ADVANCED ELECTRONICS LTD

Technical Data Sheet

Installation Manual
Mx-4800
Fire Alarm Control Panel

	Mx-4800
Enclosure	Steel IP 30
Dimensions H x W x D mm	950 x 450 x 188
Weight	23Kg
Temperature	0°to 45°C
Cable Entries (20mm knockouts)	36 x top, 9 x top rear and 2 x bottom
Mains Supply	220 –240V, 47 –63 Hz AC, 0.7A
Battery Capacity (For 24Hr. standby)	24V 4Ah Internal (minimum) 24V 38Ah Internal (maximum)
Charging Current	2x 2.2A Temperature Compensated
Power Supply	2x Separate 24V DC, 5A Universal Input Switched Mode
Number of Fire Zones	200 (1000 when networked)
Number of Loops	2 to 8
Devices per Loop	As per Detector Manufacturer's Specifications
Loop Current	500mA max. per Loop
Protocols	Apollo: S90, XP95, Discovery, Explorer & Hochiki ESP
Sounder Outputs	8 x 1A Programmable
Relay Outputs	4 x 1A 30V AC/DC (max) 10mA. 5V (min) Programmable
Open Collector Outputs	4 x Programmable 10mA 30V DC (max)
Digital Outputs	12 x Programmable
Auxiliary Supply Output	2x 24V DC, 300mA See notes
Event Log	1000 Event & Diagnostic + 500 Fire

Notes

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

Standards:

The *Mx-4800* Fire Alarm Control Panel conforms to the following standards:

BS EN54-2: 1998 Control and Indicating Equipment

BS EN54-4: 1998 Power Supply Equipment

BS EN60950: 2000 Safety of information technology equipment

BS EN50130-4: 1996 Product Family Standard

Electromagnetic Compatibility Directive 89/336/EEC (and the amending directive 92/23/EEC)

Low Voltage Directive 73/23/EEC

Contents

Cautions and Warnings

BEFORE INSTALLATION – Refer To the Ratings shown on the label inside the product and to the 'Specifications Chart' in this document.

Please read this manual carefully. If you are unclear on any point, DO NOT proceed. Contact the manufacturer or supplier for clarification and guidance.

Only Trained service personnel should undertake the Installation, Programming and Maintenance of this equipment.

This product has been designed to comply with the requirements of the Low Voltage Safety and the EMC Directives. Failure to follow the installation instructions may compromise its adherence to these standards.

This equipment is constructed with static sensitive components. Observe anti-static precautions at all times when handling printed circuit boards. Wear an anti-static earth strap connected to panel enclosure earth point. Before installing or removing any printed circuit boards remove all sources of power (mains and battery).

1 Introduction

This manual covers the installation, programming and commissioning of the *Mx-4800* Fire Alarm Control Panel. Refer to the User Manual (Document No. 680-015) and to the Installation / Commissioning Manual (Document No. 680-014) for details of how to operate the panel and for general installation / commissioning instructions for the Mx-4x00 range of panels.

> The *Mx-4800* Large Enclosure Panel is a Multiple Loop, Analogue Addressable Fire Alarm Control Panel with provision for up to eight loops.

The panel is designed for use with the Apollo Discovery, Explorer, XP95 and Series 90 and Hochiki ESP fire detection devices.

Install the panel, detection loops, sounder circuits, etc. in accordance with the instructions in Section 2 of this manual and in Section 2 of Manual 680-014. Then program the operation in accordance with the instructions detailed in Section 3 of Manual 680-014.

1.1 Installation Approvals

1.1.1 Fire System Installations

The panel must be installed and configured for operation in accordance with these instructions and the applicable fire systems installation regulations appropriate to the country and location of the installation.

1.1.2 Wiring Regulations

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

In the UK, the installation must comply with the requirements of the IEE Wiring Regulations – Sixteenth Edition or later.

