SignalPoint

INSTALLATION GUIDE

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Section **Page No**

1. Introduction

This manual provides an installation guide to the SignalPoint Fire Control Panel and peripheral devices. It is important that for correct installation, the instructions given in this manual are followed. Should you have any questions regarding the installation of the Signal Point system, please ring our technical Helpline No 08712 710804 (0800-1800 Mon-Fri), or alternatively your regional technical support representative.

Whilst this manual provides an overall installation guide, refer to the User Manual for details on how to operate the system.

2. Warnings and Cautions

It is very important that the procedures in this installation manual are carefully followed. This will prevent injury.

The user of this manual should be a suitably trained installer and should be familiar with all of the relevant regulations.

When installing the system, it is important to use the correct fixings, which are suitable for the type of surface being secured to.

SignalPoint includes components, susceptible to damage from Electro Static Discharge (ESD). These components can be permanently damaged through routine handling, if precautions are not observed. Where handling is unavoidable, adequate earthing precautions should be taken. E.g. an earthed wrist strap.

Minimise the handling of static sensitive PCB devices. Also always transport “loose” PCB’s in containers, manufactured with ESD protective properties. Also avoid placing static sensitive devices on plastic surfaces.

3. Unpacking

SignalPoint control panels are simple to install, provided that the recommended procedures in this manual are followed. Refer to the Engineers Operating Guide for details on the programming of system operation, and the User Manual for the overall system operation.

Care should be taken when handling. Dropping any of the parts onto hard surfaces may cause damage to the case and internal circuitry.

Products should be kept in their packaging until installation. This minimises any risk of damage. Retain all packaging until the installation activities have been completed. Any products surplus to requirements, or requiring returning to EMS, should be returned in the original packaging.

CONTROL PANELS ARE SUPPLIED WITH ALL DETECTOR ZONES IN TEST. PLEASE REFER TO THE ENGINEERS OPERATING GUIDE TO MAKE ACTIVE.

4. Installation

Following the Site Survey, System Control Panels should be positioned as stated considering:-

The recommended minimum distance between metal objects or equipment for the aerial is 400mm.

The recommended minimum distance to any electrical equipment is 2 metres, (See Figure 1).

5. Control Panel - Removing Items before Mounting

Before mounting the unit, it is necessary that certain items be removed, so as to prevent the risk of damage to the internal circuitry.

Remove the Door Assembly from the Back Box. To achieve this, disconnect the Ribbon Cables and Earth links, loosen the hinge screws on the Back Box side of the hinge and pull the door away. Ensure that the Door Assembly is suitably stored and that ESD precautions are observed (see Figure 2).

Establish the required cable entries. Knockouts should be made prior to fixing the Back Box to the wall.

Ensure that the Back Box is free of swarf and other debris.

6. Mounting the Enclosure to a Wall

It is recommended that the Control Panel be mounted in accordance with the site survey so that the display is at eye level.

Achieve this firstly by securing it to the wall, via the single fixing “keyhole”, located in the top centre of the box. The box should be hung and levelled, allowing holes to be marked out for each of the four remaining mounting holes (shown on figure 3).

Once the Back Box is fitted to the wall, all external cabling should be run to the box, including the provision of an unswitched 240 volt supply. The mains cable should be dressed away from the main radio PCB and should be as short as possible.

7. Replacing Items after Mounting

Replace the Door assembly by reversing the steps given in Section 5, ensuring that all electrical connections, including the earth leads, are made.

Ensure that both UHF and VHF aerials are fitted to the top of the Control Panel. To ensure correct fitment, the aerial identified with the coloured band must be fitted to the connector identified with the coloured band. If high gain aerials are to be used they must be positioned in accordance with the site survey.

8. Mounting Diagrams

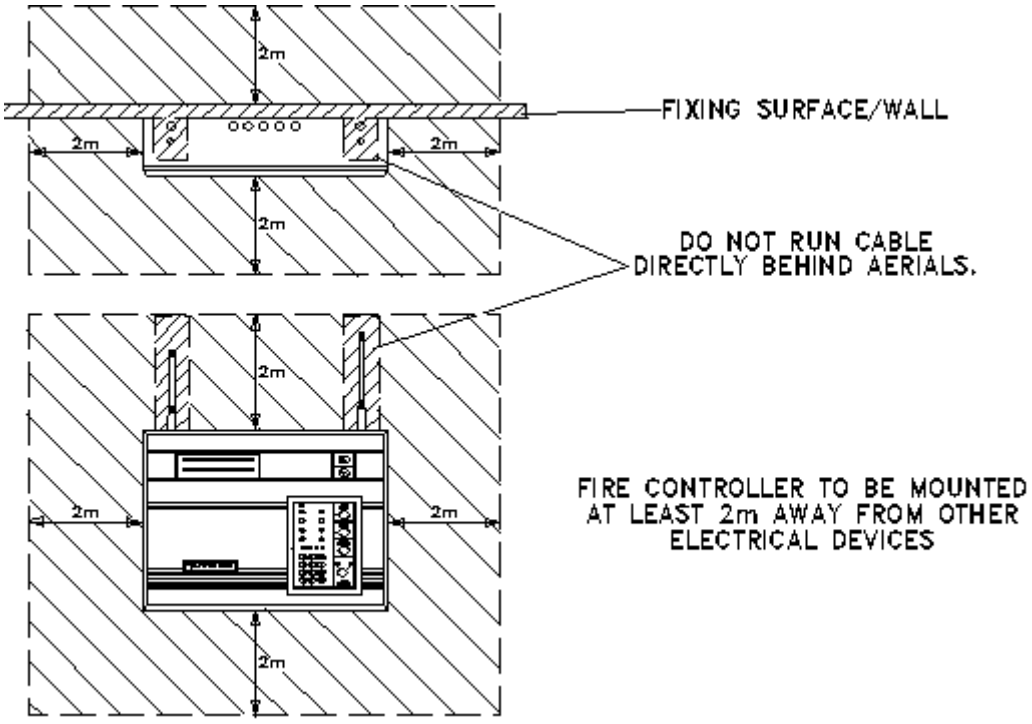


Figure 1

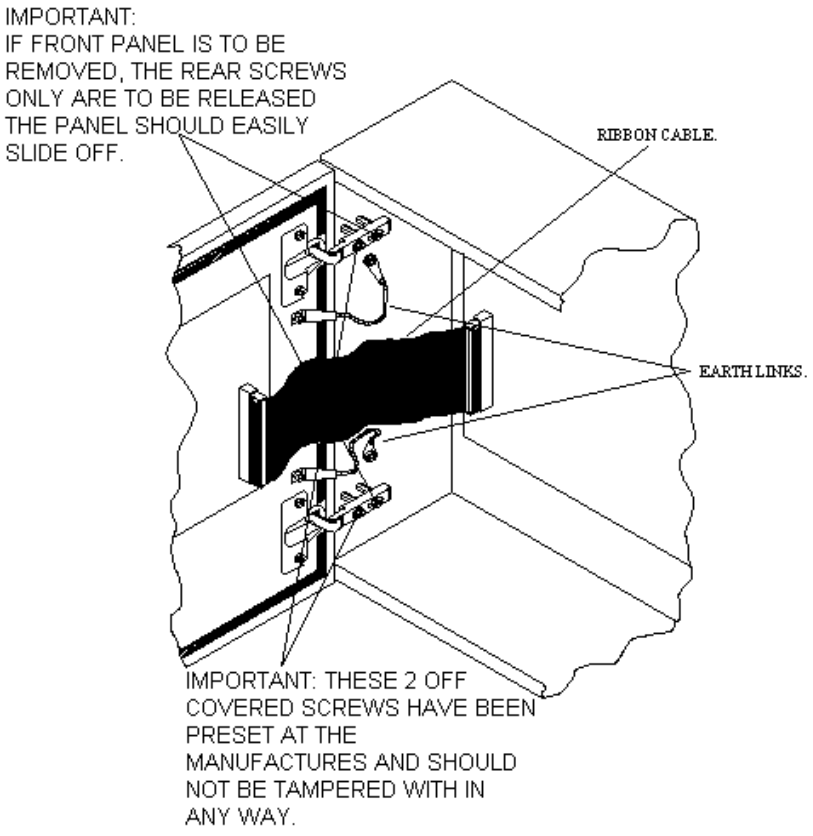


Figure 2

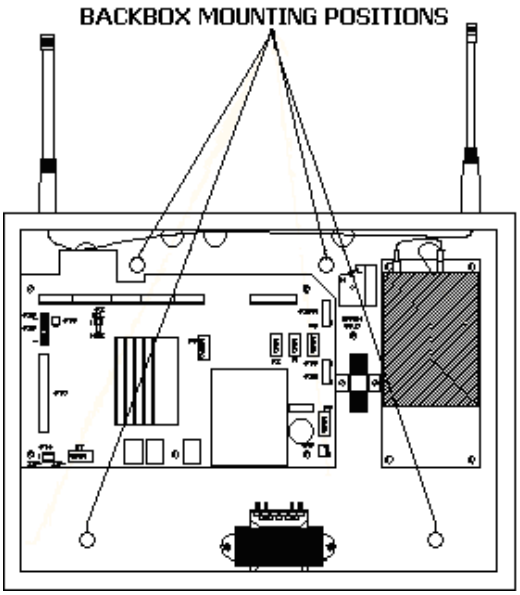


Figure 3

9. Powering the System

The SignalPoint Control Panel has an internal 3 amp power supply and charger as standard. On larger systems and where hard-wired sounder circuits are used, it may be necessary to provide an additional power supply or increase the size of the system power supply and charger. When using an additional power supply, it should be mounted in an appropriate cabinet adjacent to the control panel. Should this be impractical, the maximum distance between the Control Panel and power supply/charger should not exceed 3 metres. Ensure that the voltage drop between the supply and the main panel does not exceed 0.5v.

