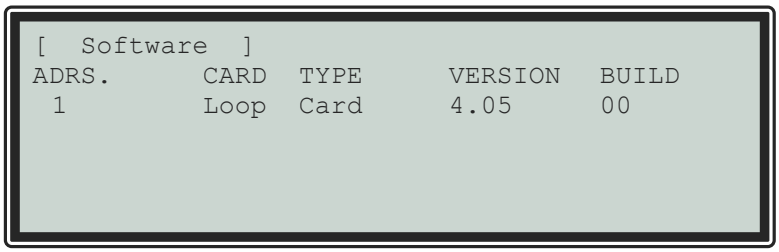


Panel Software:

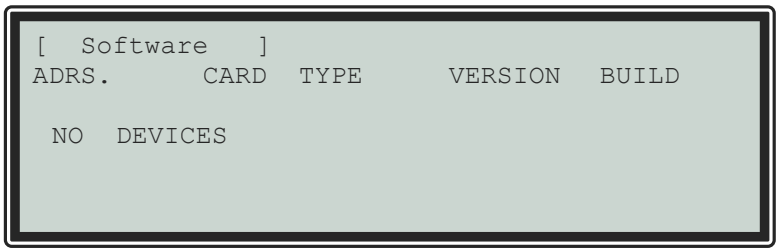



Other Software:

Select the other options and the display shows the software version incorporated into these circuit cards/functions and the hardware build variant. Several peripheral modules may be installed (up to 32) – press the ↑↓ buttons to scroll through the list if required.

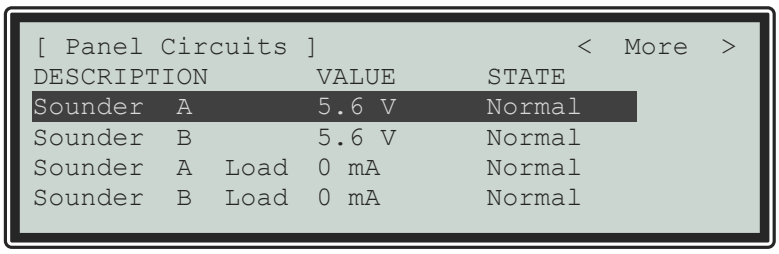



If there are no devices installed of the type selected, the display shows:




### 6.10.7.2 Local Hardware

The Local Hardware Option provides a diagnostic readout of the operational condition and readings for the internal panel electronic circuits of this panel. When the option is selected, the display shows a list of the circuits. For example:




Press the ↑↓ buttons to scroll through the panel internal circuits. Press the **ESC** button to return to the main view menu.

The following table lists the internal panel circuits and indicates the values that can be displayed.

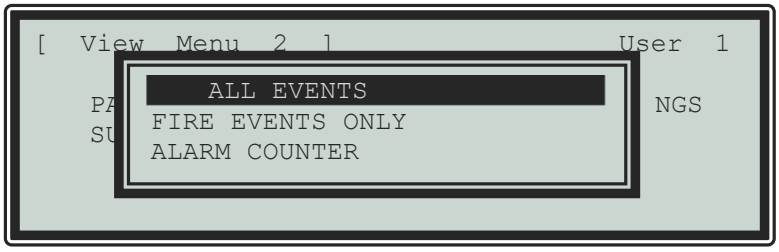
| Description | Value Range | Normal | Possible States | |
|---|---|---|---|---|
| Sounder A | 0 V – 14 V | 5.5 V | Normal | Open Circuit, Short Circuit |
| Sounder B | | | | |
| Sounder A Load | 0mA – 1000mA | [9] | Normal | Too High |
| Sounder B Load | | | | |
| Battery | 0 V – 30 V | 27.6 V | Normal | Too High, Too Low |
| Charger Volts | 0 V – 30 V | 28.0 V | Normal | Too High, Too Low |
| Charger Current | 0 mA – 350 mA | [9] | Normal | |
| Charger Temp (C) | 0 C – 50 C | [9] | Normal | |
| Earth Volts | 0 V – 30 V | 2.5 V/14.5 V[10] | Normal | Too High, Too Low |
| System Volts | 19 V – 30 V | 27.0 V | Normal | |
| Aux Load | 0 mA – 100 mA | [9] | Normal | Too High |
| 1st Loop Load | 0 mA – 500 mA | [9] | Normal | Open Circuit, Too High, Short Circuit |
| 1st Loop V.Out | 24 V – 32 V | [9] | Normal | |
| 1st Loop V.In | 24 V – 32 V | [9] | Normal | |
| Panel Switch Inputs 1-2 | L/H | L | Normal | Programmable Inputs |
| | L/H | L | Normal | |
| Main Supply | - | - | Normal | |
| Evacuate | L/H | L | Normal | |

*Note:*

*Additional panel circuits may be shown depending on the system configuration and installed options.*

### 6.10.8 View - Log

If you select the log option the display presents a pop-up window is shown to allow selection between a view of all the event history, a view of only the fire alarms that have occurred or a view of the fire alarm counter.



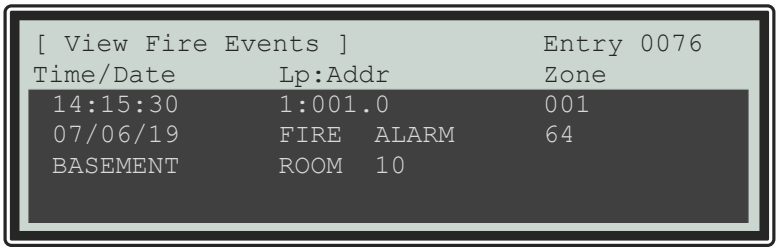

Press the ↑↓ buttons to highlight the required menu option and then press the ✓ button to select it. The display then shows the appropriate list of events.

[9] Dependent on the panel configuration, installation and current operating condition. (e.g., fire alarm)

[10] Dependent on the panel configuration.

### 6.10.8.1 Event Log

The display will always show the most recent event to have occurred, e.g.




Number of highlighted events

Time, origin and zone

Date, event and analogue value

Zone text description

Device location description

In the above example, the latest fire occurred (Event No. 76) at 14:15 pm on June 7, 2019 . This fire alarm originated at the device at address 001 (Addr) on Loop 1 (Lp). The device was in Zone 001. The analogue value registered by the device (64) has also been recorded. The lower two lines show the zone and device location texts descriptions for ease of identification.

Press the ↑↓ buttons to scroll through the fire alarm events logged in the system. Press the ↑ button to show more recent events and press the ↓ button to show earlier events.

To view the details for a specific Log Entry Number, it is possible to select the record by typing in the required number using the number keys.

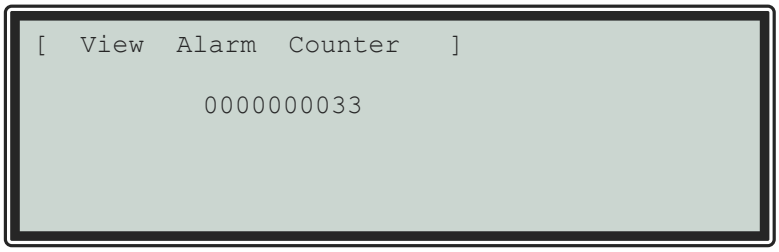
Press the ✓ button to confirm. The display will then display the required record.

Press the **ESC** button to return to the main view menu.

### 6.10.8.2 Alarm Counter

Section 7.13 Alarm Counter.

The Panel records the number of times that the fire alarm condition has occurred at the panel.




In the above example, the panel has entered the fire alarm condition 33 times since it was installed.

The panel increments the count by one each time it changes from the normal condition to indicate a fire alarm condition. Whilst in the fire alarm condition, and until it is reset, further fire alarm events do not increment the counter.

