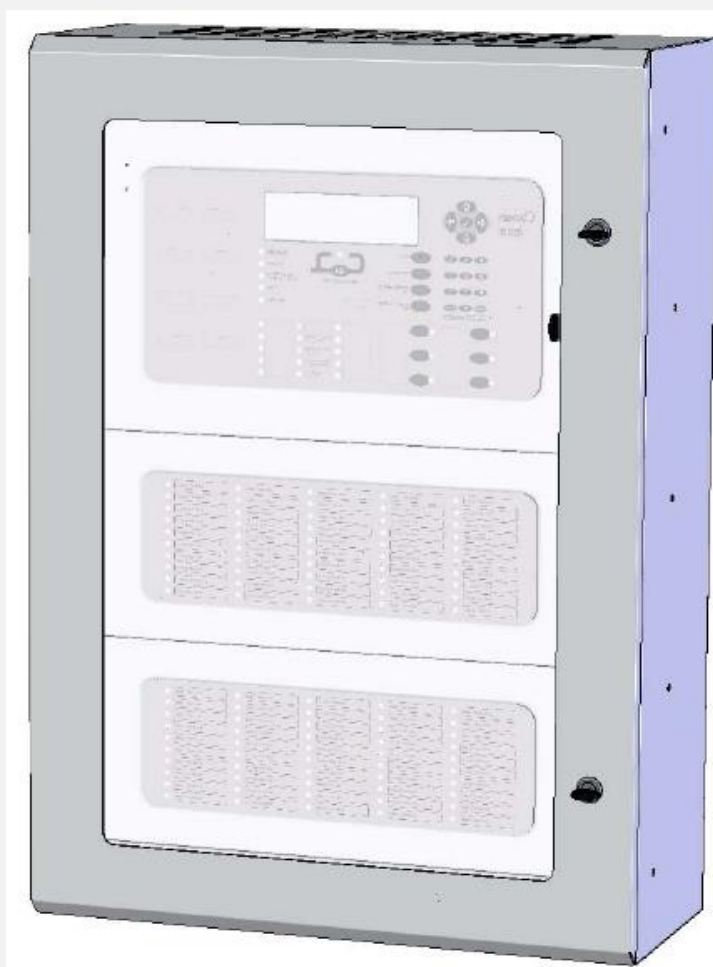


5000 Series Rack Panels



The operation and functions described in this manual are available from Software Version Mx5000-050-04 onwards.

Specifications & Ordering:

Models, Sales Order Parts:

Mx-5101xR	Panel 1-LP Module 6U
Mx-5201xR – Mx-5202xR	Panel 2-LP Module 6U
Mx-5401xR – Mx-5404xR	Panel 4-LP Module 6U
* Add suffix (x): N for Nittan and V for Argus Vega	
Mxp-514	AC Filter Card Kit
Mxm-510-16U	Enclosure IP55 16U
Mxm-510-20U	Enclosure IP55 20U
Mxm-510-KL	Optional CAM Key-Lock kit for outer door
Mxm-510-BS	Enclosure Battery Shelf (7Ah/18Ah)
Mxm-510-BS1	Enclosure Battery Shelf Lower (25Ah)
Mxm-510-CP	Enclosure Chassis Plate
Mxm-511-XX	Enclosure – Blanking Plates – XX = 1U, 2U, 4U, 6U
Mxm-512	Enclosure – LED Mounting Plate 4U
Mxm-513-BB	Enclosure – Utility Module 6U – Back Box
Mxm-513-D1	Enclosure – Utility Module 6U – Blank Door
Mxm-513-D2	Enclosure – Utility Module 6U – Door with LED Aperture
Mxm-513-D3	Enclosure – Utility Module 6U – Door with Aperture
Mxm-513-FP	Enclosure – Utility Module 6U – Fascia Plate Blank
Mxm-513-MF	Enclosure – Utility Module 6U – Switch / LED Mounting Frame
Mxm-513-BP	Enclosure – Utility Module 6U – Switch / LED Blanking Plate
Mxm-514-BB	Enclosure – Utility Module 8U – Back Box
Mxm-514-D1	Enclosure – Utility Module 8U – Door with Aperture
Mxm-514-FP	Enclosure – Utility Module 8U – Fascia Plate Blank
Mxm-515-6U	Enclosure – Utility Chassis Plate 6U
Mxm-515-8U	Enclosure – Utility Chassis Plate 8U
Mxm-534	Loop Card Vibration Support Plate

Applications / Limitations:

Enclosure solutions requiring rack mounting arrangement and increased IP rating.
 With the MXM-510-KL fitted the IP rating of the enclosure is IP44.
 Fit the MXM-534 when the panel module is mounted in large floor mounting rack enclosures.

Compatibility:

5000 Series panels, power supplies, peripheral bus modules and network peripherals.

Table of Contents		Page
1	INTRODUCTION.....	4
1.1	STANDARDS.....	4
1.2	CAUTIONS AND WARNINGS.....	5
1.3	DESCRIPTION.....	5
1.3.1	5000R Series.....	5
1.3.2	5000VR Series.....	5
1.4	EN54 FUNCTIONS.....	5
1.5	INSTALLATION APPROVALS.....	6
1.5.1	Fire System Installations.....	6
1.5.2	Wiring Regulations.....	6
2	INSTALLATION.....	7
2.1	IDENTIFICATION OF PARTS.....	7
2.2	MECHANICAL SPECIFICATIONS.....	8
2.2.1	Enclosure – 16U.....	8
2.2.2	Enclosure – Other Sizes.....	9
2.2.3	Enclosure – Commercial.....	9
2.2.4	Battery Gas Venting.....	9
2.2.5	Battery Shelf / Chassis Plate / DIN Rail.....	9
2.2.5.1	MXM-510-BS:.....	9
2.2.5.2	MXM-510-BS1:.....	9
2.2.5.3	MXM-510-CP:.....	10
2.2.5.4	DIN-RAIL:.....	10
2.3	MODULES.....	11
2.3.1	Panel Module.....	11
2.3.1.1	Wiring.....	12
2.3.2	LED Modules.....	14
2.3.3	Utility Module – 6U.....	15
2.3.3.1	Chassis.....	15
2.3.3.2	Door Options.....	17
2.3.4	Utility Module – 8U.....	19
2.3.4.1	Chassis – 6U.....	19
2.3.4.2	Chassis – 8U.....	20
2.3.4.3	Mimic Door.....	21
2.3.5	AC Filter Card.....	22

1 Introduction

1.1 Standards

Advanced Electronics Ltd declares that the products identified below conform to the essential requirements specified in the Construction Products Directive 89/106/EEC:

	<p>0786-CPD-20952</p>
<p>EN54-2: 1997 +A1:2006 Control and indicating equipment for fire detection and fire alarm systems for buildings</p> <p>Provided options:</p> <ul style="list-style-type: none"> - 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 - Standardised Input / Output 	
<p>EN54-4: 1997 +A1:2002 +A2:2006 Power supply equipment for fire detection and fire alarm systems for buildings</p>	
<p>Mx-5100R, Mx-5200R, Mx-5400R Mx-5100VR, Mx-5200VR, Mx-5400VR</p>	

In addition, the products comply with the following:

Low Voltage Directive 2006/95/EC

BS EN60950-1: 2006 Safety of information technology equipment

Electromagnetic Compatibility Directive 2004/108/EC

BS EN55022: 1998 Emissions, Class B

BS EN50130-4: 1996 +A2: 2003 Immunity, Product Family Standard

1.2 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).

1.3 Description

The 5000R Series is a modular assembly rack mount version of the 5000 Series of Fire Alarm Control panels. The panels and peripheral devices are housed in dedicated module assemblies designed to be installed into standard 19” rack mount enclosures.

Enclosures are provided in different sizes to IP55 rating (IP30 with outer glass door open). In addition, the module assemblies can be mounted into commercial rack mount enclosures.

This manual covers the installation of the rack mount *5000R*, *5000VR Series* Fire Alarm Control Panel assemblies and enclosures only. For all other information:

Refer to Product Manual (Document No. 680-165) for all other information on installation and programming of the panel.

Refer to the User Manual (Document No. 680-166) for details of how to operate the panel.

Refer to the appropriate protocol application note for further and specific information for each protocol.

Refer to individual power supply module, peripheral bus module or network peripheral module documentation for detailed information on these items.

1.3.1 5000R Series

The *5100R* is a Single Loop, Analogue Addressable Fire Alarm Control Panel.

The *5200R* is a Two Loop, Analogue Addressable Fire Alarm Control Panel.

The *5400R* is a Multiple Loop, Analogue Addressable Fire Alarm Control Panel with provision for up to four loops.

All above models are designed for use with the Apollo (Discovery, Explorer, XP95 and Series 90) and Hochiki (ESP).

1.3.2 5000VR Series

The *5100VR* is a Single Loop, Analogue Addressable Fire Alarm Control Panel.