The 240V power supply to the Control Panel must be made by way of an individual fused spur, situated adjacent to the Control Panel. The fused spur must have it's own power supply circuit fitted with a 3 Amp fuse. Affix a red circuit breaker, labelled "Fire Alarm, Do Not Switch Off", to the circuit. It is recommended that the circuit breaker be secured from unauthorised access. The fused spur should be similarly labelled as "Fire Alarm".

When powering up, the following procedure must be followed.

If the panel is switched off, apply the mains power to the unit and connect the batteries (observing the correct polarity).

After the system has completed its initialisation sequence, the display will show, Figure 4 followed by Figure 5

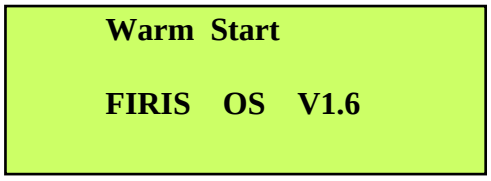


Figure 4

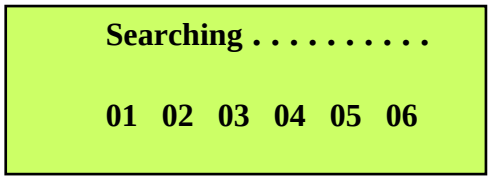


Figure 5

When the Control Panel is first powered up, the “General Fault” LED will illuminate and the fault buzzer will sound. This continues whilst the system initialises itself and runs through self-test routines.

Once initialised, the green “Power” LED will illuminate. At this time the “General Fault” LED will also be illuminated, whilst the display will indicate a “PR” fault. Press “SILENCE ALARM” followed by “RESET” to clear this LED. The Control Panel will run through a series of diagnostic self tests. The illumination of the applicable LED and the sounding of the fault buzzer will indicate any errors on the display.

Under normal non fault conditions, the display will indicate status as “Normal” (see Figure 6). If the Key Switch is left in the “On” position, the display will indicate that the panel is in “Access mode” (see Figure 7).

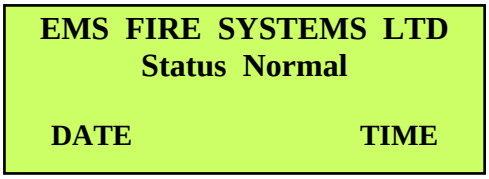


Figure 6

Figure 7

10. External Wiring

10.1 Hardwired Sounder

The SignalPoint Control Panel includes provision for two hardwired sounder circuits. The circuitry monitors two pairs of conductors fitted with 4k7 End of Line resistors. No connection to the control Panel should be made at this stage. The maximum current permitted is 250mA per circuit.

10.2 Hardwired Call Point

The SignalPoint Control Panel includes provision for a hardwired Call Point interface. The Control Panel monitors this input via a 4k7 End of Line resistor. No connection to the Control Panel should be made at this stage.

Note: The external connections & wiring must be tested in the conventional manner. Under no circumstances should the system circuitry be tested using a meggar tester, once the connections to the control panel, or peripherals, has been made.

10.3 Device Wiring

Using an Ohmmeter, check both sounder circuits to ensure that they have a 4.7k ohm resistance across the connections and that the resistance between each connection and the Control Panel earth point is greater than 20 M Ohm.

Check any Call Point external wiring. The resistance across the Call Point connection should read 4.7k. Ensure that the resistance between each connection and the Control Panel earth point is greater than 20 M Ohm.

Once external wiring circuits have been checked, make the connections to the control panel. The Control Panel should be powered down prior to termination. Connect all external wiring to the applicable Control Panel terminals (see drawing p02910). Upon completion of this, re-power the Control Panel.

11. Installation Advice.

Ensure that you have all equipment required to complete the system installation.

Ensure that the correct fixings and fasteners are used for all installation work.

Observe ESD precautions.

Familiarise yourself with the system details and layout, before commencing any installation activity. Any anomalies must be addressed with the Surveyor, End user or the equipment supplier.

Ensure that the Control Panel back box is clean and free of swarf prior to fitting the internal assemblies.

Also ensure that aerials are fitted with anti tamper cones before applying 230V to the control panel.

The 240V power supply to the Control Panel must be made by way of an individual fused spur, situated adjacent to the Control Panel. The fused spur must have it's own power supply circuit fitted with a 3 Amp fuse. Affix a red circuit breaker, labelled "Fire Alarm, Do Not Switch Off", to the circuit. It is recommended that the circuit breaker be secured from unauthorised access. The fused spur should be similarly labelled as "Fire Alarm".

Wherever practical, fix detectors so that the red LED faces the main entrance to the room.

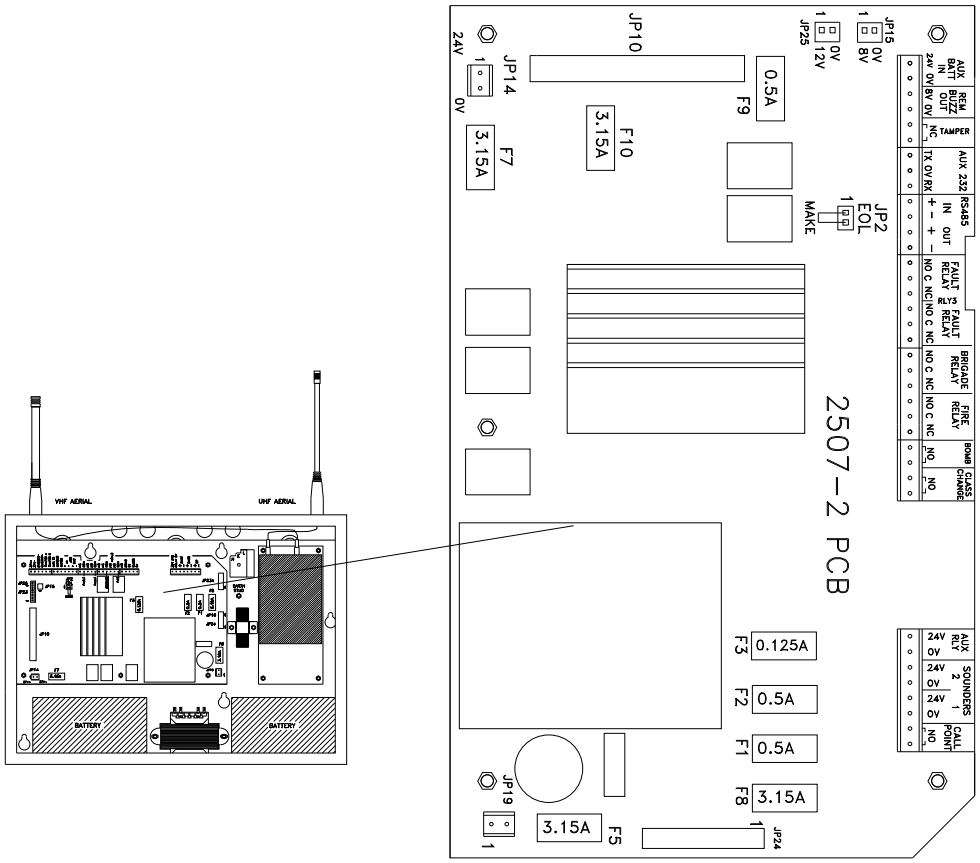
Should it be necessary to remove the two aerials fitted to the Control Panel, ensure that when refitted, the coloured band on the aerial corresponds with the coloured disk on the BNC connector on the panel.

Ensure that the 240V AC mains supply is fused and unswitched.

DWG NO. P02911

E.M.S. Ltd UNIT 11 Sea St. Herne Bay, Kent CT6 8JZ Tel : 01227 369570

DO NOT SCALE.



2507-2 PCB

F10 = 3.15A PRINTER FUSE
F9 = 0.5A REMOTE RECEIVER FUSE
F8 = 3.15A AUXILIARY 24V INPUT FUSE
F7 = 3.15A BATTERY FUSE
F5 = 3.15A A.C. INPUT FUSE
F3 = 0.125A 24V MONITOR FUSE
F2 = 0.5A HARDWIRED SOUNDER 1 FUSE
F1 = 0.5A HARDWIRED SOUNDER 2 FUSE

ISS.NO.	1		
MOD No.	M01589		
	INIT.	SIG	DATE
DRAWN	CDU		11/12/98
CHECKED			
APPROVED.			

EMS HERNE BAY, KENT CT6 8JZ

THE PRINT AND INFORMATION CONTAINED HEREIN ARE PROPRIETARY AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN APPROVAL.

MATL. N/A

FINISH. N/A

TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.3mm
HOLE CRS. +/-0.1mm

DESCRIPTION. SYSTEM 5000 FUSE VALUE AND DESCRIPTIONS

USED ON

DWG No. P02911

SHT. OF.