Press the **ESC** button to return to the main view menu.

## 6.10.9 View - Warnings

This Option can be used to obtain information about warning conditions on the panel.

A warning condition is created whenever a detector device reaches its limit drift of compensation. This does not affect the performance or operation of the panel in detecting and responding to fire alarm conditions from the device. It will mean the device is more sensitive and could react to lower levels smoke stimuli resulting in false alarms. This function is normally used by the service engineer to view which devices need to be cleaned and no indication is given of this condition on the normal displays. A fault condition will occur when the device becomes dirty.

### 6.10.10 View - Supervisory

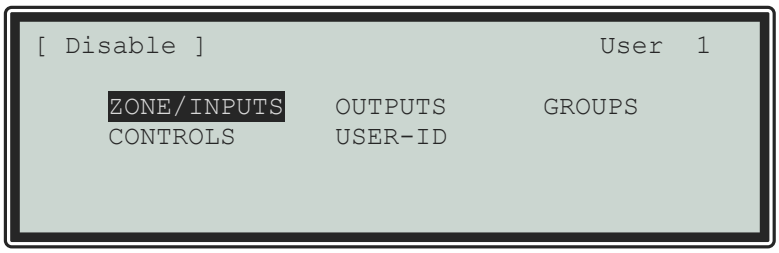
This Option can be used to obtain information about supervisory conditions on the panel.

The operation of the panel and the information that can be shown is identical to the views available from the main operating display. Refer to Section 6.7 for further information.

If there are no Zones or Inputs in a Supervisory condition, the display automatically reverts to the Main View Menu.

## 6.11 Disabling

When you select the Disable Menu, the display shows five possible options:



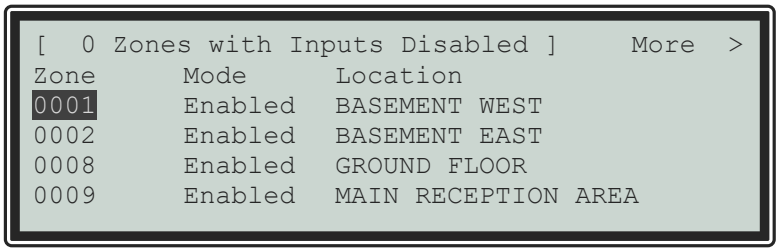

Press the ←→ buttons to highlight the required menu option and then press the ✓ button to select it.

### 6.11.1 Disable - Zones and Inputs

This option provides the means to disable a complete zone, disable all input devices except call points or disable individual input devices.

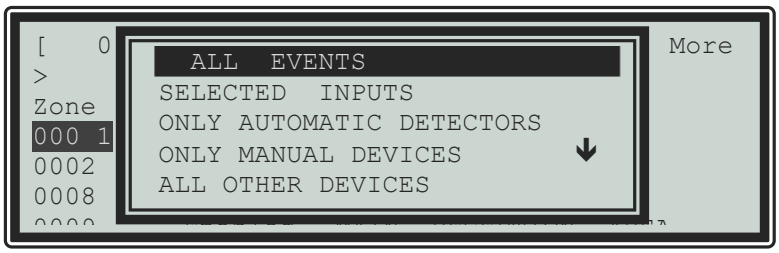
If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.

On selecting this option, the display shows a list of the current zones and their current disablement status. For example:




Press the ↑↓ buttons to scroll through the available zones, or key in a specific zone number.

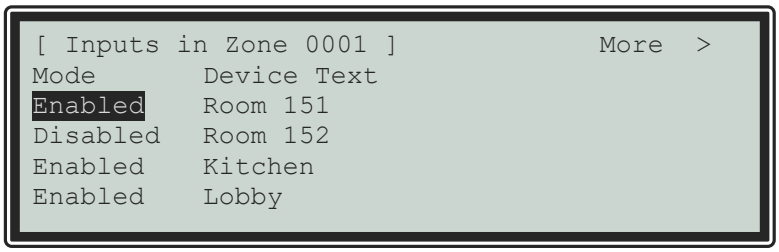
To disable the entire zone, move over to the Mode column and highlight the existing mode. Press the ✓ button and a pop-up window will show the possible options:




Press the ↑↓ buttons to scroll through and highlight the required option and then press the ✓ button to select it.

If you select ALL INPUTS, the pop-up window will disappear, and the State of the Zone is changed to ALL DISABLED.

If you select SELECTED INPUTS, the pop-up window will disappear and a list of the input devices within the selected zone is presented:




Press the ➔ button for more information on the inputs, including full state, type, analogue value etc.

Press the ↑↓ buttons to scroll through and highlight the required input and then press the ✓ button to disable it.

Press the **ESC** button to return.

If you select ONLY AUTOMATIC DETECTORS, the pop-up window will disappear, and the State of the Zone is changed to PART DISABLED. Smoke and heat detectors are disabled.

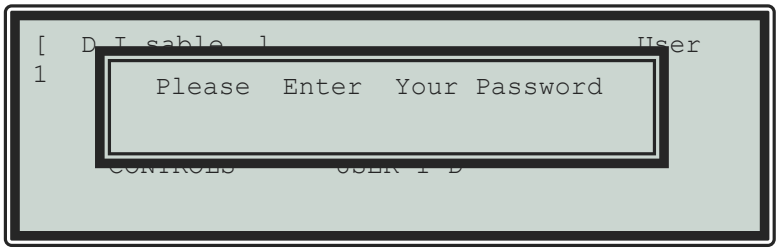
If you select ONLY MANUAL DEVICES, the pop-up window will disappear, and the State of the Zone is changed to PART DISABLED. Manual call points are disabled.

If you select ALL OTHER DEVICES, the pop-up window will disappear, and the State of the Zone is changed to PART DISABLED. Other input devices are disabled.

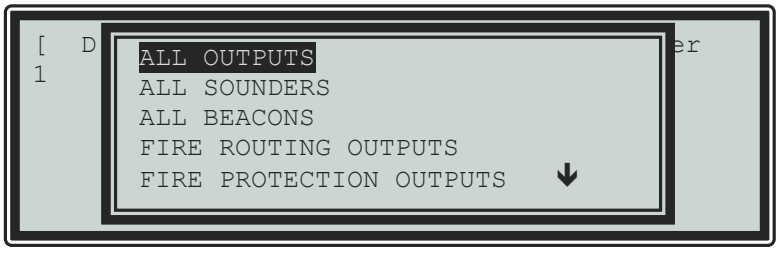
### 6.11.2 Disable - Outputs

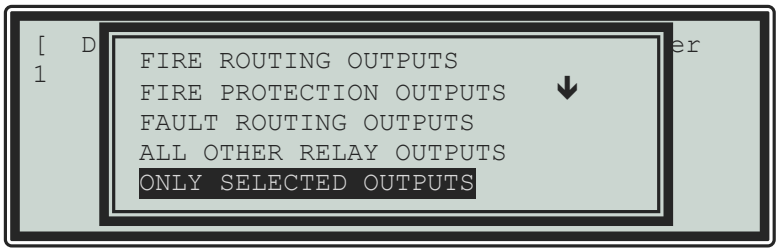
The Disable Outputs Option enables the isolation of some or all the outputs. If disabled, the outputs will not activate in the event of a fire alarm or other programmed event.

If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.




Enter the password as normal. Once you have entered a valid password, a pop-up window is shown on the display to select the type of outputs to disable. Scroll down to view/select the available options. The list below details all the possible options – the available options will have been configured by the installation engineer.






#### 6.11.2.1 All Sounder Outputs

Press the ↑↓ buttons to scroll through and highlight the ALL SOUNDERS Option and then press the ✓ button to disable them. The display will automatically revert to the Main Disable Menu.