The *5200VR* is a Two Loop, Analogue Addressable Fire Alarm Control Panel.

The *5400VR* is a Multiple Loop, Analogue Addressable Fire Alarm Control Panel with provision for up to four loops.

All above models are designed for use with the Advanced (AV) fire detection devices.

1.4 EN54 Functions

The EN54 functions and options with requirements are identical to standard 5000 Series Panels. Refer to the Product Manual (Document No. 680-165) for information.

1.5 Installation Approvals

1.5.1 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: 2002) appropriate to the country and location of the installation.

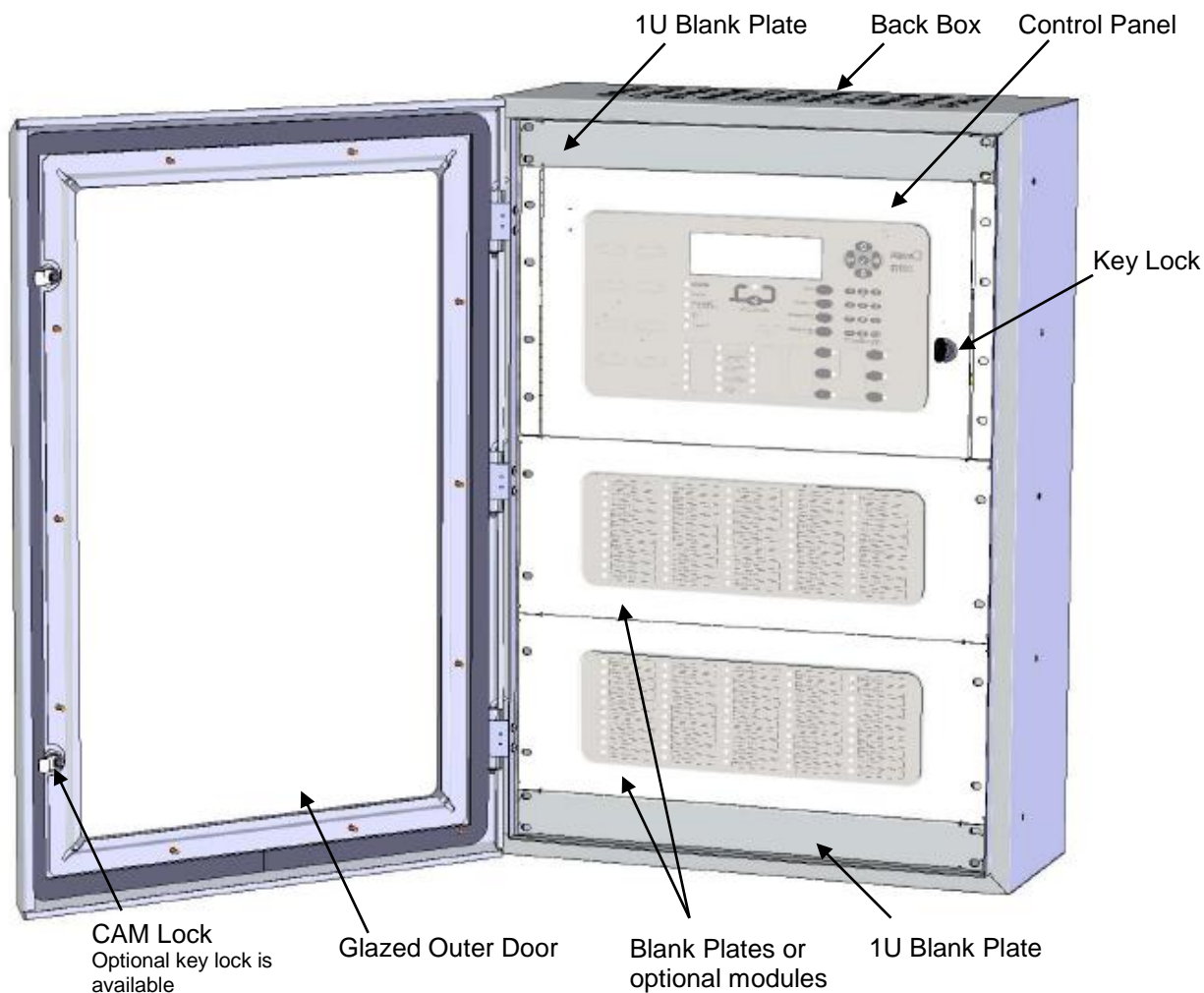
1.5.2 Wiring Regulations

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.

2 Installation

2.1 Identification of Parts

The following diagram shows the major parts of the panels for the 16U enclosure.



Alternative enclosure sizes follow the same general arrangement.

The standard enclosures offer ingress protection to category IP55 with the outer door closed. Internal ingress protection (with the door open) is to category IP30.

For full details of each individual model refer the separate sections in this manual.

Visual indicators can be seen through the glass panel. The outer door is not locked to provide access to Level 1 and Level 2 controls.

An optional key-lock is available for critical installations¹.

¹ This means, however, that the panel will not fulfil all of the requirements of EN54-2 at Level 1 – in this case, the connection of a remote terminal (5030) will fulfil all indication and control requirements.

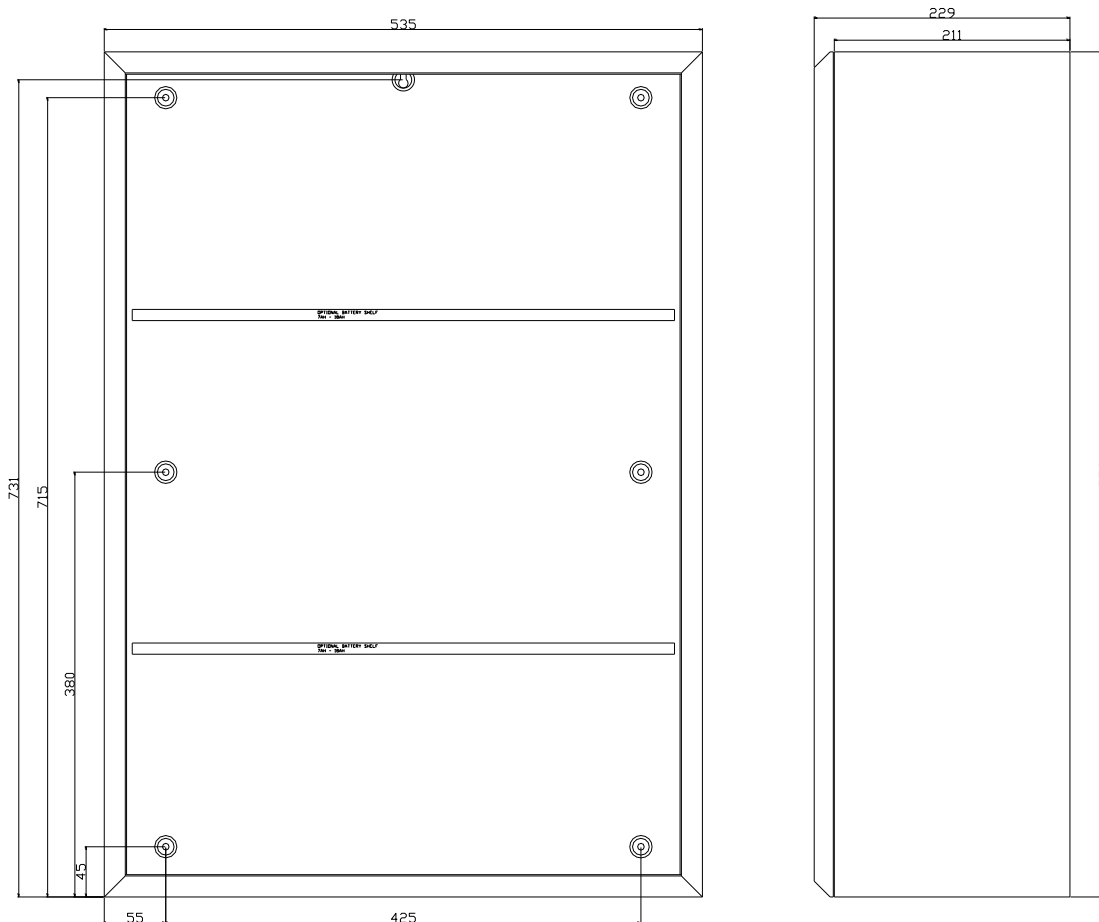
2.2 Mechanical Specifications

Item	Specification Details	
	MXM-510-16U	MXM-510-20U
Dimensions (H x W x D)	730 x 535 x 230	910 x 535 x 230
Weight	22 Kg	25 Kg
IP Rating (Door Closed)	IP55	IP55
IP Rating (Door Open)	IP30	IP30

2.2.1 Enclosure – 16U

The diagram below shows the overall dimensions and fixing points for the 16U enclosure.