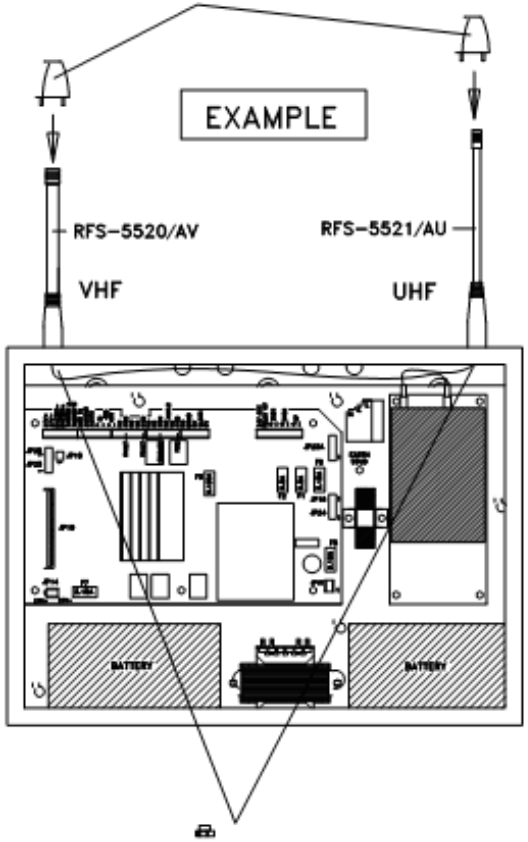
SignalPoint

DWG NO. P02989

E.M.S. Ltd UNIT 11 Sea St. Herne Bay, Kent CT6 8JZ Tel : 01227 369570

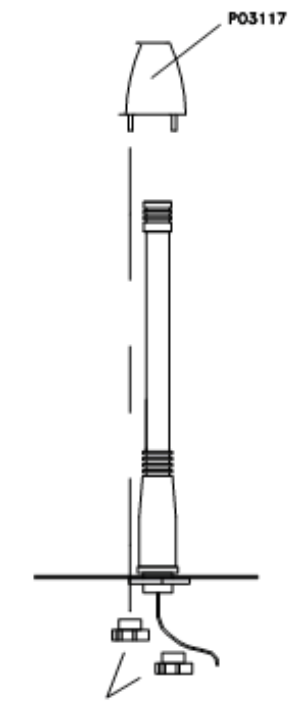
DO NOT SCALE.

'CONE' P03117
(SEE OPPOSITE FOR VARIATIONS).



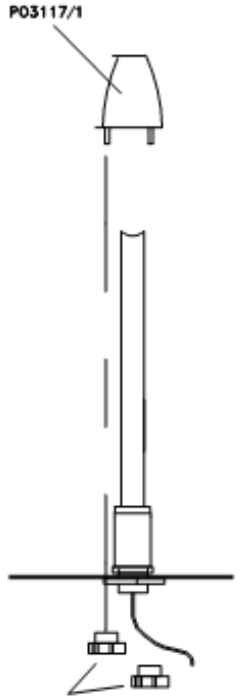
ALL ANTI-TAMPER 'CONES'
SHOULD BE HELD IN PLACE
BY M3 KNURLED THUMBSCREWS
(PT No FASM3X0.5KNTHUMBNUTS)
2 OFF PER 'CONE

ASSEMBLY INSTRUCTIONS AERIAL ANTI-TAMPER CONE.



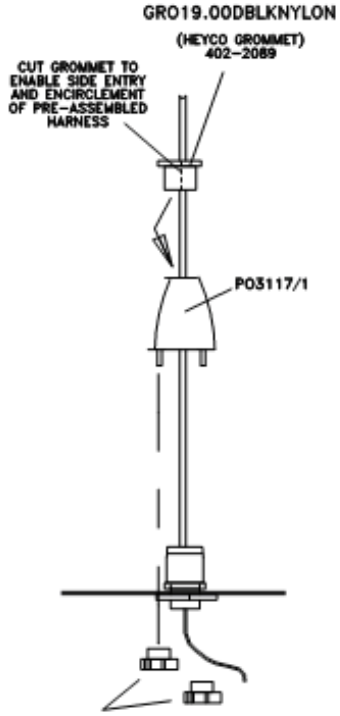
AERIAL TYPES :

RFS-5520/AV VHF
RFS-5521/AU UHF



AERIAL TYPES :

RG213U
LOW LOSS CABLE
ASSEMBLIES



AERIAL TYPES :

HI-GAIN AERIALS
USING RG58
CABLE ASSEMBLIES

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MOD No.	---		
	INIT.	SIG	DATE
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CHECKED	JPC		
APPROVED.			

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MATL. N/A

FINISH. N/A

TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.3mm
HOLE CRS. +/-0.1mm

DESCRIPTION.
AERIAL TAMPERPROOF
BRACKET ASSEMBLY INSTRUCTIONS
USED ON SIGNALPOINT CONTROL PANEL

DWG No. P02989

SHT. OF.

SignalPoint

DWG NO. P02989

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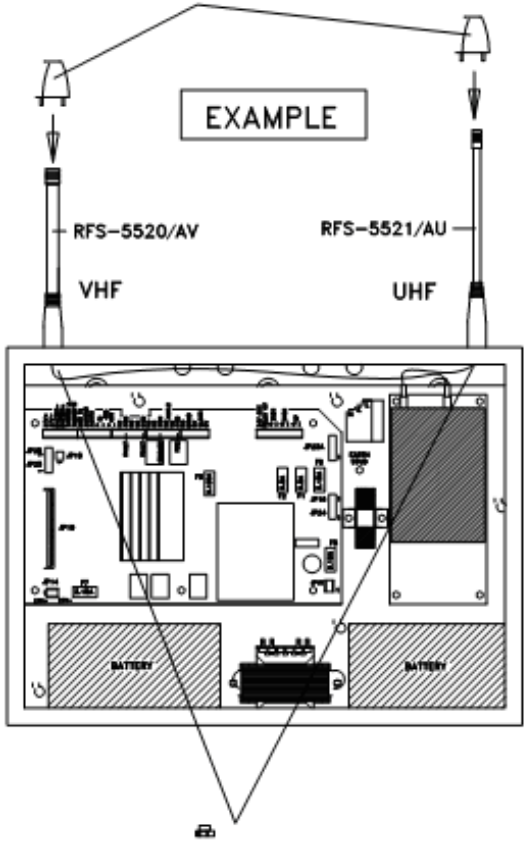
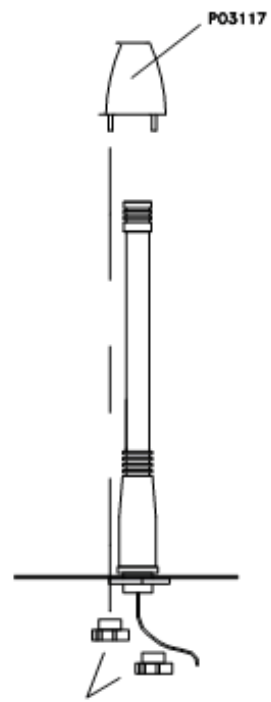
DO NOT SCALE.

'CONE' P03117
(SEE OPPOSITE FOR VARIATIONS).



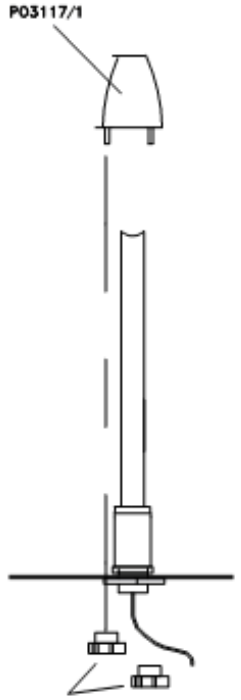
ALL ANTI-TAMPER 'CONES'
SHOULD BE HELD IN PLACE
BY M3 KNURLED THUMBSCREWS
(PT No FASM3X0.5KNTHUMBNUTS)
2 OFF PER 'CONE

ASSEMBLY INSTRUCTIONS AERIAL ANTI-TAMPER CONE.



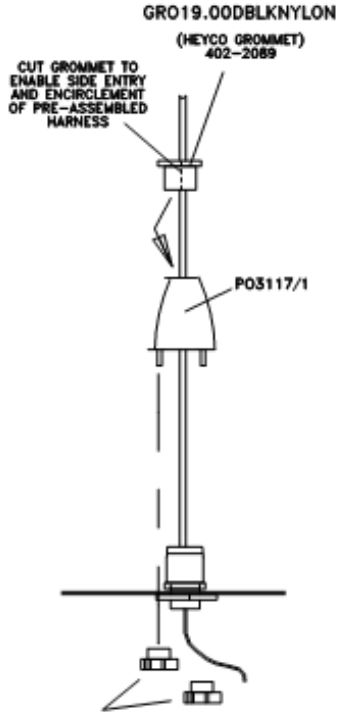
AERIAL TYPES :

RFS-5520/AV VHF
RFS-5521/AU UHF



AERIAL TYPES :

RG213U
LOW LOSS CABLE
ASSEMBLIES



AERIAL TYPES :

HI-GAIN AERIALS
USING RG58
CABLE ASSEMBLIES

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CHECKED	JPC		
APPROVED.			