The 'Sounder Disabled' Indicator will be illuminated.

#### 6.11.2.2 All Beacon Outputs

Press the ↑↓ buttons to scroll through and highlight the ALL BEACONS Option and then press the ✓ button to disable them. The display will automatically revert to the Main Disable Menu.

*Note:*

*This only applies to individually addressable beacons. For some combined sounder/beacon devices, the beacon follows the operation of the sounder, and it is only possible to disable both the sounder and the beacon together.*

#### 6.11.2.3 Fire Routing Outputs

Press the ↑↓ buttons to scroll through and highlight the FIRE ROUTING OUTPUT Option and then press the ✓ button to disable all fire routing outputs. The display will automatically revert to the Main Disable Menu.

The 'Fire Routing Disabled' Indicator will be illuminated.

#### 6.11.2.4 Fire Protection Outputs

Press the ↑↓ buttons to scroll through and highlight the FIRE ROUTING OUTPUT Option and then press the ✓ button to disable all fire protection outputs. The display will automatically revert to the Main Disable Menu.

#### 6.11.2.5 Fault Routing Outputs

Press the ↑↓ buttons to scroll through and highlight the FAULT ROUTING OUTPUT Option and then press the ✓ button to disable all fault routing outputs. The display will automatically revert to the Main Disable Menu.

#### 6.11.2.6 All Other Relay Outputs

Press the ↑↓ buttons to scroll through and highlight the ALL OTHER RELAY OUTPUTS Option and then press the ✓ button to disable them. The display will automatically revert to the Main Disable Menu.

#### 6.11.2.7 Selected Outputs

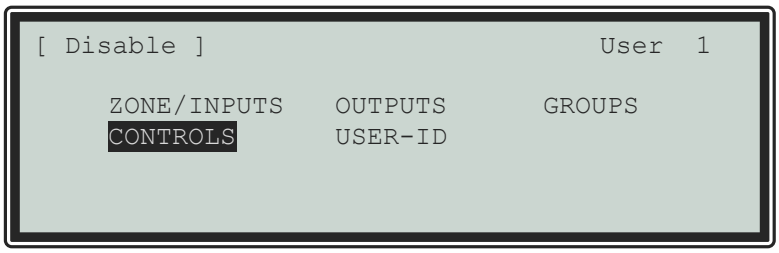
Allows selection of a single output.

### 6.11.3 Disable - Controls

When you disable the controls Level 2 access is cancelled and the panel will return to Level 1 operation.

*Note:*

*If the panel has an access key switch fitted, use the key switch in preference to the menu option shown below.*




Press the ←→ buttons to highlight the Controls option and then press the ✓ button to select it.

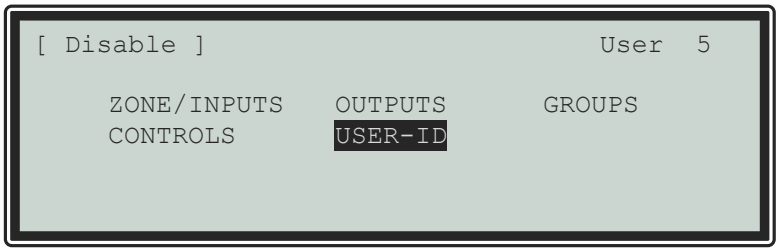
The display will request a password entry. Enter your password as normal.

When a valid password has been entered, the control button functions and menu functions are disabled, and the level 1 menu display will be shown:

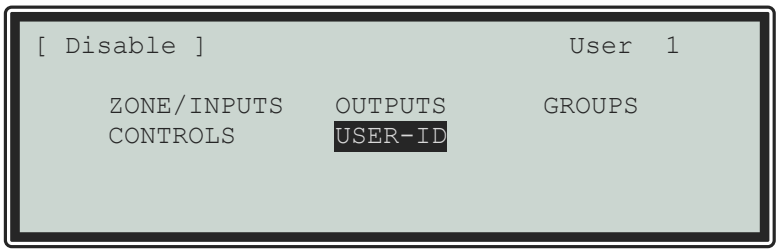

The display will automatically revert to the normal operating display after a few seconds.

### 6.11.4 Disable – User ID

This operation will cancel the current User ID and return to the default User 1. User 1 can perform all actions except those defined as programmable (refer to the menu table).



Press the ←→ buttons to highlight the User-ID option and then press the ✓ button to select it.




Note:

*If the panel is configured to operate with a timeout and there has been no user activity after the programmable period (default "No Timeout"), the panel will automatically cancel the current User ID and return the panel to User 1 ID access. This is to make sure that access to restricted options is automatically cancelled.*

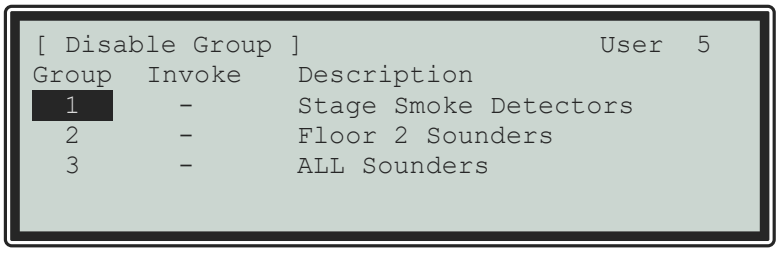
### 6.11.5 Disable – Groups

Disablement Groups are a means of disabling/enabling custom groups of devices. The installer will have configured these groups.

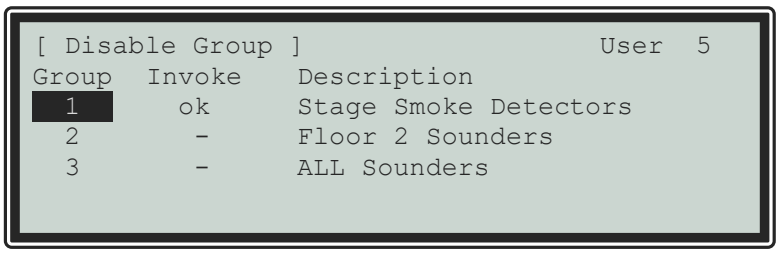
If no groups exist, selection of this option will show a NOT CONFIGURED message.

Typical examples are:

- Stage Smoke Detectors
- Floor 2 Sounders
- ALL Sounders



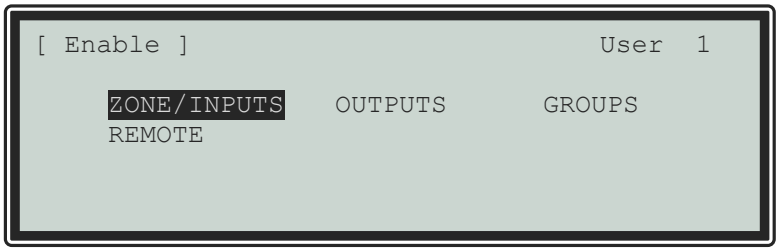

Press the ↑↓ buttons to scroll through and highlight the required option and then press the ✓ button to disable it. The display will show that the command has been invoked (activated).




The GENERAL DISABLE and any specific disable indicators will be illuminated on the panel(s).

## 6.12 Enabling

On selection of the Enable Menu Option, the display shows the available Enable Functions.




Press the ←→ buttons to highlight the required menu option and then press the ✓ button to select it.

### 6.12.1 Enable - Zones and Inputs

When you select this option, the display will show a list of zones containing disabled input devices. The complete zone, individual devices and other options within the zone can then be enabled (The display format is like the equivalent Disable menu).