Optional battery shelves can be fitted in the back box at the positions indicated for batteries (7Ah or 18Ah). Alternatively, batteries can be mounted in the bottom of the enclosure. Larger batteries (up to 45Ah) must be mounted in the bottom of the enclosure and can be fitted behind Zone LED modules or blanking plates.



Mount the enclosure on the wall using fixing hardware suitable for the size and weight of the complete enclosure. ²

The fixing holes are fitted with plugs. To maintain the IP rating, only remove the required plugs and then fit the supplied sealing washers to the fixing screws.

Knockouts are provided in the top (44), rear (20) and bottom (44) of the enclosure. To maintain the IP rating, only remove sufficient knockouts for the required cabling and use 20mm cable glands with IP55 rating or better. If a knockout is removed in error and unused, fit a 20mm sealing plug.

² Depending on the optional modules fitted, the weight of the complete panel (not including the weight of batteries) can be > 40kg. Including 45Ah batteries, the weight can be > 70kg.

2.2.2 Enclosure – Other Sizes

Other wall mount enclosure sizes are available in height increments of 4U (178mm). Fixings point positions are adjusted accordingly.

2.2.3 Enclosure – Commercial

All of the modules may be housed in any commercially available 19" rack mount enclosure (e.g. SAREL or RITTAL)³. This manual does not provide any information on these enclosures but the information provided will assist and guide the installation of the modules in these enclosures.

The following are recommended:

SAREL – Spacial S3D wall mount enclosures

(500H x 500W x 200D up to 1000H x 800W x 250D)

RITTAL – TS8 Baying System floor mount enclosures

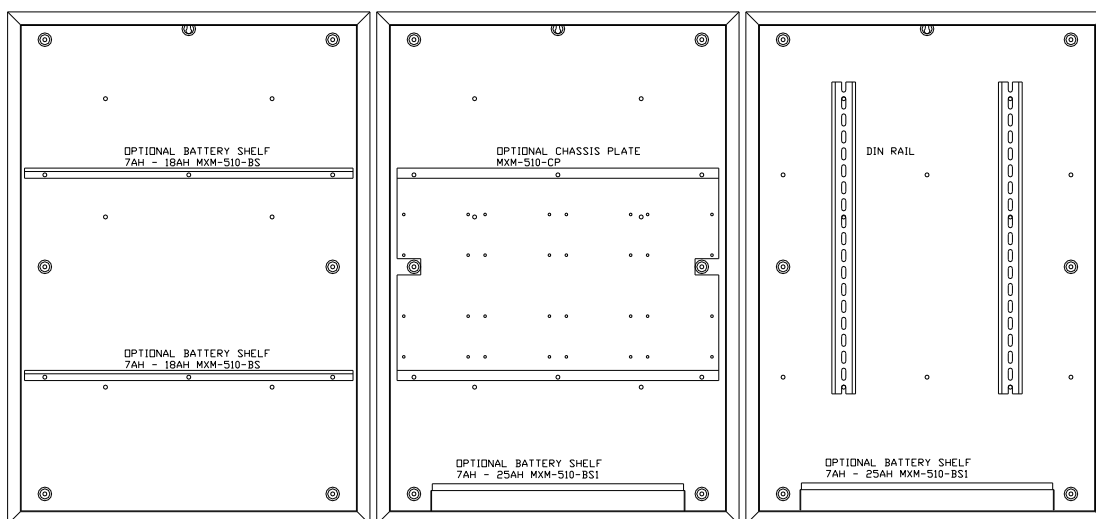
(1400H x 600W x 500D up to 2000H x 800W x 600D)

The enclosures should be fitted with a glass door option for viewing of Level 1 indications.

2.2.4 Battery Gas Venting

The charging of batteries can result in the release of flammable gases (hydrogen). To prevent a build up of potentially hazardous gases in a sealed or semi-sealed enclosure, the enclosure should be fitted with a vent suitable for the IP rating required.

2.2.5 Battery Shelf / Chassis Plate / DIN Rail



2.2.5.1 MXM-510-BS:

Up to two battery shelves can be fitted for mounting of 7Ah or 18Ah batteries. The shelves rest on the side wall flanges and are secured with three M4 nuts and washers and fit behind panel and utility panel modules. Order these items separately.

2.2.5.2 MXM-510-BS1:

A battery shelf can be located and secured with four M4 nuts and washers to the bottom of the enclosure whilst maintaining access to the bottom 20mm knockouts. The shelf will accept up to 2x 25Ah batteries. Field wiring cables can be routed behind the battery shelf. Order this item separately.

NOTE: If using the top knockouts, batteries up to 45Ah can be located directly in the bottom of the enclosure.

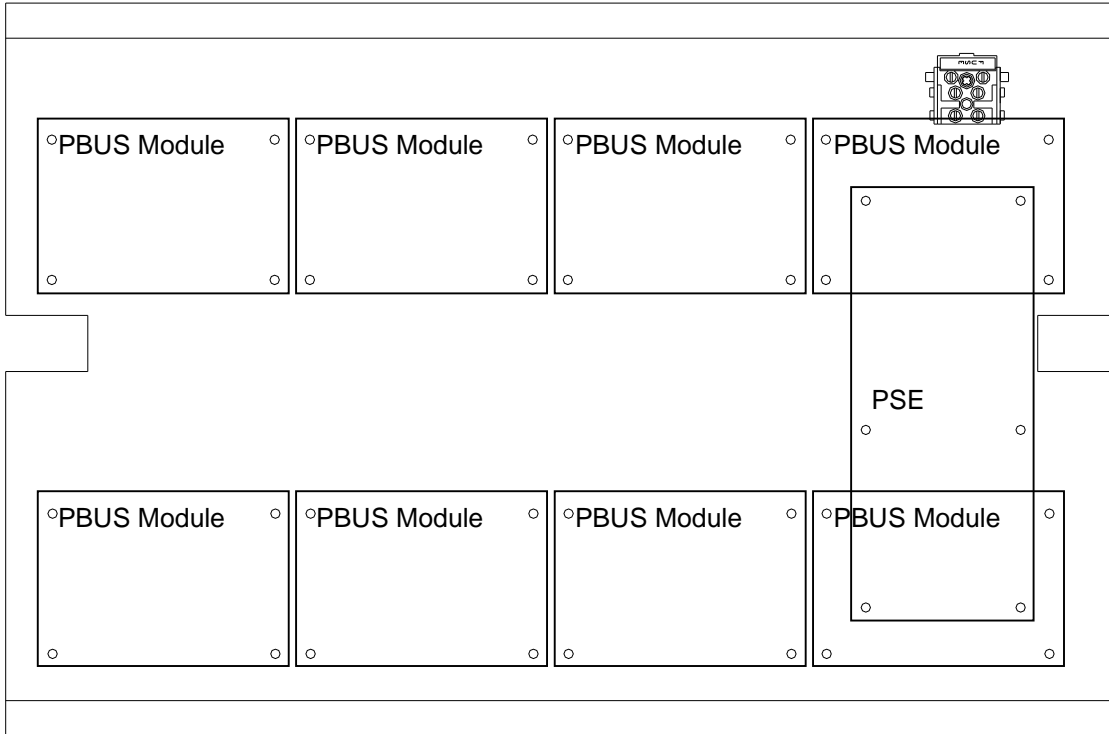
³ For compliance with the requirements of EN54-2 and EN54-4 the commercial enclosure and internal arrangement must follow the instructions in this manual and must continue to meet an IP30 ingress protection rating with the outer door in both open and closed positions. If the panel door is lockable, the panel will not fulfil all of the requirements of EN54-2 at Level 1 – in this case, the connection of a remote terminal (5030) will fulfil all indication and control requirements.

2.2.5.3 MXM-510-CP:

A chassis plate can be fitted and secured to the rear wall using six M4 nuts and washers and utilises the same fixing points as the battery shelves. Order this item separately.

If fitted, batteries must be located in the bottom of the enclosure with or without MXM-510-BS1.

The chassis plate provides mounting positions for up to eight peripheral bus modules or up to six peripheral bus modules and a power supply (MXS-050 or MXS-051).



Fixed stand-off pillars are provided for six of the peripheral bus modules. The modules can be mounted directly to these stand-off pillars using the M3 screws supplied with the module.

Separate M-F pillars are supplied with the chassis plate for mounting the further two peripheral bus modules. Screw these M3 pillars into the captive nuts on the chassis plate and then mount and affix the modules using the M3 screws supplied with the module.

The PSE module fits directly the chassis plate and is fixed using four M3 screws.

Fit the terminal block to the chassis plate using the two supplied M3x14 screws and affix the integral earth lead to the stud using the supplied M4 Nuts and Washers.

Affix the supplied warning label to the right of the terminal block.

The incoming AC cables can be tied down to the chassis using one of the supplied cable ties.

2.2.5.4 DIN-RAIL:

M4 Fixing points are provided for up to two DIN Rail sections. Three fixings per rail give options for 200mm, 270mm or 450mm long rails.

If fitted, batteries must be located in the bottom of the enclosure with or without MXM-510-BS1.