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MATL. N/A

FINISH. N/A

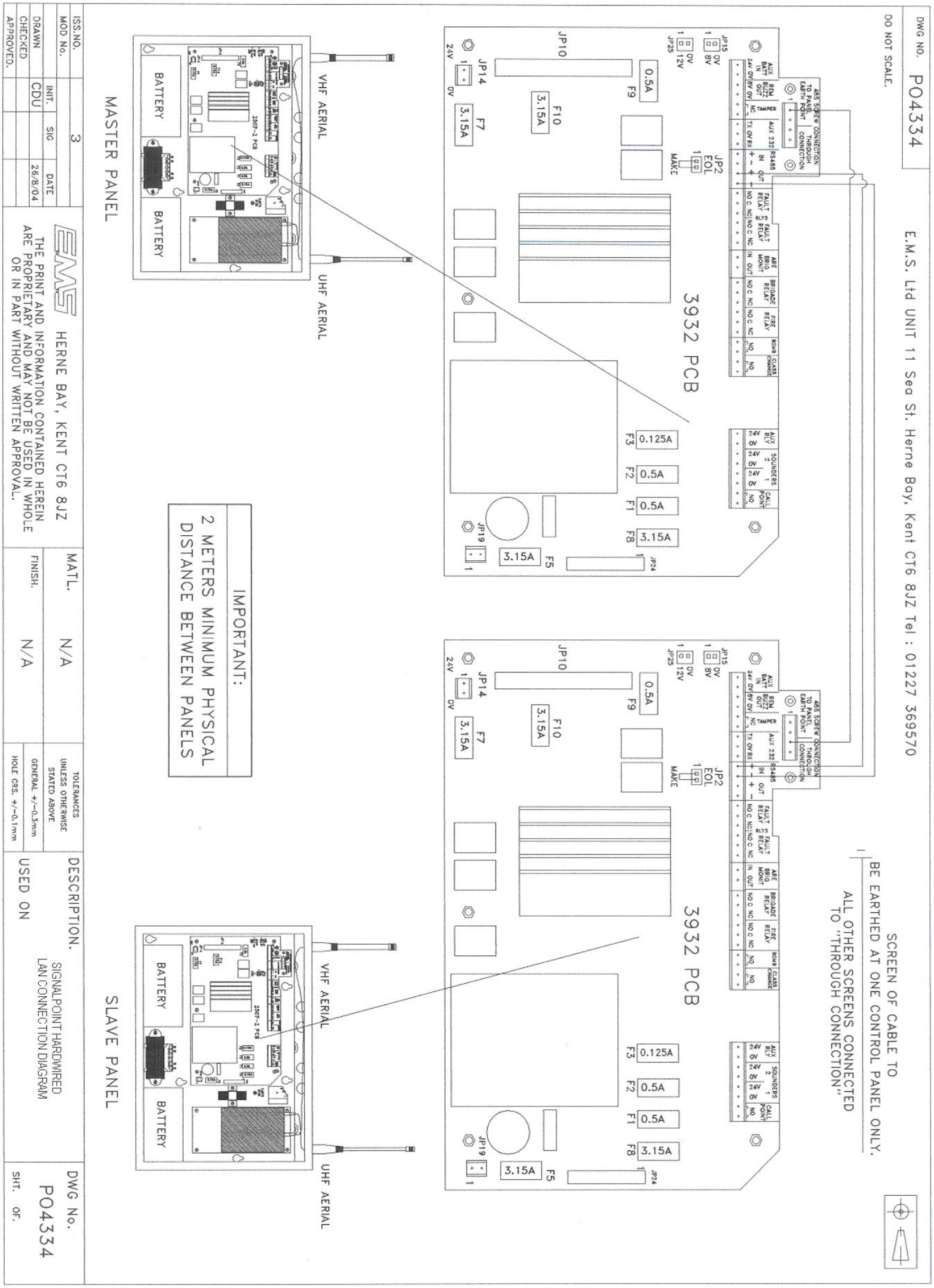
TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.3mm
HOLE CRS. +/-0.1mm

DESCRIPTION.
AERIAL TAMPERPROOF
BRACKET ASSEMBLY INSTRUCTIONS
USED ON SIGNALPOINT CONTROL PANEL

DWG No. P02989

SHT. OF.

SignalPoint


DWG NO. P04334
DO NOT SCALE.
E.M.S. Ltd UNIT 11 Sea St. Herne Bay, Kent CT6 8JZ Tel : 01227 369570
SCREEN OF CABLE TO BE EARTHED AT ONE CONTROL PANEL ONLY.
ALL OTHER SCREENS CONNECTED TO "THROUGH CONNECTION"
3932 PCB
MASTER PANEL
SLAVE PANEL
VHF AERIAL
UHF AERIAL
BATTERY
IMPORTANT:
2 METERS MINIMUM PHYSICAL DISTANCE BETWEEN PANELS
ISS.NO. 3
MOD No.
DRAWN CDU 26/8/04
CHECKED
APPROVED.
HERNE BAY, KENT CT6 8JZ
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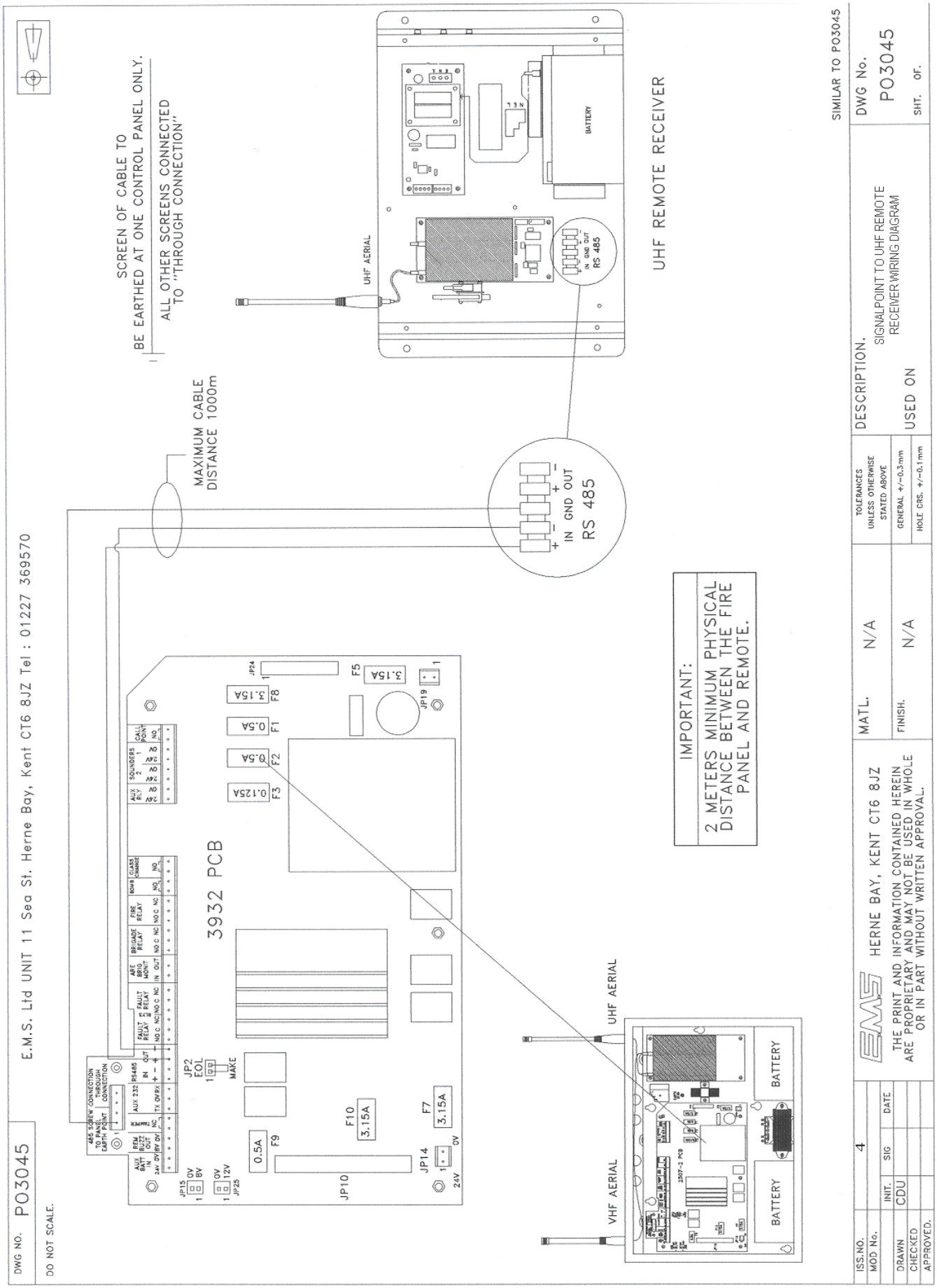
MATL. N/A
FINISH. N/A
TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.3mm
HOLE CRS. +/-0.1mm
DESCRIPTION.
SIGNALPOINT HARDWIRED LAN CONNECTION DIAGRAM
USED ON
DWG No. P04334
SHT. OF.