### 6.12.2 Enable - Outputs

When this option is selected, a pop-up menu appears asking if you want to enable ALL SOUNDERS, ALL BEACONS, FIRE ROUTING OUTPUTS, FIRE PROTECTION OUTPUTS, FAULT ROUTING OUTPUTS, ALL OTHER RELAY OUTPUTS, ONLY SELECTED OUTPUTS or the PAGER OUTPUT.

If ONLY SELECTED OUTPUTS is selected, the display will list only zones containing outputs that have been disabled. The individual outputs within the zone can then be enabled.

(The display format is like the equivalent Disable Menu).

### 6.12.3 Enable - Groups

This option allows the re-enabling of User-defined Disablement Groups. The display is identical to the disable option.

### 6.12.4 Enable - Remote

*Note:*

*The Enable – Remote section only applies to a panel which has cloud connectivity enabled.*

Information on the detectors connected to the panel and on the condition of all zones can be obtained with an ipGateway interface.

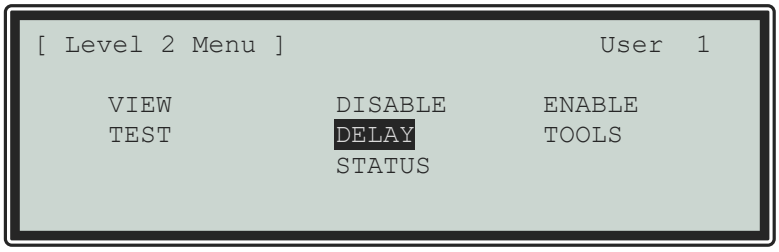
In addition, the user can be assisted with operations such as disabling/enabling a detector from external commands over a TCP/IP system. To ensure this only happens with the consent of the user the user must enable the REMOTE option.

If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.

After selecting the option, a selection list is presented on the display as follows:


Use the ↑↓ buttons to highlight the required option and then press the ✓ button to confirm.

## 6.13 Delays




Press the ↑→↓← buttons to highlight the Delay-Mode option and then press the ✓ button to select it. If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.

This delay function can only be configured using the PC Programming Tool.

**PC Config**

If the delays are configured in the panel, the display shows the following pop-up window when the Delay-Mode Option is selected.


If the delays are not configured in the panel, the display briefly shows “NOT CONFIGURED” before returning to the Disable Menu Options.

### 6.13.1 Turn Off Delay Mode

This operation will cancel the Investigation Delay mode.

With the option highlighted, press the ✓ button to select NO INVESTIGATION DELAY and disable the operation of the Stage 1/Stage 2 Investigation Function. Otherwise, press **ESC** to cancel and keep the investigation delays in operation.

If the investigation delays are in operation, then the “Delayed” LED Indicator is illuminated. When the investigation delays are turned off, the “Delayed” LED Indicator is not illuminated.

Press **ESC** to cancel and make no change to the current operational setting.

### 6.13.2 Turn On Delay-Mode

This option allows the operation of Investigation Delays and other related functions.

The Investigation Delays can be invoked as manual operation delays (Once Only), Automatic delays (configured to run with a time clock) and Extend delays. A further option is provided to Inhibit delays for holiday periods. The options that appear in the menu depend on the installation configuration programmed by the installer.

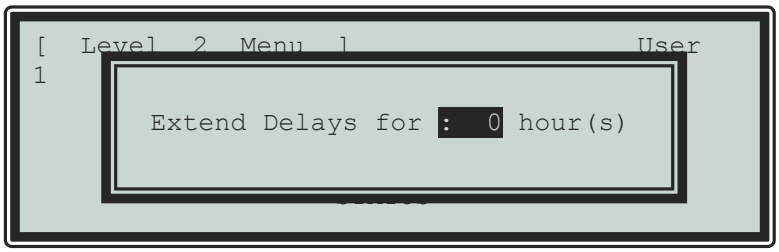
On selection of the DELAY option, the display will show a pop-up menu list. For example:


Press the ↑↓ buttons to scroll through and highlight the required option and then press the ✓ button to enable it.

The display will confirm the selection and indicate WORKING whilst it performs the operation. When finished, it will revert to the pop-up menu.

#### 6.13.2.1 Extend Delays

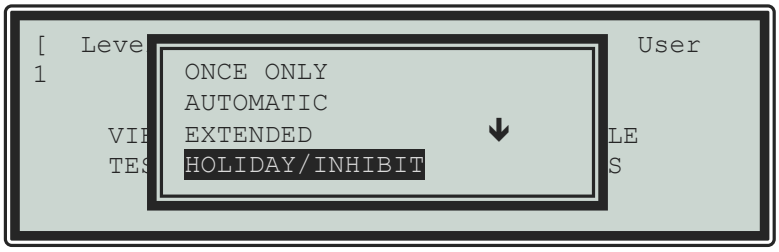
To extend any current automatic delays (for example overtime working).



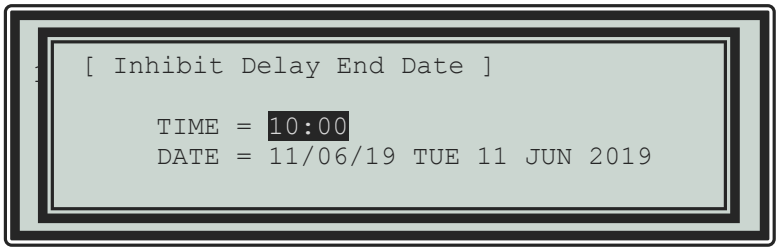

Use the number keys to enter the required number of hours beyond the current configured end time.

#### 6.13.2.2 Holiday/Inhibit

The panel can be enabled to prevent any pre-programmed daily automatic delays from activating during holiday periods. Use the ↓ button to scroll down the list to HOLIDAY/INHIBIT:




On selection, the display will show:

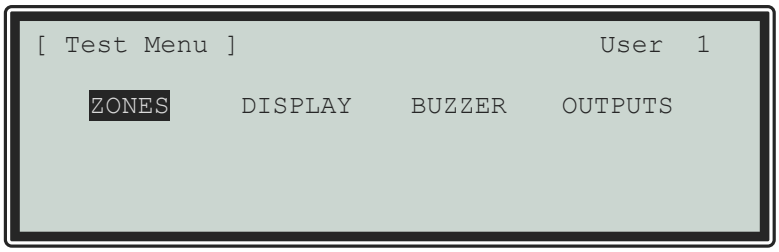


Press the ↑↓ buttons to select the time/date fields. Enter the required time and date using the number buttons.

Any pre-configured automatic delays or manual delays will be immediately suspended, and the panel will operate without any investigation delays.

On reaching the time/date programmed, the panel will automatically revert to use any investigation delays as programmed and configured.

## 6.14 Testing



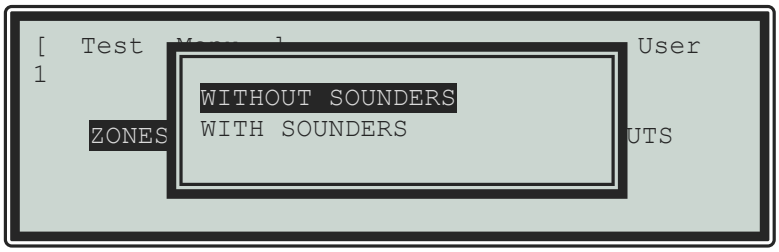

Press the ←→ buttons to highlight the required menu option and then press the ✓ button to select it.

### 6.14.1 Test - Zones

The Test Zones function provides the means to implement a one-person walk test to test specific call points or detectors in one or more zones.

If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.