2 Installation

The should be installed in the following sequence:

1) Prepare knockouts for cabling and install the enclosure on the wall
2) Install the installation wiring
3) Install the batteries
4) Program and commission the panel

2.1 Identification of Parts

The following picture shows the major parts of the panel.

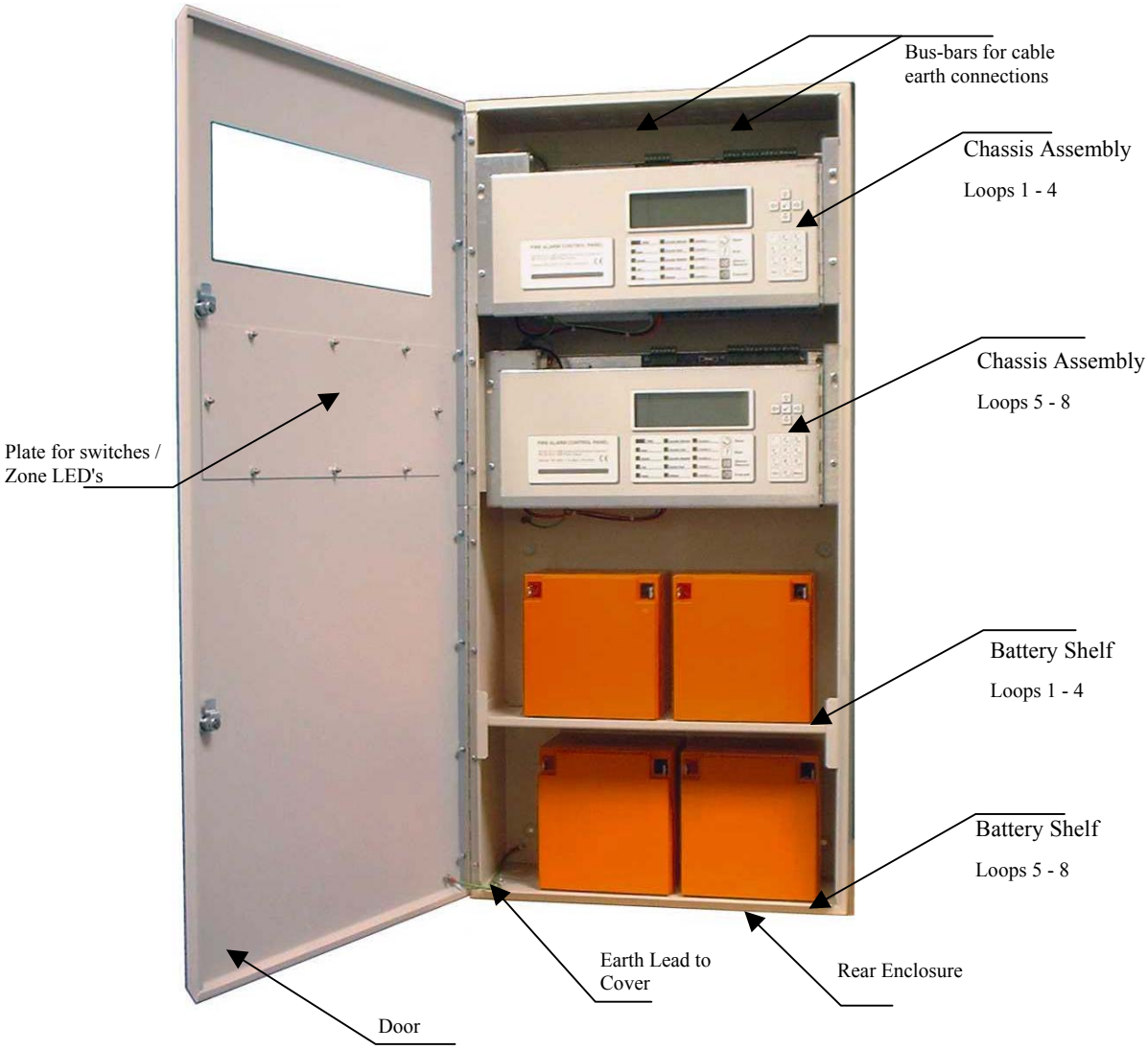

Figure 1 - Internal Arrangement

2.2 *Installing the Mx-4800 Enclosure*

The panel can weigh in excess of 80kg when the batteries are installed. Use appropriate fixing hardware to secure the panel to the wall. Observe recommended lifting practices to guard against spinal injury.