DWG NO. P03045
DO NOT SCALE.
E.M.S. Ltd UNIT 11 Sea St. Herne Bay, Kent CT6 8JZ Tel : 01227 369570
SCREEN OF CABLE TO BE EARTHED AT ONE CONTROL PANEL ONLY.
ALL OTHER SCREENS CONNECTED TO "THROUGH CONNECTION"
UHF REMOTE RECEIVER
UHF AERIAL
BATTERY
RS 485
IN GND OUT
MAXIMUM CABLE DISTANCE 1000m
3932 PCB
IMPORTANT:
2 METERS MINIMUM PHYSICAL DISTANCE BETWEEN THE FIRE PANEL AND REMOTE.
VHF AERIAL
UHF AERIAL
BATTERY
BATTERY
SIMILAR TO P03045
DWG No. P03045
SHT. OF.
DESCRIPTION.
SIGNALPOINT TO UHF REMOTE RECEIVER WIRING DIAGRAM
USED ON
TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.3mm
HOLE CRS. +/-0.1mm
MATL. N/A
FINISH. N/A
HERNE BAY, KENT CT6 8JZ
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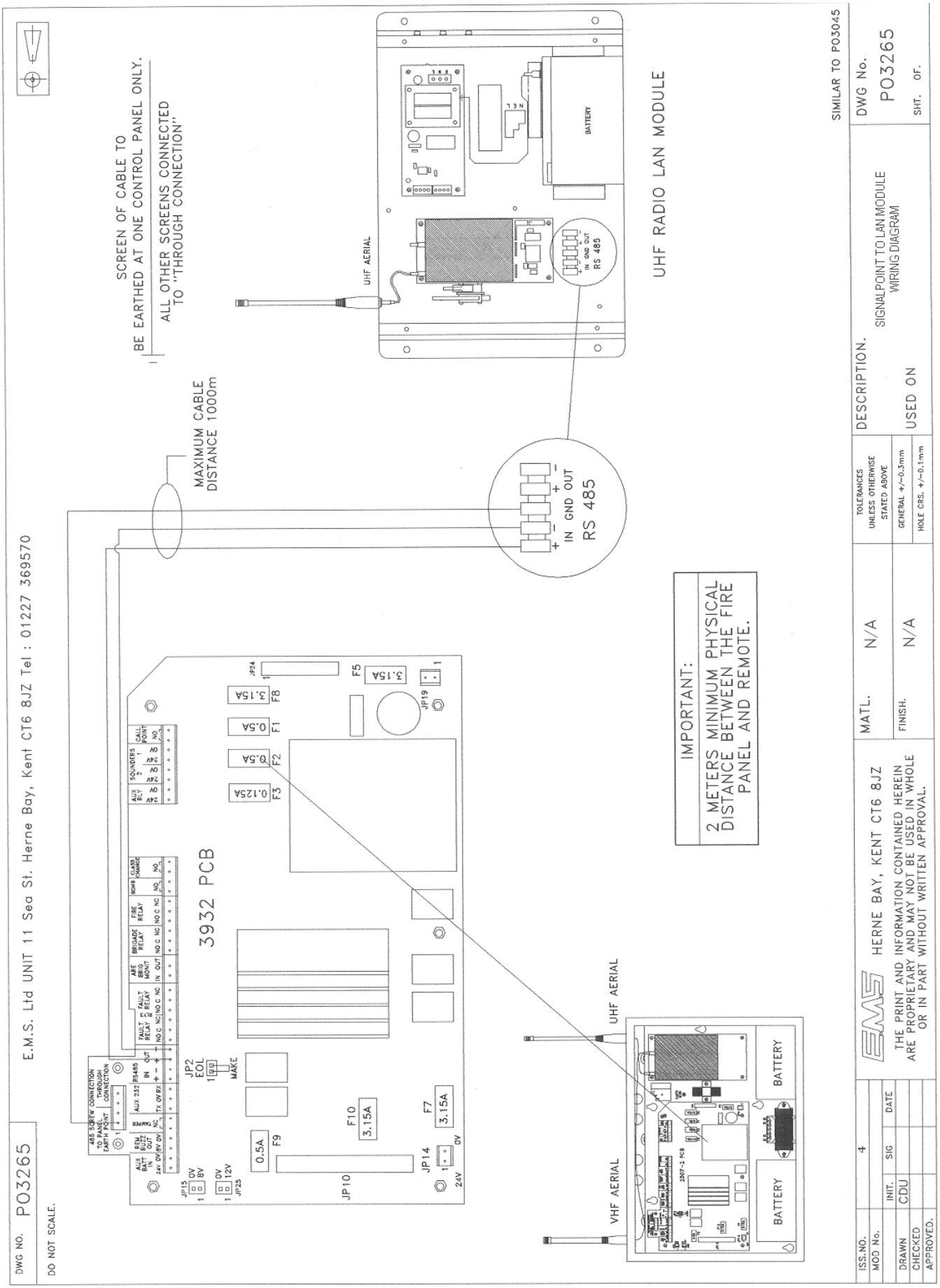
MOD No.
DRAWN CDU
CHECKED
APPROVED.
INIT. SIG DATE


DWG NO. P03265
E.M.S. Ltd UNIT 11 Sea St. Herne Bay, Kent CT6 8JZ Tel : 01227 369570
DO NOT SCALE.
SCREEN OF CABLE TO BE EARTHED AT ONE CONTROL PANEL ONLY.
ALL OTHER SCREENS CONNECTED TO "THROUGH CONNECTION"
UHF RADIO LAN MODULE
UHF AERIAL
BATTERY
MAXIMUM CABLE DISTANCE 1000m
RS 485
IN GND OUT
3932 PCB
IMPORTANT:
2 METERS MINIMUM PHYSICAL DISTANCE BETWEEN THE FIRE PANEL AND REMOTE.
VHF AERIAL
UHF AERIAL
BATTERY
BATTERY
SIMILAR TO P03045
DWG No. P03265
SHT. OF.
DESCRIPTION.
SIGNALPOINT TO LAN MODULE WIRING DIAGRAM
USED ON
TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.5mm
HOLE CRS. +/-0.1mm
MATL. N/A
FINISH. N/A
HERNE BAY, KENT CT6 8JZ
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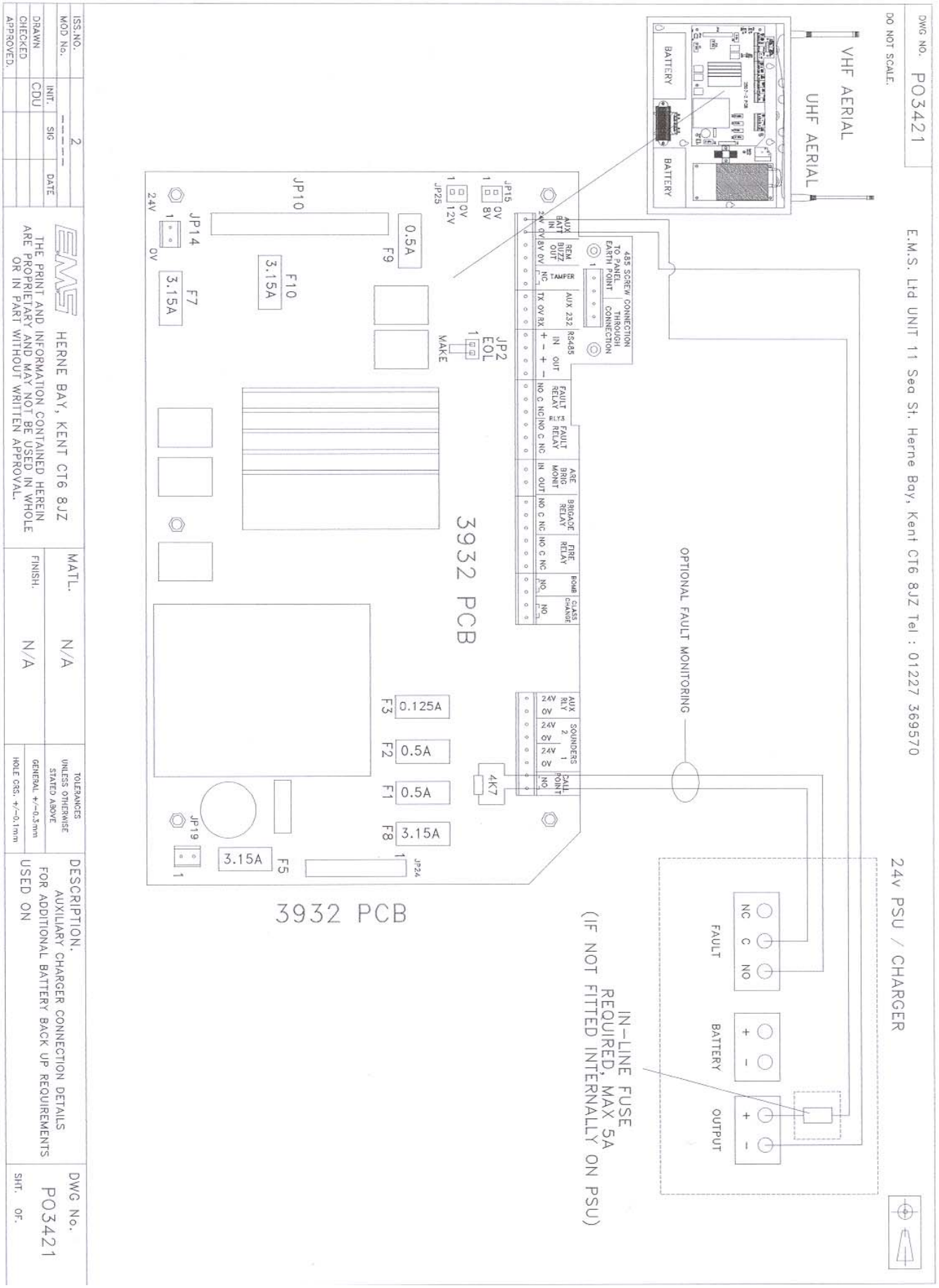