When the Test Zones option is selected, a pop-up window is shown on the display to select whether the sounders will activate (for about 10-seconds) when an input device is activated. For example:

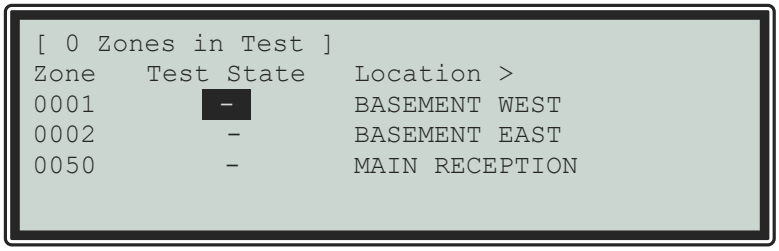



Press the ↑↓ buttons to scroll through and highlight the required option and then press the ✔ button to select it.

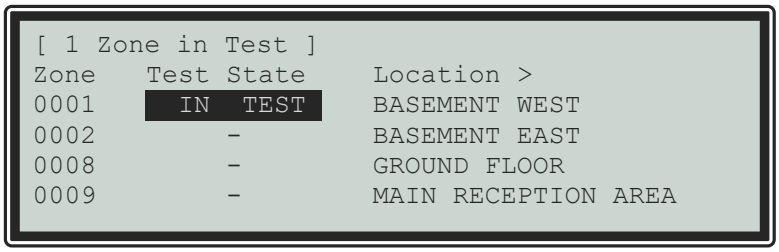
*Note:*

*The panel will have been programmed during commissioning to define which of the sounders are activated during a test.*

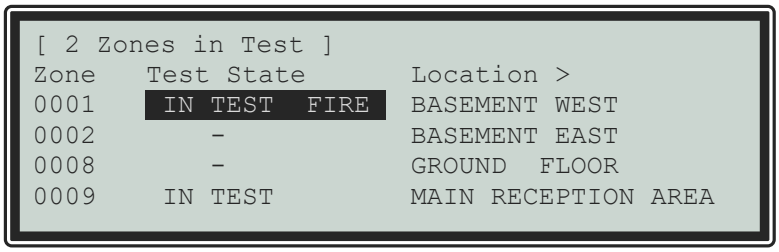
The display then shows a list of the available Zones and their current test status. For example:




Press the ↑↓ buttons to scroll through and highlight the required zone and then press the ✓ button to change the Test State.




When one or more Zones are placed in a Test State, the Test Indicator will be illuminated. When an input device is activated (i.e., break glass test on a call point or introducing test smoke into a smoke detector), the bells will ring (if selected) and the display will indicate that a zone is registering a test condition by showing FIRE in the State column.



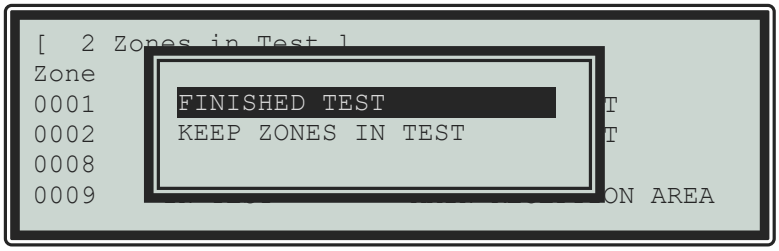

When the activating test key is removed from the call point or the smoke clears from the detector chamber, the panel will automatically reset and clear the test condition.

As an alternative to scrolling, a specific zone number can be entered by using the ← button to move to the zone number column, and then typing in the required number, followed by the ✓ button.

If several consecutive zones are to be tested, an alternative to selecting them all individually is to specify a range of zones as follows: -

- Move to the zone number column and highlighting the first zone to test
- Press the ✓ button, the panel will then ask for the last zone to be tested
- Individual zones can then be toggled in or out of test by pressing the ✓ button.

Press the **ESC** button to leave the Zone Test menu. If there are still any zones in a test condition a pop-up window with the following options:




Select the FINISHED TEST option to cancel all zone tests. The Test LED will then extinguish.

Alternatively, you can leave the Zone Test Function with one or more Zones still in Test by selecting the KEEP ZONES IN TEST option. This will enable the inspection or use of other menu functions and return the display to the normal operating mode. The Test LED will stay illuminated if this option is selected.

**CAUTION:**

**Hy-Go and Wireless Devices**

**When the testing of wireless devices is completed, a manual RESET is required to restore full operation.**

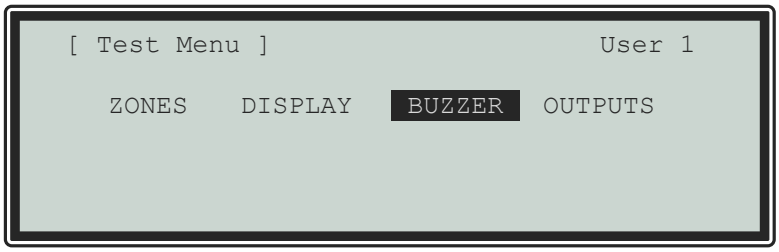
### 6.14.2 Test - Display

The Test Display option checks the operation of all the Indicators and the Graphic Display. All the Indicators are turned on and the entire display is shown in reverse.

During this test, it is possible to test the operation of the ↑→↓←, ✓ and 0-9 buttons. When a button is pressed, it is indicated on the display. For example:


Press the **ESC** button to return to the Test Menu. If no button is pressed for 5 seconds, the display will automatically revert to the normal operating display.

### 6.14.3 Test - Buzzer



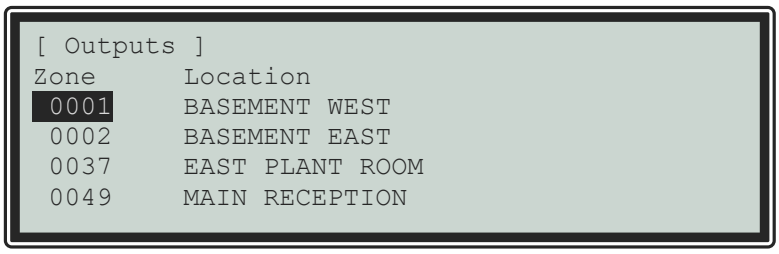

When you select the Test Buzzer option, the internal buzzer will sound for approximately five seconds.

### 6.14.4 Test - Outputs

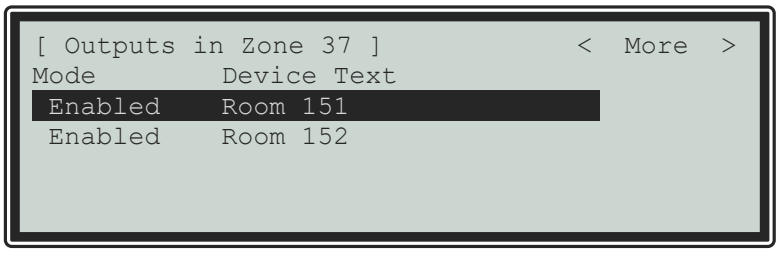
Output devices can be individually tested for operation.

To test an individual output device (sounder or relay), highlight the Test Outputs Option and press the ✓ button to confirm. The display will present a list of the zones that contain output devices.

If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent operation.




Press the ↑↓ buttons to scroll and highlight the required zone (or key in the required zone number) and then press the → button to show the output devices in that zone. For example:

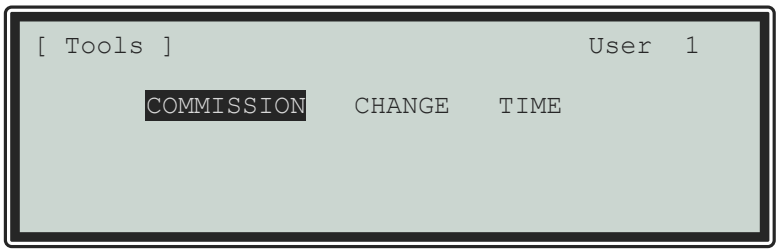


Press the ↑↓ buttons to scroll and highlight the required output and then press the ✓ button to test the output. The display will prompt to confirm the “Test this device.” Press the ✓ button again to accept. The output device will turn on and this will be confirmed on the display by the status changing from OFF to ON. Press the ➔ button to show further information on the output.