2.3 Modules

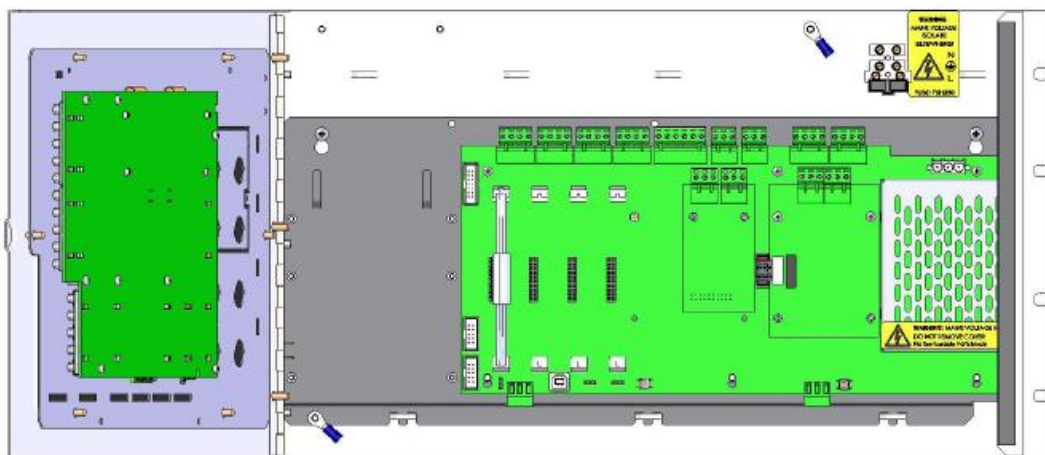
2.3.1 Panel Module

The Panel Module comprises metalwork and electronics. The metalwork is designed to accommodate the standard common 5000 Series Base Card and Display Card chassis assemblies.

The Panel Module is supplied in a 6U High rack mount enclosure chassis. The depth of the back box is 125 mm. The panel module weight is 6 kg.



The door is securely locked using the standard Advanced Electronics Ltd panel key. The internal arrangement of the panel module is shown in the following diagram.

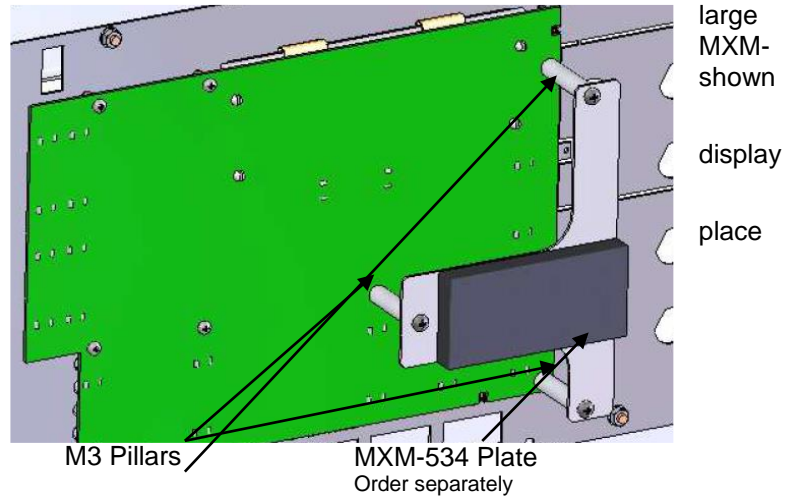


The enclosure comprises the standard 5000 panel chassis and display plate assemblies. Up to one peripheral bus or expansion bus module can be mounted on the chassis plate to the left of the base card. Standard printer and key-switch options can be mounted to the display plate – refer to main panel manual for details.

When the panel module is mounted in floor standing rack enclosures, fit the MXM-534 loop card support plate as opposite.

Remove the three screws fixing the card and replace with the supplied pillars.

Mount the plate onto the pillars and fix in using the supplied screws.



2.3.1.1 Wiring

Cable entry holes are provided for installation wiring – two on the right hand side for AC Supply and Battery Supply – one on the left for internal wiring. Also on the left (top) is a U channel cut-out for routing field wiring to the side frame of the enclosure.

Cable tie anchor points are provided at strategic locations to tie down the wiring.

Refer to the wiring section of the product manual 680-165 for full information. The AC Supply and Battery Supply connections are re-iterated below for reference.

2.3.1.1.1 AC Supply

Route 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.

The mains input connector is shown in the diagram below. 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.

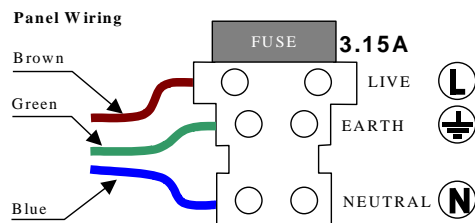


The panels must be connected to the supply earth through the power cable.

Secure the mains input wiring by tie wrap 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 0.75mm² cable rated at 250V and fused via a 5A anti-surge fuse.

NOTE: If two or more power supplies are installed then an MXP-514 AC Filter card kit must be installed in the back box. Refer to Section 2.3.5 for more details.



AC Mains terminations

The fuse is rated as follows:

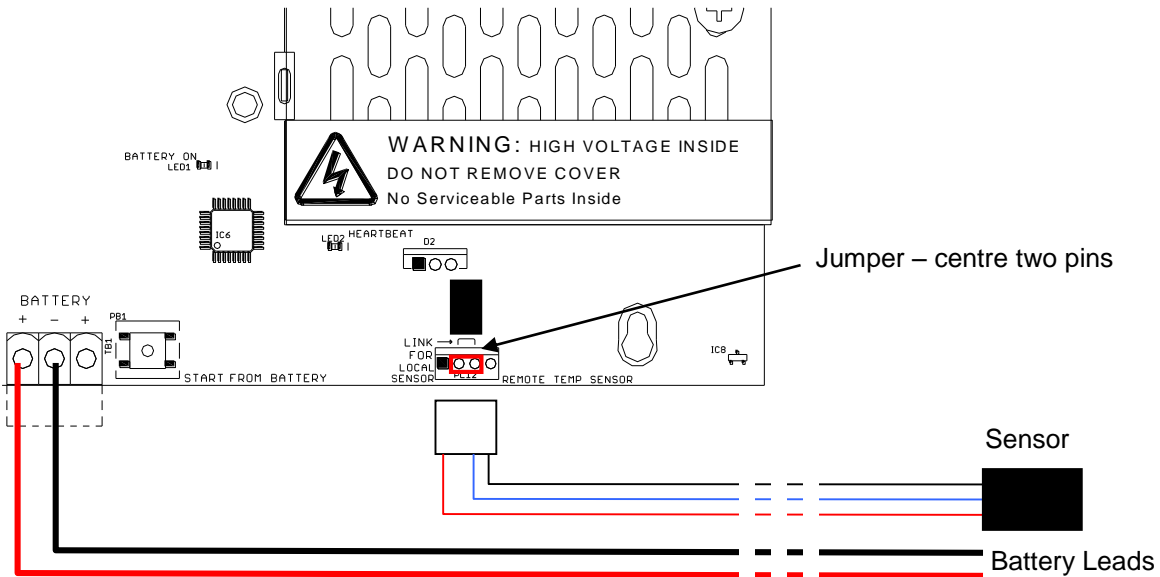
T 3.15A H 250V

Replace with correct rating and specification only.

2.3.1.1.2 Battery

The batteries must be located on the battery shelf behind the module or in the bottom of the enclosure. Fit the Mxp-501 Battery Remote Temperature Sensor to ensure that the batteries are charged at the correct voltage.

Plug the Mxp-501 into the connector and route the sensor cable along with the battery leads. Use the supplied tie-wraps to tie the sensor cable to the battery leads so that the encapsulated sensor is located close to the batteries. The sensor cable is 500mm in length.



NOTE: If the base card is not fitted with either a jumper or a remote temperature sensor the panel will indicate a charger failure condition. Ensure that the jumper is replaced if the remote sensor is removed / not used.

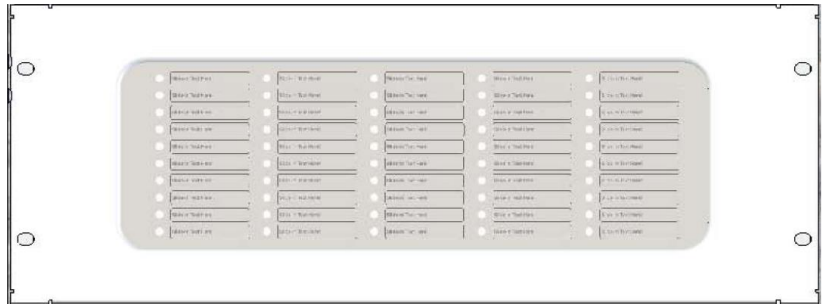
2.3.2 LED Modules

LED Indicator Modules are available with 50 (Column), 100 or 200 LED indicators. All Modules are 4U in height (see also 6U Utility Module for additional mounting options). Order the required LED Module and the 4U Mounting Plate separately.