2.2.1 Opening the Enclosure Cover

The Mx4800 is provided with two key-lock assemblies for securing the hinged door to the backbox. Insert and turn the key to open the enclosure.

2.2.2 Removing the Chassis Assemblies

Follow the procedures / instructions in Manual 680-014.

2.2.3 Mounting the Enclosure

Firstly, remove the required knockouts for the installation wiring. There are sufficient knockouts on the top of the enclosure for all installation wiring. In addition, there are knockouts at the top of the back wall, if required, for rear entry cabling.

The diagram opposite shows the positions of the six holes. Use all six positions to ensure the panel is held securely to the wall.

Drill the required holes in the supporting wall using a drill bit diameter 10.0 mm and plug with a suitable 50mm (minimum) long metal expansion plug. Affix the panel to the wall with M6 screws (length 50mm minimum).

Ensure that there is sufficient space to allow the door to be opened when the panel is mounted. In addition, there should be sufficient space below the panel to allow access to the RS232 connected, if fitted.

Finally, use a brush to remove any dust or swarf from inside the enclosure.

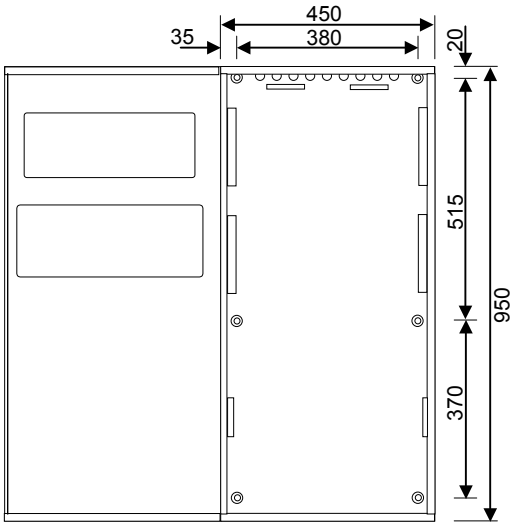

Figure 2 - Enclosure Size and Fixing Point Dimensions

2.2.4 Remounting the Chassis Assemblies

Follow the procedures / instructions in Manual 680-014.

2.3 Installation Wiring

For further information on Recommended Cables and how to install the AC Mains, loop, sounder, relay and AUX outputs circuits refer to the relevant sections in Manual 680-014.

2.3.1 Recommended Cable Routing Arrangement

It is recommended that the routing arrangement shown in the diagram opposite be employed.

Segregate the low voltage wiring (Loop Circuit, Sounder Circuits, RS485 and AUX Supply) from the AC Mains Wiring.

Segregate any wiring connected to the relay contacts.

Eyelets are provided in the rear of the backbox to enable the cables to be securely fastened using tie-wraps.

Sounders and AUX wiring should be routed behind the chassis assembly and tie-wrapped to the backbox.

Cable screens / shields should be connected to the backbox using the bus-bars provided near the knockout holes.