The general TEST LED will illuminate whenever an output is in test. The test is cancelled by either pressing the **ESC** button or by scrolling to the next/previous device in the list.

If the display is left for 70 seconds without pressing any buttons, the output will revert to its quiescent state.

## 6.15 Tools




The TOOLS menu presents two options. Press the ←→ buttons to highlight the required menu option and then press the ✓ button to select it.

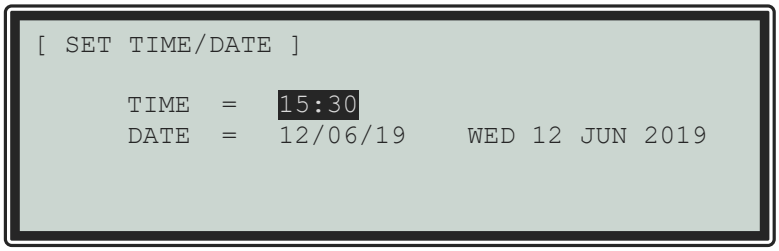
The COMMISSION Menu is only available to Level 3 Service Users.

### 6.15.1 Change-Time

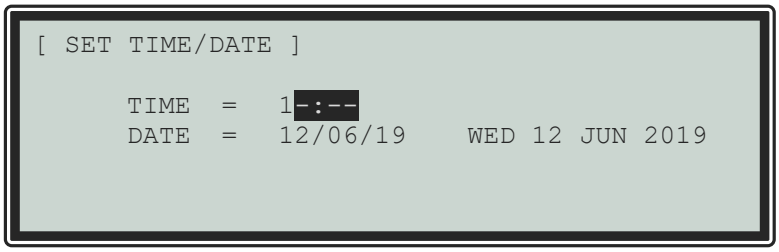
Allows the clock time to be changed.

If the current User ID does not have the necessary permission, the display prompts for entry of a password to guard against inadvertent changes.

For example:




To change the settings, use the ↑↓ buttons to highlight the required option. Directly enter the new time or date using the number buttons. As soon as a number button is pressed, the display will clear the current setting and show the new value as it is entered. For example:



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# 7 Service and Maintenance

## 7.1 Maintenance Schedule

This equipment should be maintained in accordance with the regulations and codes appropriate to the country and location of installation. The following is recommended if no other regulations apply.

### 7.1.1 Daily Actions

The site operator/user should:

- Make sure that the panel shows normal operation. If any faults exist, these must be recorded in a logbook.
- Check that any recorded faults have received attention and have been signed off.

### 7.1.2 Monthly Actions

The site operator/user should:

- Start any stand-by generators and check the fuel levels.
- Operate at least one call point or detector (from a different zone each month) and make sure that the panel enters a fire alarm condition with the appropriate/programmed alarm or warning devices sounded/operated. Where possible, this should include any links to the fire brigade or remote centre.
- Make sure that any outstanding faults have been recorded and have received attention.

### 7.1.3 Quarterly Actions

The service/maintenance contractor should:

- Make sure that all entries in the logbook have been addressed, check the event log in the panel and carry out any necessary remedial action.
- Visually inspect the panel for any moisture ingress or other deterioration, make sure that all battery connections are secure and test/check the alarm, fault and other functions of the panel.
- Check if any building or structural alterations have been carried out that might affect the placement/location of call points or detectors. If so, do a visual inspection.
- Record any defects or remedial actions that must be undertaken in the logbook and arrange for these to be carried out as soon as possible.

### 7.1.4 Annual Actions

The service/maintenance contractor should perform the following checks and actions:

- Do all the checks detailed in the daily, monthly and quarterly actions.
- Do a full “Walk Test” of the system to check that each call point and detector is operating to the manufacturers’ specification.
- Visually inspect all cable fittings. Check that the equipment is undamaged and that the conditions of installation have not changed such that they fall outside of the equipment specifications.
- Inspect and test all batteries and replace as required – refer to Section 7.2.1 for recommended replacement schedule.
- Record any defects or remedial actions that must be undertaken in the logbook and arrange for these to be carried out as soon as possible.

## 7.2 Replacement of Components

In general, all parts used in the construction of the panel have been selected for long life and reliability.

However, certain components may require to be changed on a regular service basis.

### 7.2.1 Batteries

For battery installation, see Section 4.5.2.

**Respect the Environment.**

**Batteries must be disposed of responsibly and in accordance with any local regulations.**

#### 7.2.1.1 Standby Batteries

| | |
|---|---|
| Expected Life: | 3-5 years at an ambient temperature of 20°C. |
| Replacement Schedule: | 3-5 years at an ambient temperature of 20°C.<br>However, the expected battery life is shortened by increase in ambient temperature. The life reduces by 50% for every 10°C rise above ambient. Refer to the manufacturer's data sheet for further information. |

Manufacturer/Part Numbers:

| | | | | |
|---|---|---|---|---|
| YUASA | 4 Ah - | NP4-12 | 7 Ah - | NP7-12 |
| POWERSONIC | 5 Ah - | PS-1250 | 7 Ah - | PS-1270 |

For optimum performance and charge retention, Yuasa recommend that batteries are 'top-charged' prior to installation.

For batteries up to 6 months old from date of manufacture, charge at 2.4V per cell (i.e., 14.4V per battery) for 20 hours prior to installing the batteries.

It is normal for lead-acid batteries to vent hydrogen when they are charged.


**WARNING:**

**THE PANEL IS VENTILATED TO DISSIPATE ANY HYDROGEN THAT FORMS WHEN THE BATTERIES ARE CHARGED. DO NOT SEAL THE ENCLOSURE OR INSTALL IN A SEALED ENCLOSURE OR CAVITY. FAILURE TO COMPLY CAN CAUSE EXPLOSIONS.**

**CAUTION:**

**It is not recommended to use batteries that are more than 6 months old in a new installation.**

### 7.2.2 Spares

| Nomenclature | Part Number |
|---|---|
| PBUS Adapter Card | GOP-001 |
| Access Enable Key Switch Assembly (incl. label) | GOP-002 |
| Chassis Assembly (incl. Base Card and Fascia) | GOS-001 |
| Back-box | GOM-001 |
| Panel Door | M-002 |

Refer to the Hyfire Wireless Fire Solutions Ltd online support portal for more information.

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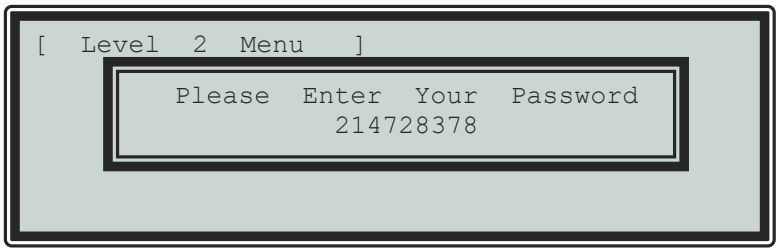
# 8 Appendices

## 8.1 Appendix 1 – Forgotten Level 3 Password

Should you forget your Level-3 password, contact Customer Support to obtain a temporary permit number to regain access to the panel programming functions.

Customer Support will require a decryption key displayed by the panel. To obtain this number, attempt to gain access to the Level-3 Programming Functions entering “1” when prompted for the password. As soon as the “Password Invalid” message is shown, press the “0” button and the display will show a decryption key. Make a note of this number.