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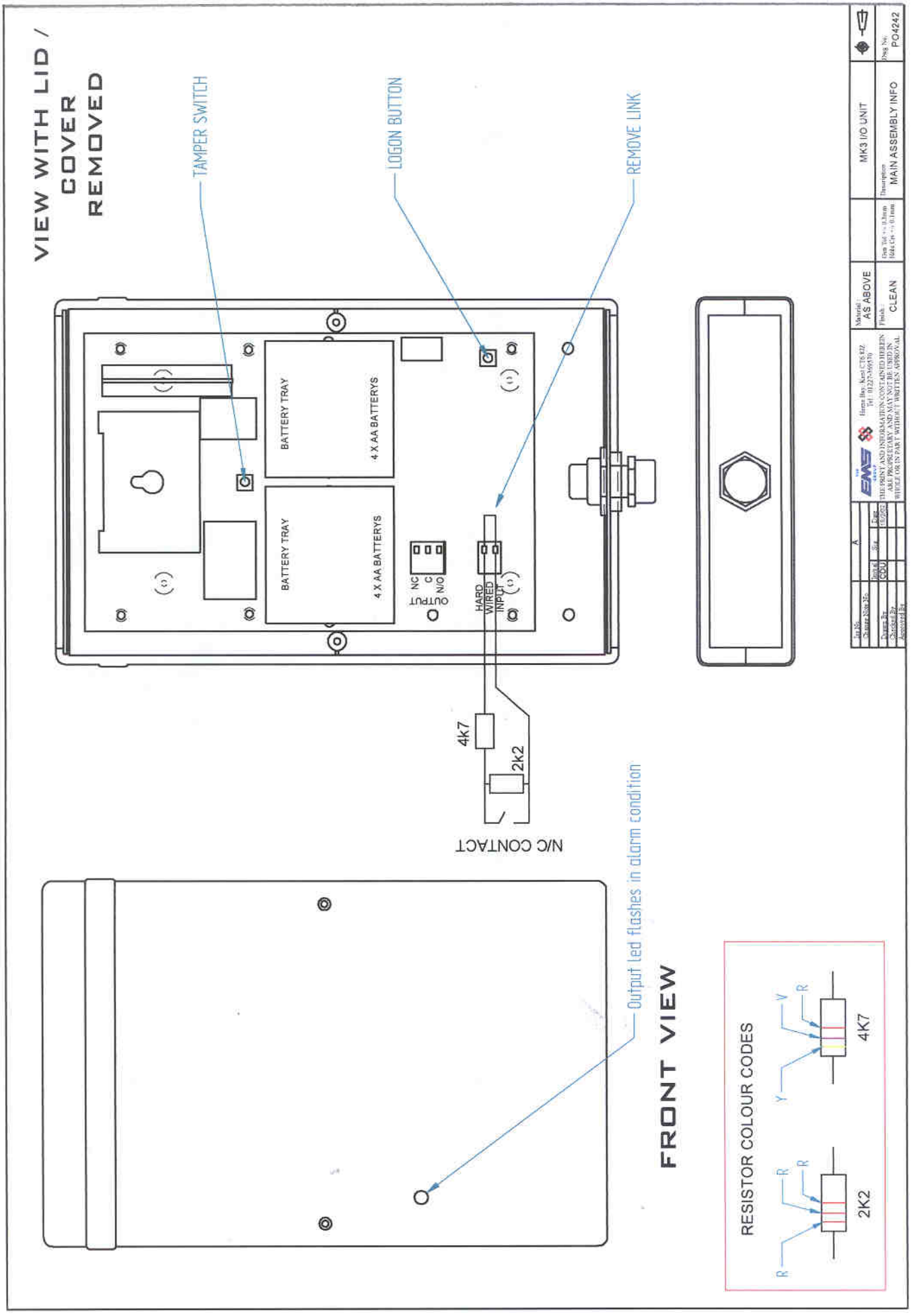
MATL.	N/A
FINISH.	N/A

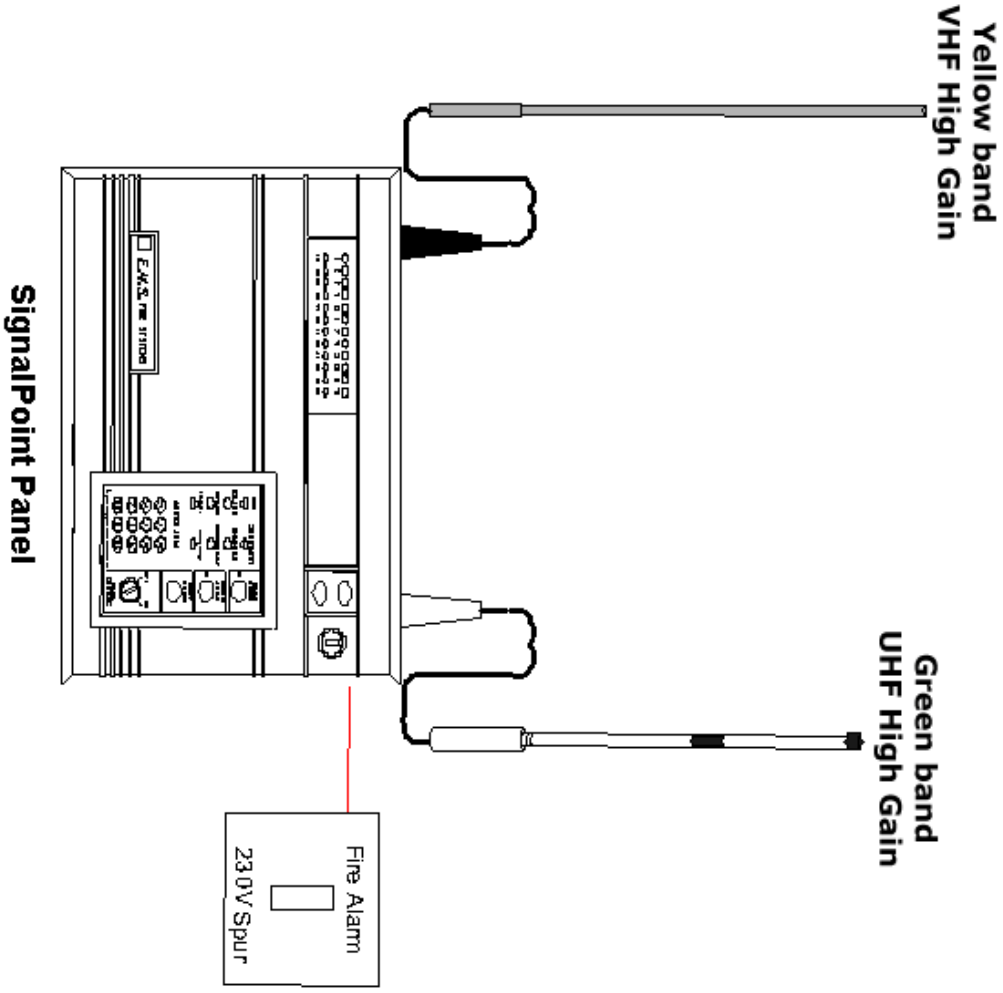
TOLERANCES UNLESS OTHERWISE STATED ABOVE
GENERAL +/-0.2mm
HOLE CRS. +/-0.1mm

DESCRIPTION.
AUXILIARY CHARGER CONNECTION DETAILS
FOR ADDITIONAL BATTERY BACK UP REQUIREMENTS
USED ON

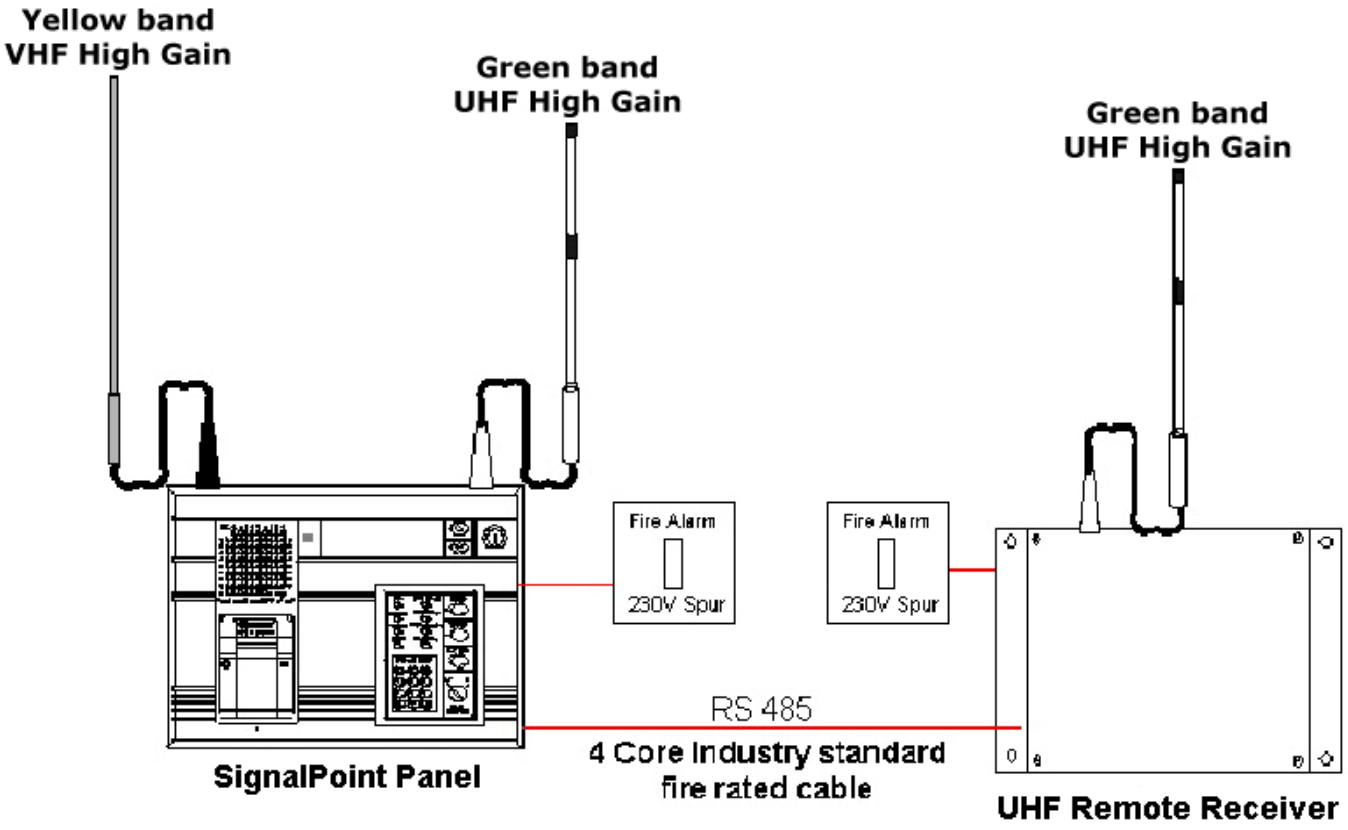
DWG No. PO3421
SHT. OF.