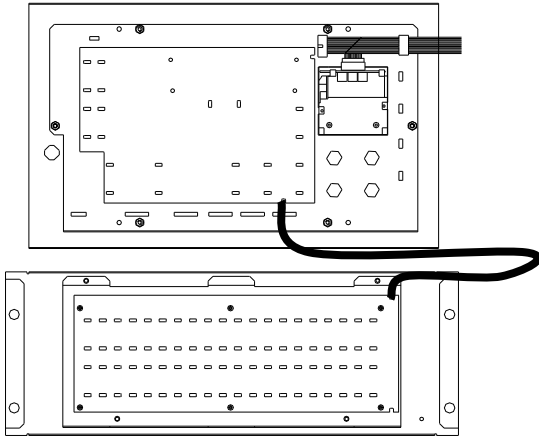
A Panel can support up to 250 LED indicators in total (or one 200 LED module). An example (50 LED column format) is shown opposite.

The Zone LED chassis plate is mounted onto the 19" mounting frame using 4x M4 Nuts and washers.

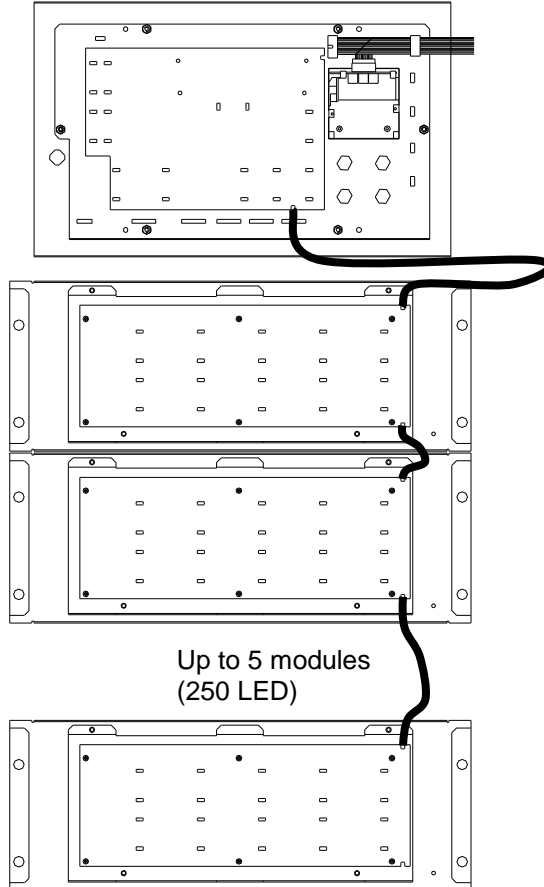
Connect the ribbon cable to the display card. Route the cable through the lower hole in the left hand side of the panel module enclosure and connect to the input connector (top) of the first LED module. Use the long ribbon cable supplied with the 4U mounting plate instead of the cable supplied with the LED Module. Use the short ribbon cable to connect between modules.



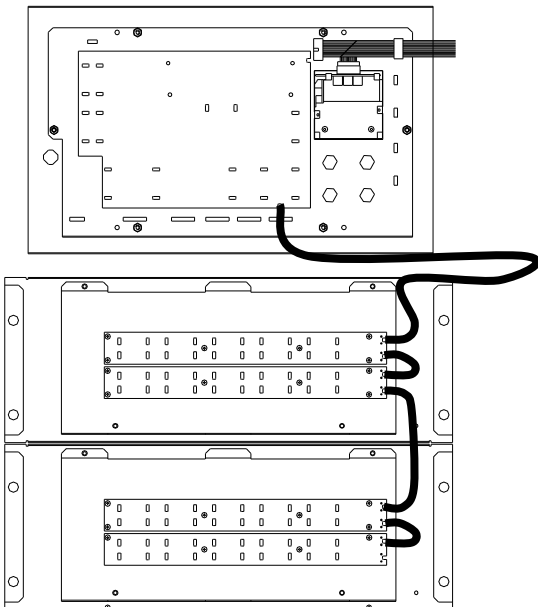
200-LED Module



50-LED (Column) Modules



100-LED Modules



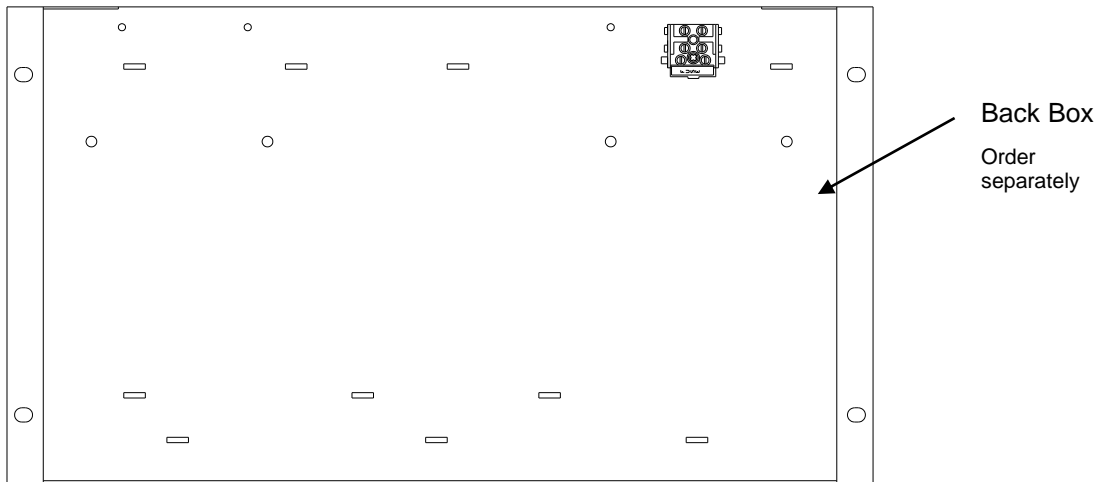
Connect the supplied ribbon cables between the modules.

Connect the earth lead fitted on each 19" 4U mounting frame to the nearest suitable earth point in the enclosure.

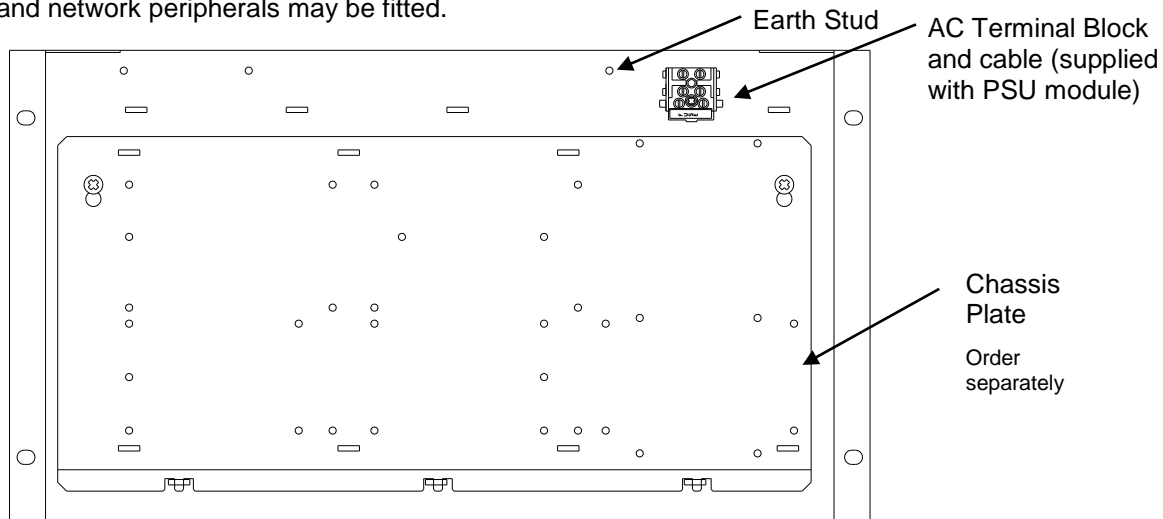
2.3.3 Utility Module – 6U

The Utility Module comprises of the same metalwork assembly as the Panel Module.

Alternative doors are available and must be specified separately. All doors are securely locked using the standard Advanced Electronics Ltd panel key. The weight is 4-6 kg depending on modules fitted.



The module accommodates a standard 6U utility chassis plate to which power supplies, peripheral bus cards and network peripherals may be fitted.