For example:




Customer Support will provide a temporary permit number that you can enter when prompted for the Level-3 password in the Level 2 TOOLS menu . Once access has been gained to the Level-3 Programming Functions, select the Passwords Menu Option and check/change the Level-3 password. (Refer to Section 5.3.11 for further information).

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## 8.2 Appendix 2 – Recommended Fire Rated Cables

The following table provides a list of suitable fire rated cables with standard (30 minute) and enhanced (120 minute) classification.

| Manufacturer | Cable Type | Core Size (mm) | | | 5839-1 Rated | | Net |
|---|---|---|---|---|---|---|---|
| | | 1.0 | 1.5 | 2.5 | Std | Enh | |
| AEI | Firetec Multicore Standard. FS2C | - | ✓ | ✓ | ✓ | | ✓[11] |
| | Firetec Multicore Enhanced Ref. FE2C | - | ✓ | ✓ | | ✓ | ✓[11] |
| | Firetec Armoured Ref. F2C | - | ✓ | ✓ | | | ✓[11] |
| Calflex | Calflam CWZ (2.5mm$^2$) | - | - | ✓ | | | |
| Cavicel SpA | Firecel SR/114H [12] | ✓ | ✓ | ✓ | ✓ | | ✓[12] |
| | Firecel SR/114E [12] | ✓ | ✓ | ✓ | | ✓ | ✓[12] |
| Dätwyler | Pyrofil Standard Fire Safety Cable | ✓ | ✓ | ✓ | ✓ | | ✓[12] |
| | Pyrofil Enhanced Fire Safety Cable | - | ✓ | ✓ | | ✓ | ✓[12] |
| Draka | Firetuf (OHLS) FTZ | ✓ | ✓ | | ✓ | | ✓ |
| | Firetuf PLUS | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | Firetuf Power (Armoured) | - | ✓ | ✓ | | | |
| | Firetuf Data 1-Pair 0.63mm | - | - | - | | | ✓ |
| Huber & Suhner | Radox FRBS/M1x2 | - | ✓ | ✓ | | | ✓ |
| Irish Driver-Harris Co Ltd | Kilflam 2000 | ✓ | ✓ | ✓ | ✓ | | |
| | Kilflam 3000 | ✓ | ✓ | ✓ | | ✓ | |
| Prysmian (Pirelli) | FP200 Flex (1.0mm$^2$) | ✓ | - | - | | | ✓ |
| | FP200 Gold (1.0mm$^2$) | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | FP PLUS | | ✓ | ✓ | | ✓ | ✓[12] |
| | FP400 (Steel wire armoured) | - | ✓ | ✓ | | | |
| Tratos Cavi SpA | FIRE-safe TW950 | ✓ | ✓ | ✓ | ✓ | | |

[11] 1.5mm$^2$ only.

[12] Also available in steel wire armoured (SWA) and steel wire braid (SWB) formats. 1.0mm$^2$ preferred for network.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Tyco Thermal Controls | Mineral Insulated Twin Twisted PYRO-E CCM2T | ✓ | ✓ | ✓ | | | ✓ |
| | Pyrotenax Served Mineral Insulated Cable (light and heavy duty) | ✓ | ✓ | ✓ | | ✓ | |
| | Pyro-S | ✓ | ✓ | ✓ | ✓ | | |
| Wrexham | Mineral Insulated Cable (light and heavy duty) | ✓ | ✓ | ✓ | | ✓ | |

For further information on recommended cable types, refer to the cable manufacturers data sheets.

### 8.2.1 Detector Loop Lengths –Argus

With the above cables, loops can be up to 2Km in length. However, care must be taken when designing the system to consider the maximum loop loading. The voltage drop (load current x cable resistance) over the cable always needs to be considered to ensure the devices receive an adequate supply voltage. The following table gives recommendations for a loop. (It may be possible to extend the lengths where the devices are distributed evenly – refer to the device data sheets and Loop Calculators for further information on calculating loop loading, cable cross sectional area and loop distance).

| | |
|---|---|
| Maximum Circuit Impedance | 72Ω |
| Maximum Capacitance (Core-Core) | 230nF |
| Maximum Capacitance (Core-Screen) | 410nF |
| Insulation Resistance (Core-Core and Core-Screen) | >2M Ω |

| Circuit Loading | Max. Circuit Impedance | Loop Cable Distance (M) | | |
|---|---|---|---|---|
| | | 1.0mm$^2$ | 1.5mm$^2$ | 2.5mm$^2$ |
| 100mA | 55.0Ω | 1500 | 2000 | 2000 |
| 200mA | 27.5Ω | 760 | 1130 | 1860 |
| 300mA | 18.3Ω | 500 | 750 | 1200 |
| 400mA | 13.7Ω | 380 | 560 | 920 |
| 500mA | 11.0Ω | 300 | 450 | 740 |

*Note:* *Maximum Circuit Impedance is the sum of the resistance of both cable conductors.*

### 8.2.2 Sounder Circuit Lengths

The voltage drop on each alarm circuit must be calculated to make sure that the minimum voltage at the end of the circuit exceeds the minimum required by each sounding device at the minimum alarm circuit output voltage.

The voltage at the end of the circuit is given by:

Minimum Alarm Voltage = $V_{OUT(MIN)} – (I_{ALARM} \times R_{CABLE})$.

Minimum Output Voltage ($V_{OUT(MIN)}$) is $V_{BAT(MIN)}$ – 0.5V = 20.5V.

Alarm Current ($I_{ALARM}$) is the sum of the loads presented by the sounding devices in alarm.

Cable Resistance (RCABLE) is the sum of the cable resistance in both cores x cable length.

Cable Resistance ($R_{CABLE}$) for 1.0mm$^2$ is 0.036Ω/metre

Cable Resistance ($R_{CABLE}$) for 1.5mm$^2$ is 0.024Ω/metre

Cable Resistance ($R_{CABLE}$) for 2.5mm$^2$ is 0.015Ω/metre

*From Loop Length table in 8.2.1:*

| | |
|---|---|
| Insulation Resistance (Core-Core and Core-Screen) | >2M Ω |

### 8.2.3 Fire/Fault Routing Circuit Lengths

The voltage drop on each transmission circuit must be calculated to make sure that the minimum voltage at the end of the circuit exceeds the minimum required by the relay coil at the minimum circuit output voltage. Typically, relays will energise at 75% of their nominal drive voltage (i.e., 18V for a 24V coil)

The voltage at the end of the circuit is given by:

Minimum Coil Voltage = $V_{OUT(MIN)} – (I_{ON} \times R_{CABLE})$

Minimum Output Voltage ($V_{OUT(MIN)}$) is $V_{AUX(MIN)} – 0.8V = 19.7V$

Maximum On Current ($I_{ON}$) is 35mA.

Cable Resistance ($R_{CABLE}$) is as above.