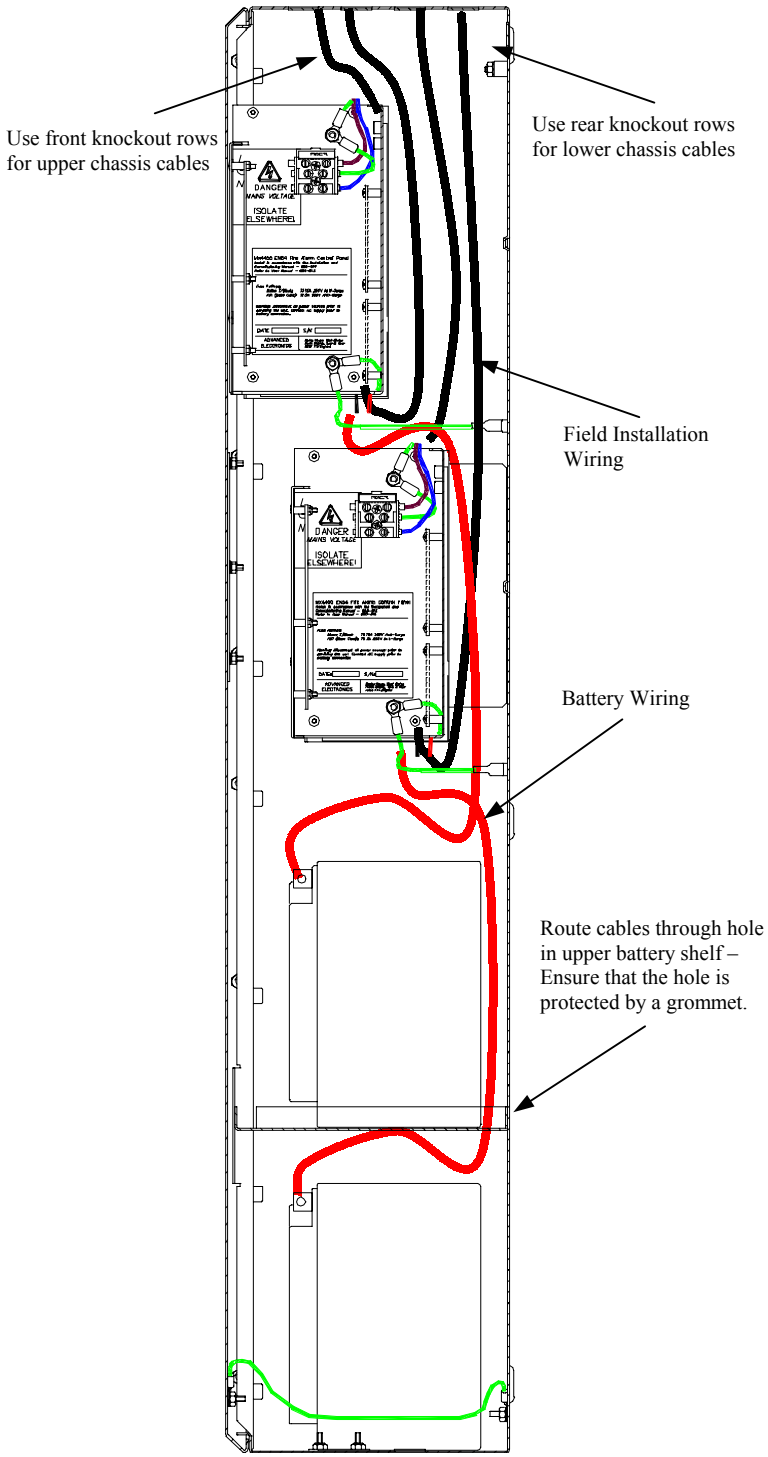

Figure 3 - Internal arrangement showing recommended routing of cables.

2.4 Battery Installation

The panel contains two shelves on which to place the batteries. Refer to Figure 1 and Figure 3 for their location.

Ensure that the battery cables for the lower shelf are routed through the hole in the upper battery shelf and that a suitable grommet (minimum flame retardent rating of 94HB) is used to protect the cable from damage.

Refer to the Specifications chart for minimum and maximum battery sizes permitted. Refer to Manual 680-014 for further information on battery wiring and Battery Standby Calculations.

2.5 Programming and Commissioning

The Mx-4800 programming is identical to the other panels in the Mx-4000 range. Refer to Manual 680-014 for further information.