2.3.3.1 Chassis

The utility chassis plate can accept the following module types:

1x PSE Module (Mxs-049, Mxs-050 or Mxs-051) and

1x Mxp-510 BMS Interface⁴ or 1x Mxp-554 ipGateway or 2x standard peripheral bus modules or 2x Mxp-539 Mimic Interface Modules

OR

1x Mxp-510 BMS Interface or 1x Mxp-554 ipGateway and 1x standard peripheral bus module

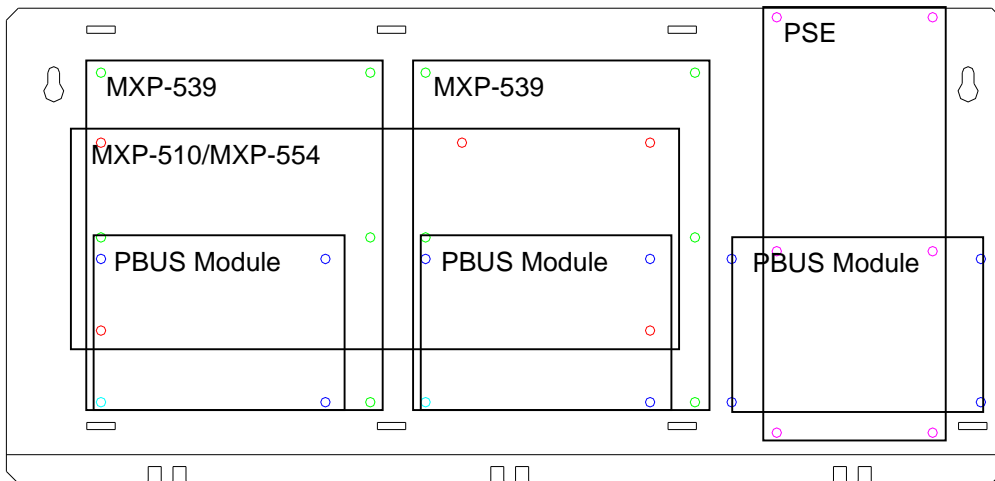
OR

2x Mxp-539 Mimic Interface Modules and 1x standard peripheral bus modules

OR

3x standard peripheral bus modules

⁴ Mxp-020 and Mxp-045 modules can also be fitted in this one location.



2.3.3.1.1 Modules

Screw the M3 Pillars supplied with the chassis plate into the required mounting holes. Fit the module to the pillars with the supplied M3 Screws.

2.3.3.1.2 PSE

The PSE modules fit directly the chassis plate and are fixed using four M3 screws. Fit the Mxs-049 to the upper four holes and fit the Mxs-050 and Mxs-051 to the outer four holes.

Fit the terminal block to the enclosure using the two supplied M3 Screws and affix the integral earth lead to the stud using the supplied M4 Nuts and Washers.

Affix the supplied warning label to the right of the terminal block.

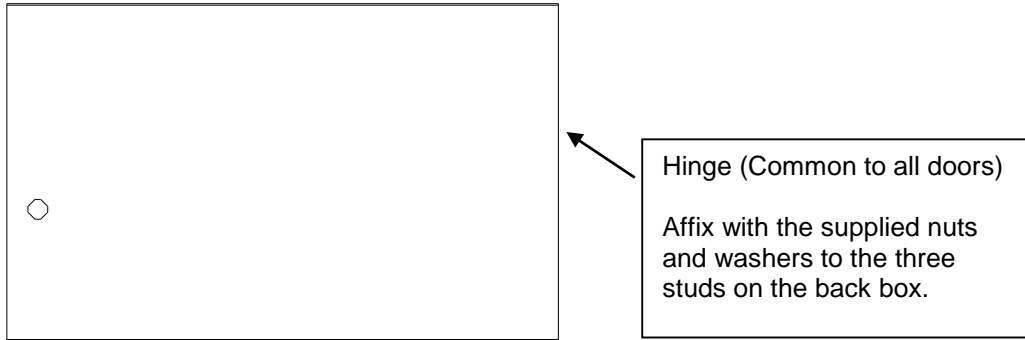
The incoming AC cables can be tied down to the enclosure using one of the supplied cable ties.

2.3.3.2 Door Options

The following door options are available (all diagrams show the rear view of the door). Order the required door and associated metal parts separately. Mount the door to the back box and secure the hinge using the supplied M4 Nuts, Plain and Spring Washers supplied.

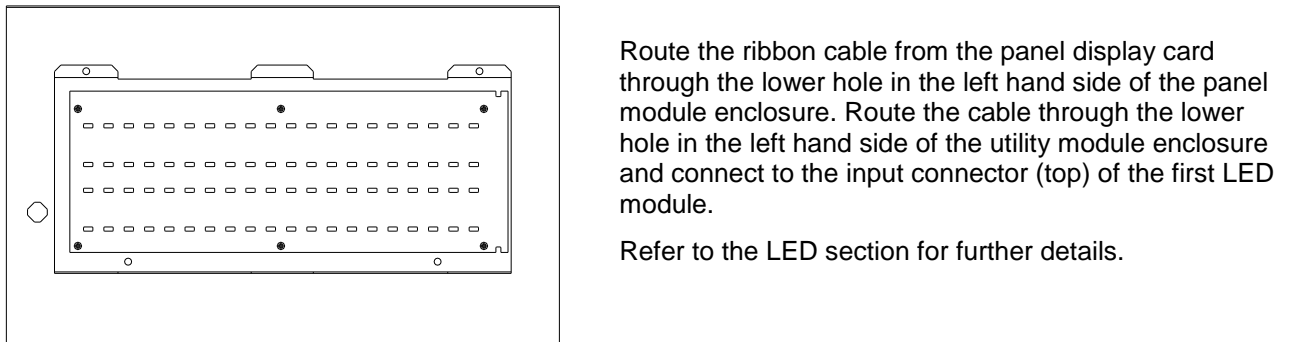
2.3.3.2.1 Blank Door Option

The utility enclosure can be simply fitted with a blank door to provide secure (key cam lock) access to the internal modules.



2.3.3.2.2 Zone LED Door Option

Any of the Zone LED option cards can also be fitted to the 6U Utility Module.

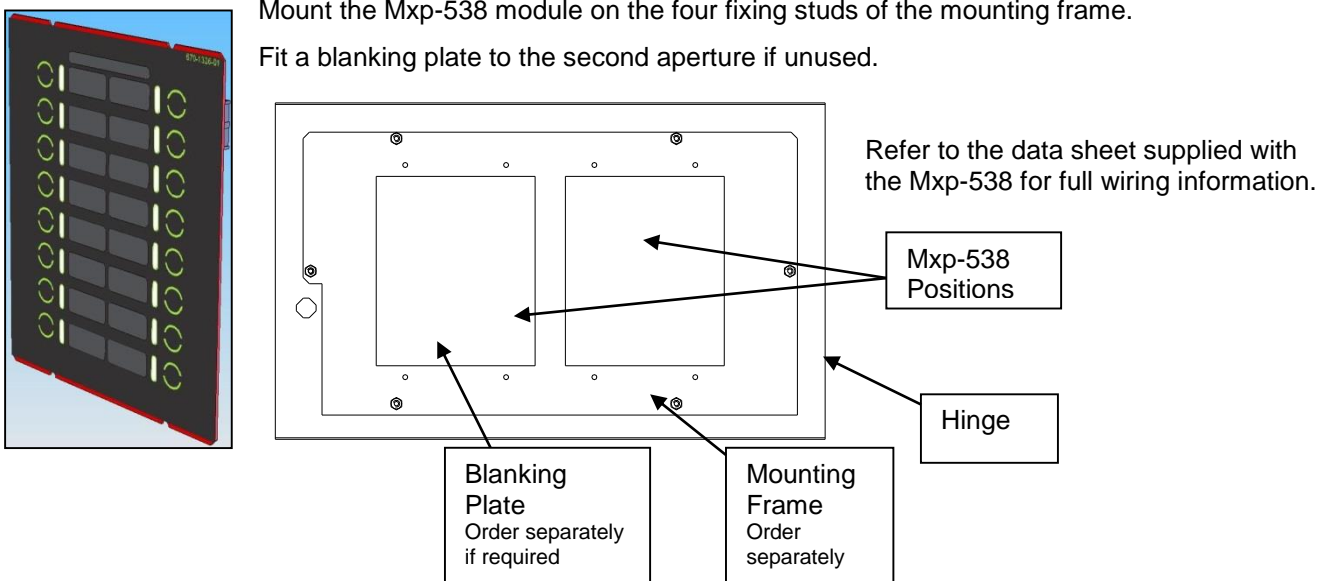


2.3.3.2.3 Switch / LED Door Option

This option comprises of the standard panel module door fitted with a mounting frame to accept up to two Mxp-538 Switch / LED cards.

Mount the Mxp-538 module on the four fixing studs of the mounting frame.

Fit a blanking plate to the second aperture if unused.