*From Loop Length table in 8.2.1:*

| | |
|---|---|
| Insulation Resistance (Core-Core and Core-Screen) | >2M Ω |

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## 8.3 Appendix 3 – Battery Standby Calculation Chart

Use the following charts and associated notes to calculate the size of the batteries required to ensure operation of the installation in the event of AC Mains power failure.

| Equipment | Quiescent Load | | | Fire Alarm Load | | |
|---|---|---|---|---|---|---|
| | I (A) | x | Total | I (A) | x | Total |
| Chassis and loop driver | 0.082 | 1.0 | = 0.082 | 0.128 | 1.0 | = 0.128 |
| Sensor/Loop Current[13] | | 1.25[14] | = | | 1.25 | = |
| Mxp-532 Routing Interface | 0.007 | 1.0 | = | 0.007[15] | 1.0 | = |
| Auxiliary Supply Output[16] | | 1.0 | = | | 1.0 | = |
| Sounder Output A[17] | | | | | 1.0 | = |
| Sounder Output B[17] | | | | | 1.0 | = |
| Total | **Σ Quiescent Load** | | = | **Σ Alarm Load** | | = |
| | **x 24 Hr =** | | AHr | | | |
| | **x 48 Hr =** | | AHr | | | |
| | **x 72 Hr =** | | AHr | x 2[18] x 0.5 Hr = | | AHr |
| | | | - (carry forward) + | | | AHr |
| | | | **Total Load (Quiescent + Alarm) =** | | | AHr |
| | | | **X 1.25[16] (Battery De-rating Factor) =** | | | AHr |

*Note*

*The maximum battery size supported by the Hy-Go Panel is 7 AHr.*

[13] Use the detector manufacturers technical information to calculate the load on the loop for both the quiescent and the fire alarm conditions for all loop devices. By default, a maximum of 5 detector/call point LED indicators will be illuminated in a fire alarm condition. (This number can be changed using the PC Programming Tool).

[14] The calculated loop loading must be multiplied by a factor of 1.25 to calculate the actual current drawn from the batteries. This allows for voltage conversion and conversion efficiency in generating the supply for the loop.

[15] Worst case – All LEDS are ON. All relays/Outputs are ON.

[16] Refer to separate data sheets for the additional modules that may be powered from the panel AUX Output to determine the AUX loading currents. Ensure that the total alarm load does not exceed the AUX output rating.

[17] The load of both sounder outputs added together must not exceed 1A.

[18] The alarm load should be doubled to allow for changes in battery efficiency for loads more than the recommended C/20 discharge rate. The total load calculated should be multiplied by a de-rating factor of 1.25 to allow for changes in battery efficiency over time. The above calculation is in accordance with the recommendations in BS5839-1: 2002.

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## 8.4 Appendix 4 – Cause and Effect Programming Example

### 8.4.1 Introduction

By default, all sounders and output devices will turn on immediately as soon as a fire is detected anywhere in the system. For example:

| Cause | | Effect | |
|---|---|---|---|
| Any Fire, Anywhere. | ➔ | ALL Output Devices will… | Turn ON |

Often, an installation will require a more complex “Cause and Effect” solution. Consider a multiple story building where phased evacuation is required if a fire occurs on a specific floor. For example:

| Cause | | Effect | |
|---|---|---|---|
| Any Fire on Floor 7 | ➔ | Sounders on Floor 6 will… | DELAY for 30 seconds, then start PULSING.<br>After 2 minutes turn ON. |
| (From Zones 22, 23 or 24) | ➔ | Sounders on Floor 7 will… | Turn ON. |
| | ➔ | Sounders on Floor 8 will… | DELAY for 30 seconds, then start PULSING.<br>After 2 minutes turn ON. |

### 8.4.2 Output Groups

There may be several sounders on each floor. These can be grouped together using the Output Groups so that a single group number can easily reference all sounders on one floor in the panel. For example:

| Sounders | | Output Group |
|---|---|---|
| Assign All Sounders of Floor 6 | ➔ | Output Group 6 |
| Assign All Sounders of Floor 7 | ➔ | Output Group 7 |
| Assign All Sounders of Floor 8 | ➔ | Output Group 8 |

See Section 5.3.1.9 for how to assign the output group to a loop output device. See Section 3.3.18.1 for how to assign the output group to an internal panel circuit.

### 8.4.3 Styles

In the example, there are two ways in which the sounders should ring. These two operational characteristics can be defined as Styles in the panel:

- The first Style is that the sounders should turn on immediately a fire is recognised in Zone 22 or in Zone 23 or in Zone 24. The panel contains a default Style (Style 00) for this method of operation.
- The second Style is that the sounders should stay silent for 30 seconds and then start pulsing. After 2 minutes of pulsing, they should then turn on. This is a little more complex but is easy to program. In the following description, a new Style (Style 2) will be defined for this purpose.

It is quite likely that Style 2 will be used extensively in the cause and effect programming for the rest of the building. For example, a fire on Floor 8 may also require the sounders on Floors 7 and 9 to operate in this manner.

### 8.4.4 Output Group Programming

To achieve the above cause and effect requirements, the three different Output Groups would be programmed and indicated on the panel as in the following display examples:

Output Group 6 – Sounders on Floor 6:

```
[ Output Group 6 ]  [ 3.9% Mem used ] More >
ZONE  CAUSE    STYLE = Delay -> MODE   Wait
 22   ANY FIRE   02    30s     Pulse   120s
 23   ANY FIRE   02    30s     Pulse   120s
 24   ANY FIRE   02    30s     Pulse   120s
```

```
 [ STYLE 02 ]
MODE  Wait  MODE
 On
 On
 On
```

Output Group 7 – Sounders on Floor 7:

```
[ Output Group 7 ]  [ 3.9% Mem used ] More >
ZONE  CAUSE    STYLE = Delay -> MODE   Wait
 22   ANY FIRE  00      -     On
 23   ANY FIRE  00      -     On
 24   ANY FIRE  00      -     On
```

```
 [ STYLE 00 ]
MODE  Wait  MODE
```

Output Group 8 – Sounders on Floor 8:

```
[ Output Group 8 ]  [ 3.9% Mem used ] More >
ZONE  CAUSE    STYLE = Delay -> MODE   Wait
 22   ANY FIRE   02    30s     Pulse   120s
 23   ANY FIRE   02    30s     Pulse   120s
 24   ANY FIRE   02    30s     Pulse   120s
```

```
 [ STYLE 02 ]
MODE  Wait  MODE
 On
 On
 On
```

## 8.5 Appendix 5 – Other Useful Documents

The following reference and application documents may be useful in the design, configuration and installation of the system.

The latest versions of these and new/additional application notes are available from the Hyfire Wireless Fire Solutions Ltd web site (www.hyfirewireless.com) or in hard copy format from Sales.

| Document Number | Title | Type | Description |
|---|---|---|---|
| HY-683-GoSeries-1 | Hy-Go Panel Install Sheet | Installation Guide | Basic instructions on installation and wiring of the CIE. |

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## 8.6 Appendix 6 – Hy-Go Product Capabilities/Max Limits

This section gives details on the maximum capabilities for each of the products in the range. Some of the items can only be utilised via the PC CONFIG tool and these are annotated accordingly.

| Item | Hy-Go | Comments |
|---|---|---|
| Max number of loops | 1 | |
| Max number of resident zones | 50 | |
| Highest resident zone number | 50 | |
| Max number of system zones | 50 | |
| Max number of loop points | 255 | |
| Number of onboard points | * | Dependent on optional cards installed. |
| Number of onboard sounders | 2 | |
| Number of switch inputs | 2 | |
| Max number of time clocks | 5 | |
| Max number of ringing styles | 40 | |
| Max number of output groups | 126 | |
| Max number of output group lines | 250 | Needs PC CONFIG to define more than one line per output group. |
| Max number of passwords | 3 | |
| Max number of input events | 100 | PC CONFIG Only. |
| Max number of logic blocks | 50 | PC CONFIG Only. |
| Max number of logic terms[19] | 100 | PC CONFIG Only. |

[19] Max number of logic terms available to the user is dependent upon the number of logic blocks defined. Each logic block requires a terminator. The terminator uses up one of the available logic terms. Therefore, the number of logic terms available for use will be the max number of logic terms – the number of logic blocks used – for example, using 20 logic blocks will give 100 - 20 = 80 logic terms available to use.

| | |
|---|---|
| Doc Number: | HY-680-233 |
| Revision: | 0C |