VIEW WITH LID / COVER REMOVED
TAMPER SWITCH
LOGON BUTTON
REMOVE LINK
BATTERY TRAY
4 X AA BATTERYS
BATTERY TRAY
4 X AA BATTERYS
OUTPUT
NC
C
N/O
HARD WIRED INPUT
4K7
2K2
N/C CONTACT
FRONT VIEW
Output led flashes in alarm condition
RESISTOR COLOUR CODES
R
R
2K2
Y
V
R
4K7
MK3 I/O UNIT
MAIN ASSEMBLY INFO
PO4242
AS ABOVE
CLEAN

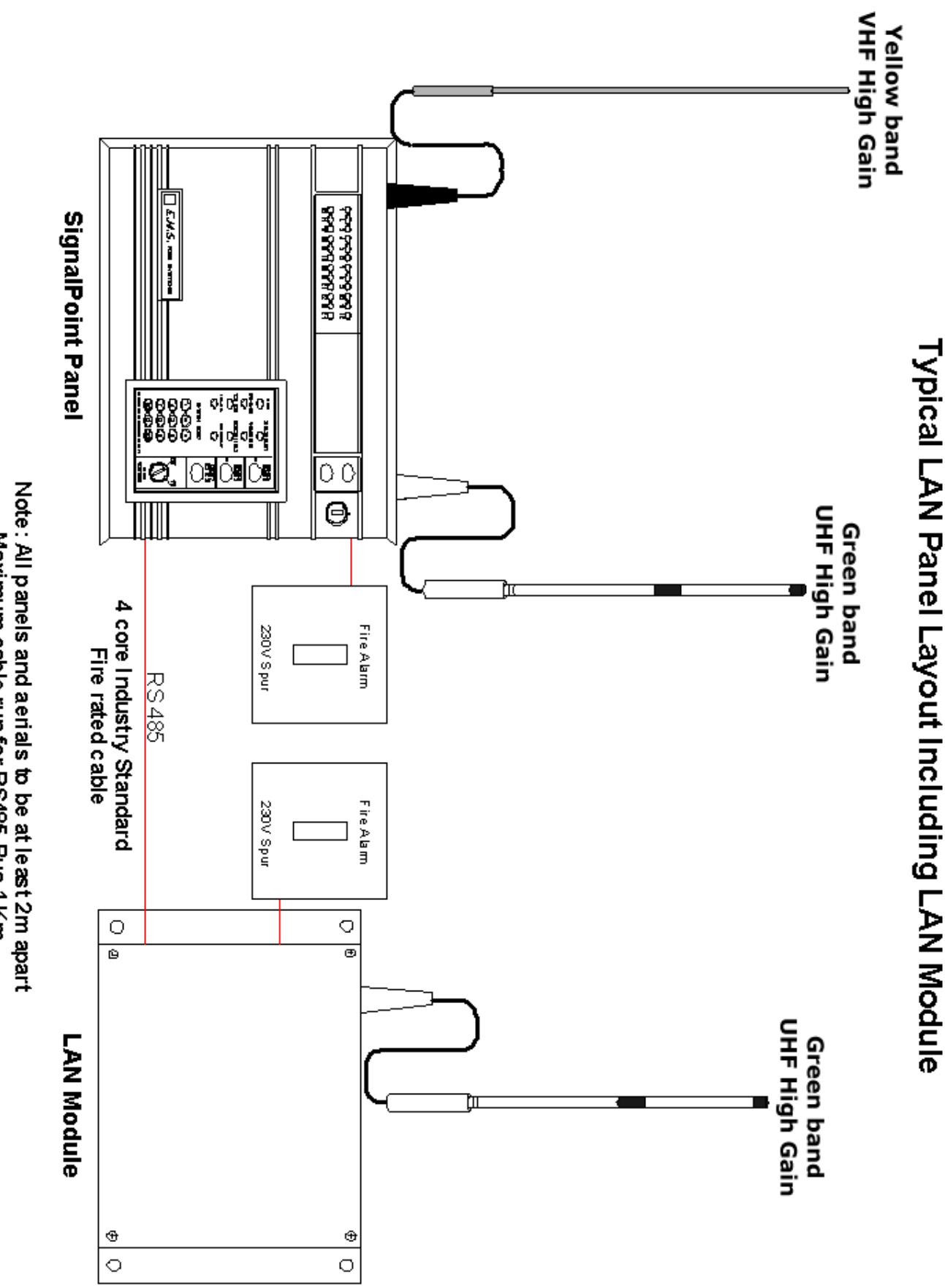
Typical Panel Layout



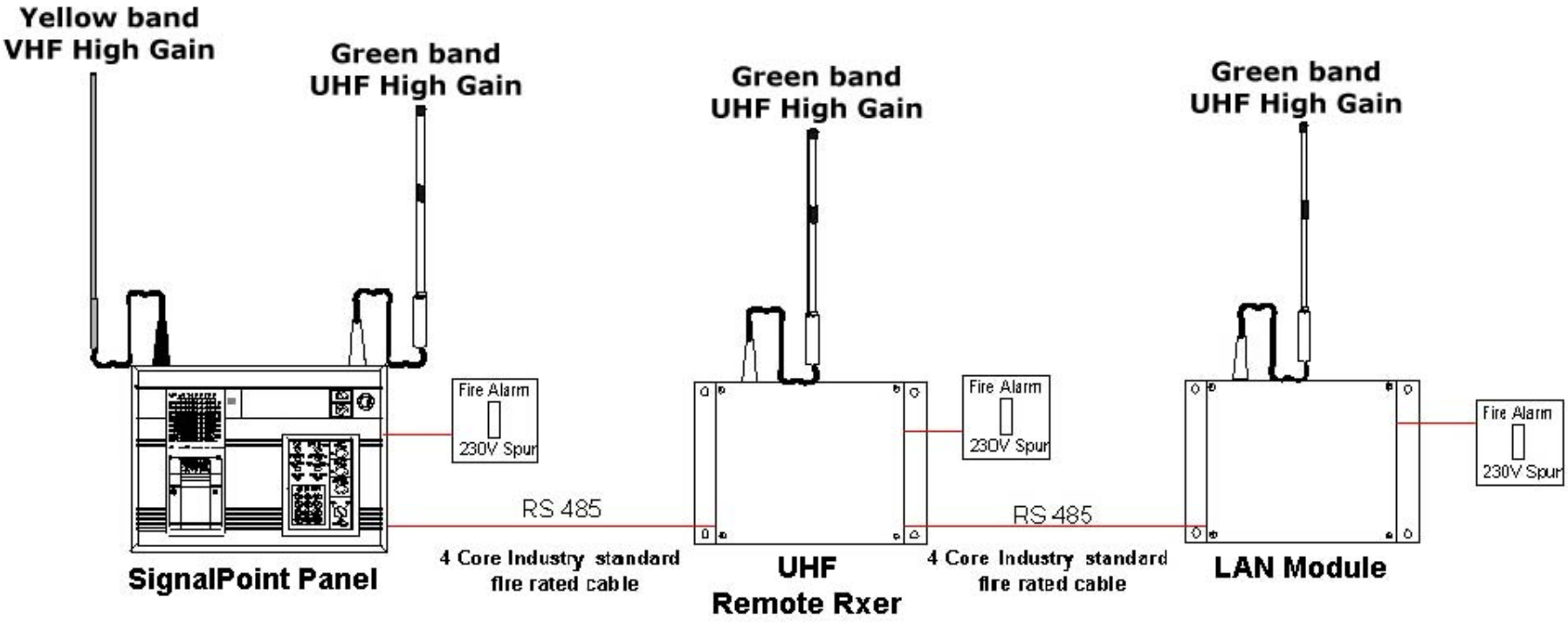
Typical Panel Layout Including UHF Remote Receiver