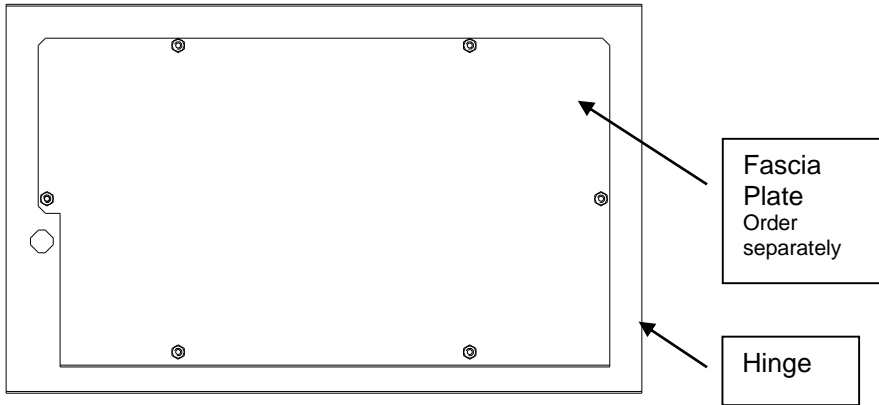
2.3.3.2.4 Small Mimic Door Option

This option consists of the standard 6U panel door (with aperture) and a fascia plate. The fascia plate can be drilled and screen printing for the required graphic indicator diagram.

Mimic area = 350 W x 180 H

Up to two Mxp-539 Input / Output Cards are required to be mounted to the chassis. LED and Switch options required are available.

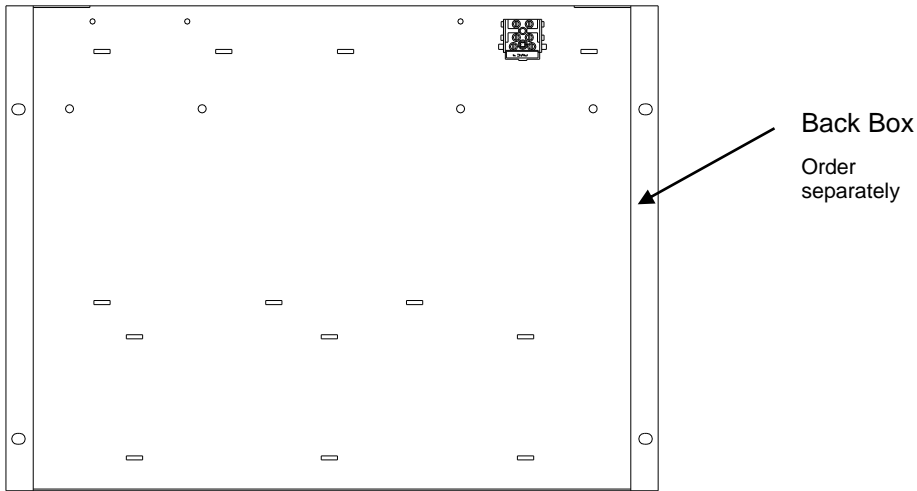
Up to 48 (96) LED indicators and 16 (32) Switches can be driven by one (or two) Mxp-539 modules.



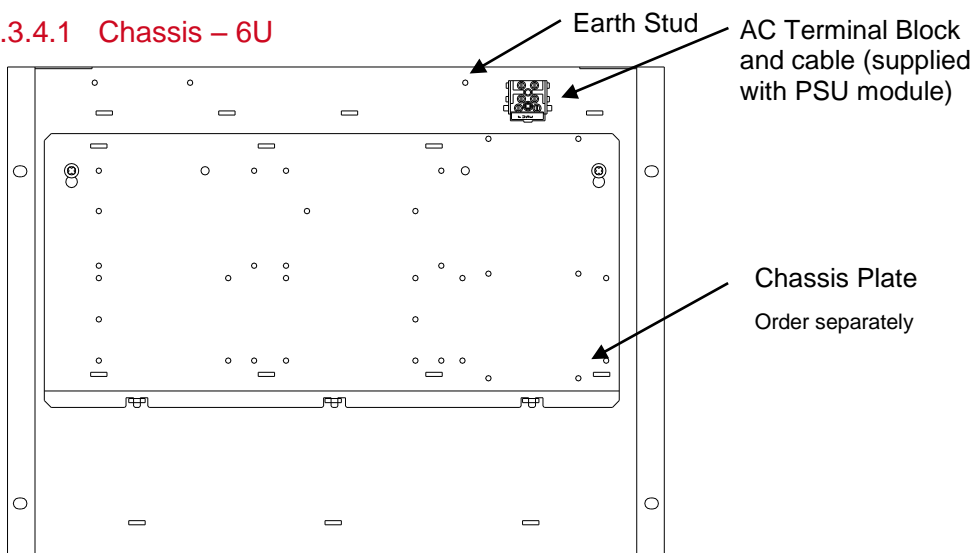
2.3.4 Utility Module – 8U

The large Utility Module is of similar construction but 8U in height. The module accommodates either the standard 6U or large 8U utility chassis plates. The weight is 5-8 kg depending on modules fitted.

The main use of the large utility enclosure is for graphical mimic indicator panels. The blank plate in the door can be removed so that it can be drilled and screen printed as required for fitting of switches and LED indicators.



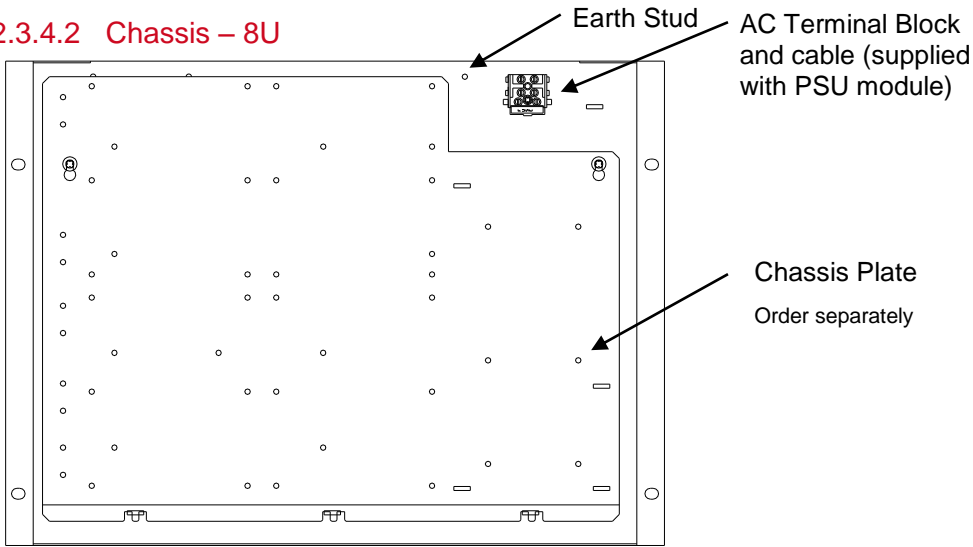
2.3.4.1 Chassis – 6U



The 6U Chassis can be fitted – refer to previous section for full details.

Up to 7Ah batteries can be installed in the 8U Utility Module if the 6U Chassis is employed. Otherwise, batteries can be mounted in the bottom of the enclosure or on the battery shelf.

2.3.4.2 Chassis – 8U



The utility chassis plate can accept the following module types:

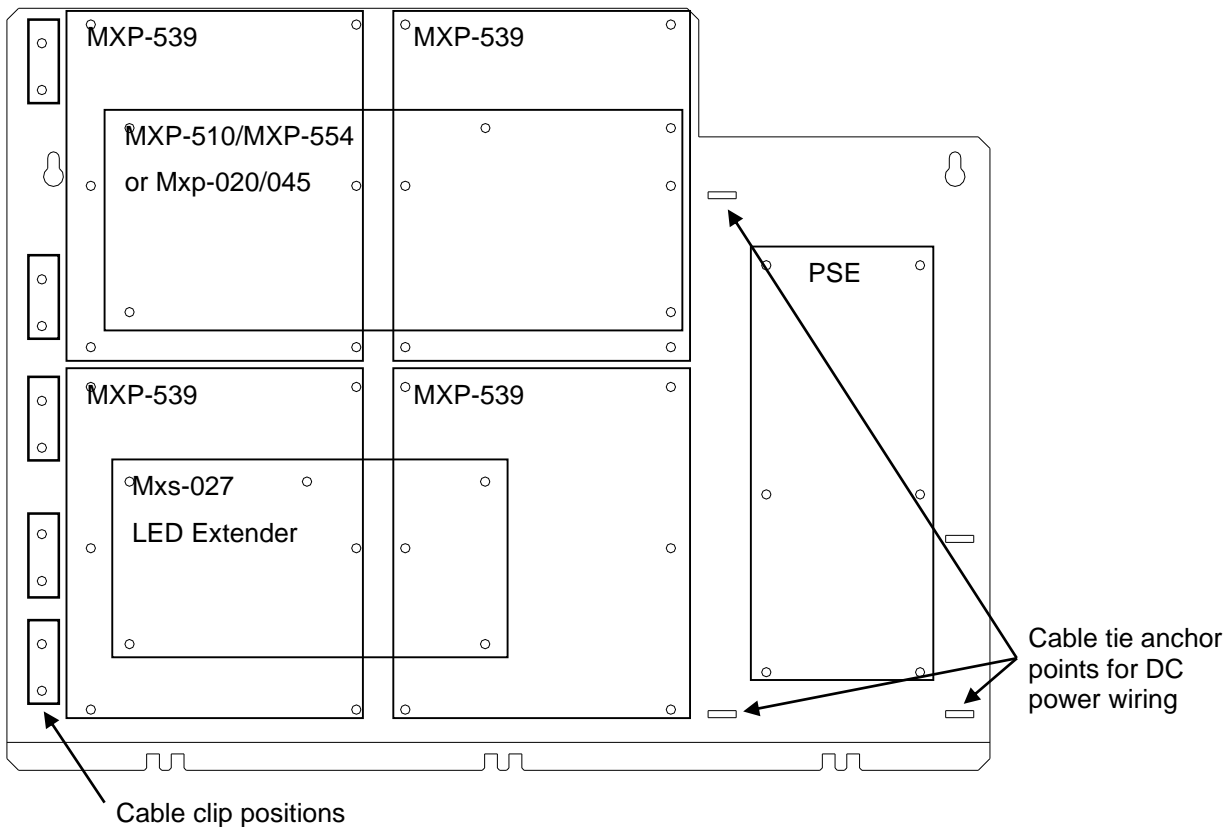
1x PSE Module (Mxs-049, Mxs-050 or Mxs-051) and

1x Mxp-510 BMS Interface⁵ or 1x Mxp-554 ipGateway and up to 2x Mxp-539 Mimic Interface Modules

OR

1x PSE Module (Mxs-049, Mxs-050 or Mxs-051) and

Up to 4x Mxp-539 Mimic Interface Modules (Up to 192 LED and up to 64 Switches)



⁵ Mxp-020 and Mxp-045 modules can also be fitted in this one location. An additional Mxs-027 can be also be fitted to provide a further 100 LED outputs.

2.3.4.2.1 Modules

Screw the M3 Pillars supplied with the chassis plate into the required mounting holes. Fit the module to the pillars with the supplied M3 Screws.

Cable clips can be inserted on the left hand side of the chassis to route and retain the LED and switch wiring.

2.3.4.2.2 PSE

The PSE modules fit directly the chassis plate and are fixed using four M3 screws. Fit the Mxs-049 to the upper four holes and fit the Mxs-050 and Mxs-051 to the outer four holes.

Fit the terminal block to the enclosure using the two supplied M3 Screws and affix the integral earth lead to the stud using the supplied M4 Nuts and Washers.

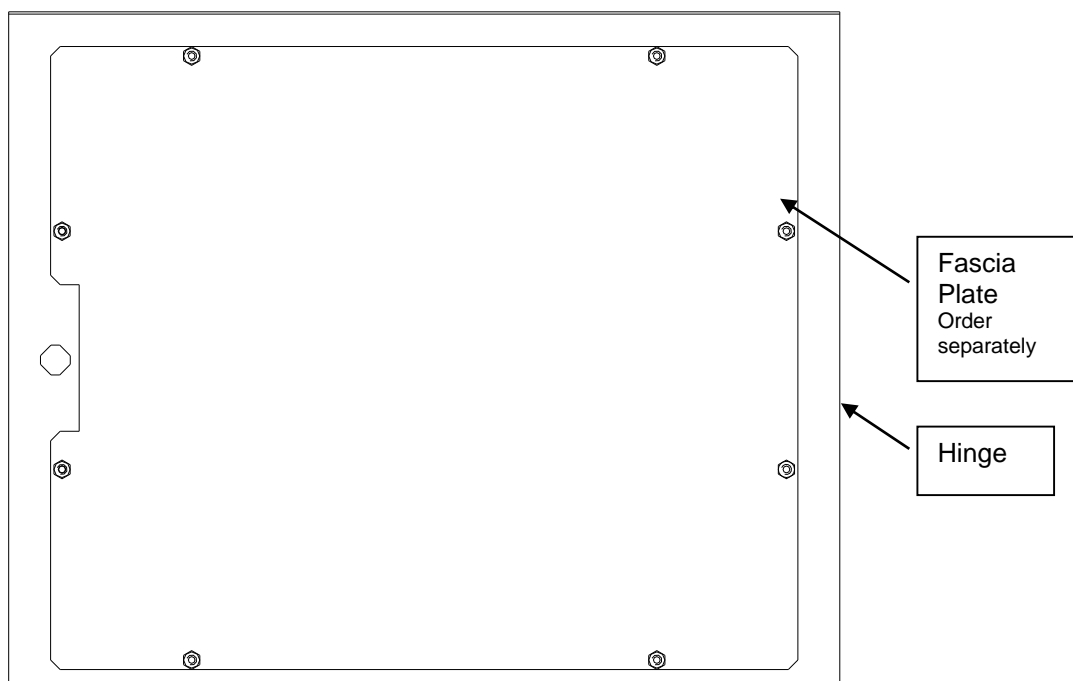
Affix the supplied warning label to the right of the terminal block.

The incoming AC cables can be tied down the the enclosure using one of the supplied cable ties.

2.3.4.3 Mimic Door

This option consists of an 8U panel door (with aperture) and a fascia plate. The fascia plate can be drilled and screen printing for the required graphic indicator diagram.

Mimic area = 350 W x 295H



2.3.5 AC Filter Card

If two or more power supplies are to be installed in the panel then, to meet conducted emissions requirements of the EMC Directive, an AC Filter Card must be installed.

This also benefits in that a single AC Feed is supplied to the panel with pluggable connections for each power supply.

[1] Mount the PCB onto the pillars in the upper right hand corner of the back box using the supplied screws.

[2] Fit the earth cable to the stud in the back box and secure using the supplied nuts and washers. Plug the connector onto the spade tab located on the filter card.

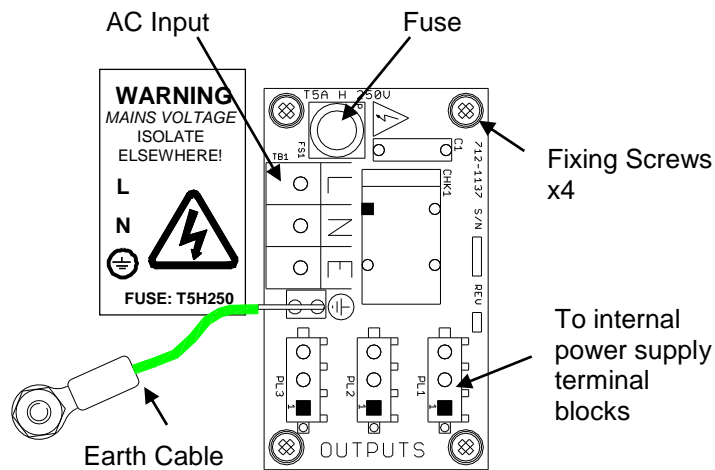
[3] Affix the connection / warning label back box to the left of the card as shown in the diagram.

[4] Wire the supplied leads to the terminal blocks in the relevant modules.

Two sizes of cable are supplied (200mm and 500mm).

Use the 200mm long lead for the module located in the upper part of enclosure.

Use the 500mm long leads for modules located in the middle and parts of the enclosure. Ensure the are tie-wrapped securely to the module enclosure next to the terminal



to the

the

lower leads

block.

Item	Specification Details				
AC Supply Voltage	200-240V, 47-63Hz AC ⁶				
AC Supply Current	Maximum 4A ⁷				
Module Rating	Module	Voltage	Maximum (I _{MAXB} @ 200V) ⁸	Typical (I _{MAXB} @ 230V)	Typical (I _{MAXA} @ 230V)
	MX5100R	200-240V, 47-63Hz AC	1.0A	0.6A	0.35A
	MX5200R	200-240V, 47-63Hz AC	1.4A	1.0A	0.55A
	MX5400R	200-240V, 47-63Hz AC	1.4A	1.0A	0.55A
	MXS-049	220-240V, 47-63Hz AC	0.4A	0.3A	0.20A
	MXS-050	200-240V, 47-63Hz AC	1.0A	0.6A	0.40A
	MXS-051	200-240V, 47-63Hz AC	1.4A	1.0A	0.60A
Fuse	T5AH250 (Ceramic 5mm x 20mm, time delay)				

⁶ The AC Supply range depends on the modules installed.

⁷ The sum of the installed modules maximum ratings should not exceed 4A.

⁸ This is the maximum AC current when the unit is loaded to maximum (I_{MAXB} or I_{MAXA} + Maximum charging current) quoted at minimum AC input voltage.

NOTE: I_{MAXA} is the maximum quiescent load of the panel and I_{MAXB} is the maximum alarm load of the panel – refer to the main panel or product manuals for further information.

USER NOTES

Doc Number: 680-195

Revision: 01A