Note: All panels and aerials to be at least 2m apart
Maximum cable run for RS485 Bus 1Km


Typical LAN Panel Layout Including LAN Module
Yellow band
VHF High Gain
Green band
UHF High Gain
Green band
UHF High Gain
SignalPoint Panel
Fire Alarm
230V Spur
Fire Alarm
230V Spur
RS485
4 core Industry Standard
Fire rated cable
LAN Module
Note: All panels and aerials to be at least 2m apart
Maximum cable run for RS485 Bus 1 Km

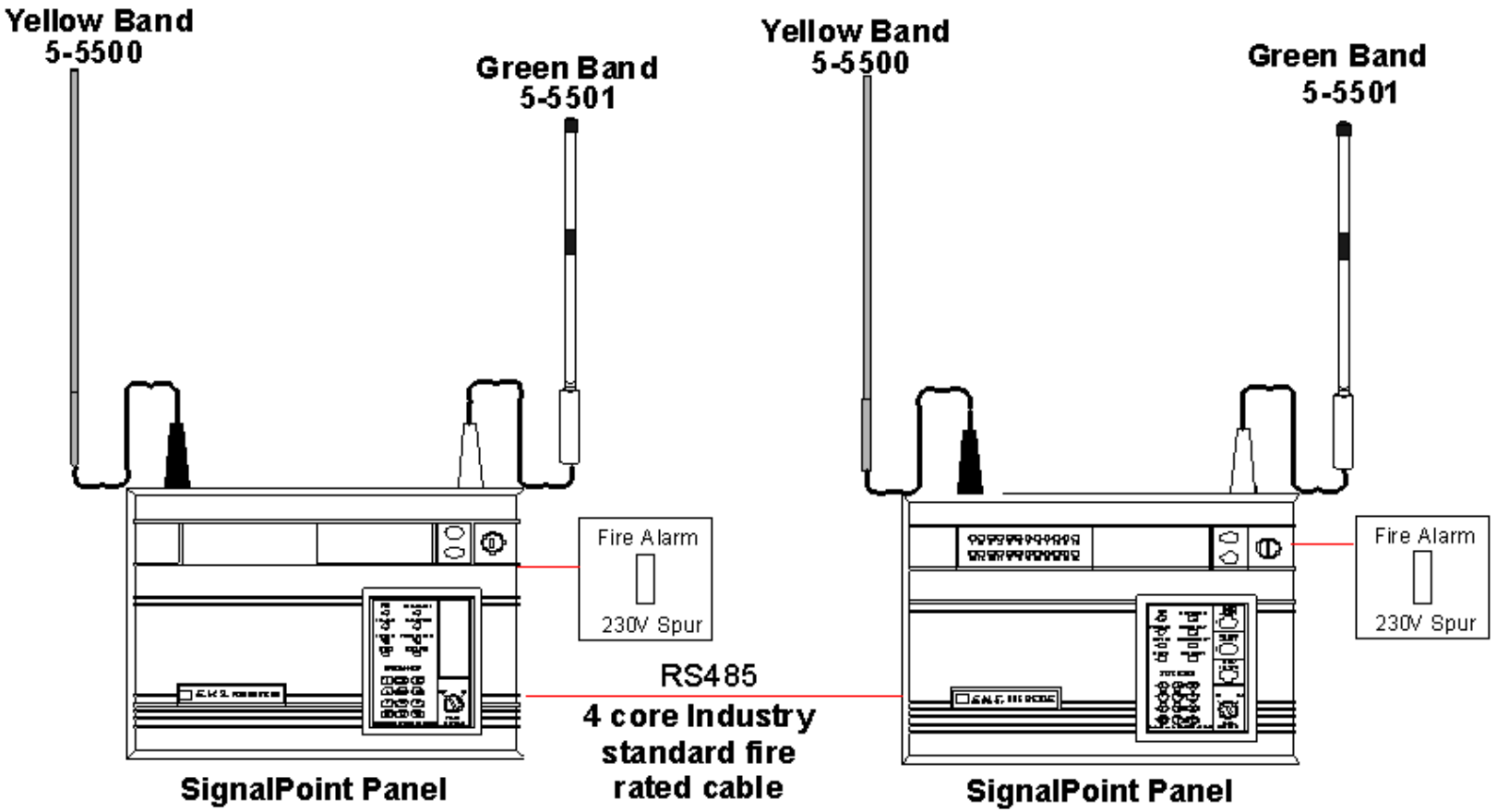
Typical LAN Panel Layout Including LAN Module and UHF Remote Receiver



Note: All panels and aerials to be at least 2m apart
Maximum cable run for RS458 Bus 1 Km

SignalPoint

Typical Hardwired Panel Network Layout



Note: All panels and aerials to be at least 2m apart
Maximum cable run for RS485 Bus 1 Km

12 Device Installation

12.1 Input/Output Units

Ensure that all I/O Units are sited in accordance with the survey and design details.

Remove the two lid retaining screws situated on the front cover. The front section of the unit can now be removed exposing the inside of the device. See Figure 4.

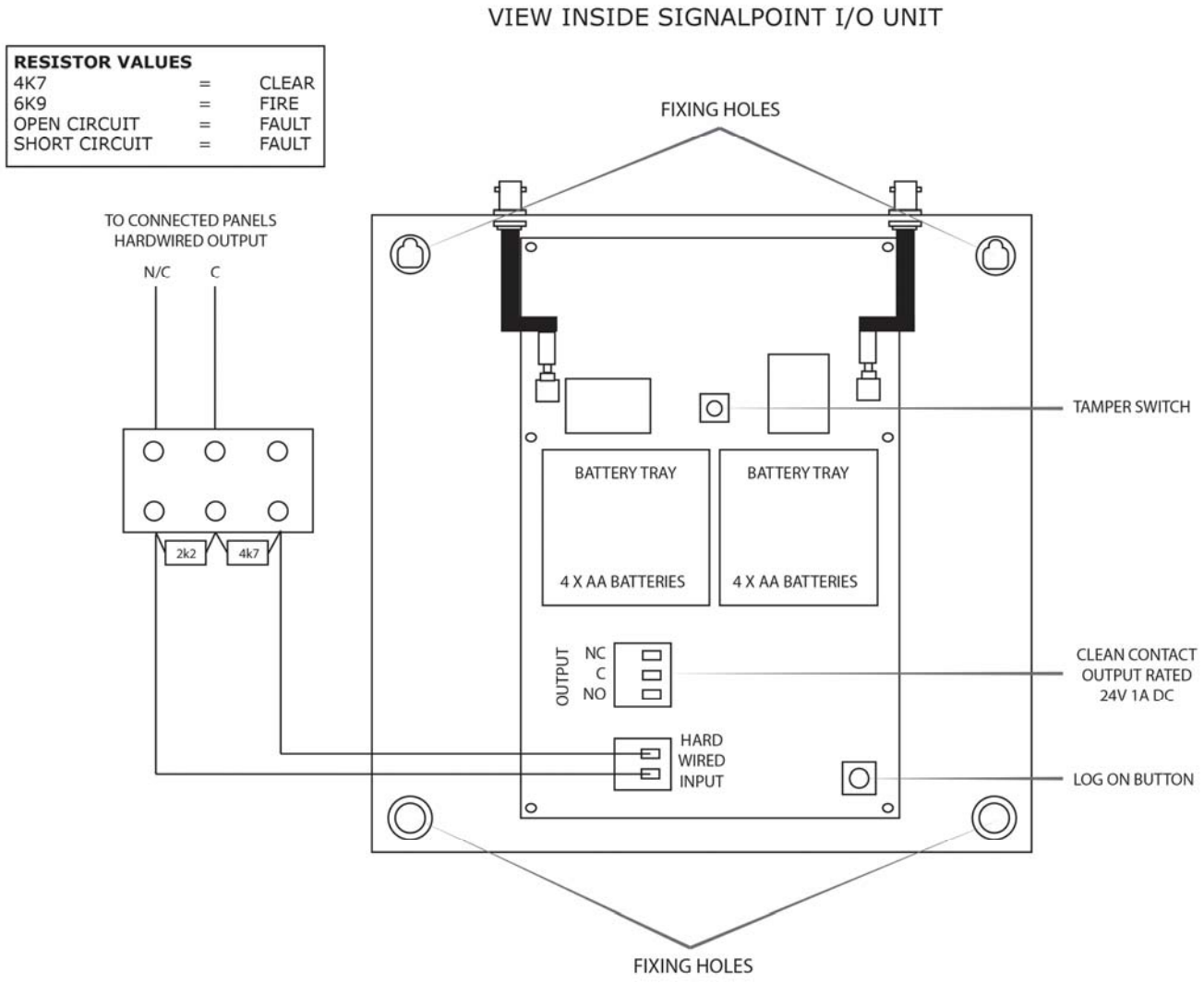


Figure 4

Offer the unit up to the wall and using the back plate as a template mark out the four fixing holes. The unit can be fixed to the wall and all external wiring connections made.

When all connections have been made to the unit the lid can be re-fixed.

12.2 Half Watt Transmitters

Ensure that all Half Watt Transmitters are sited in accordance with the survey and design details.

Remove of the four lid retaining screws situated on the front cover. The front section of the unit can now be removed exposing the inside of the device. See Figure 5.

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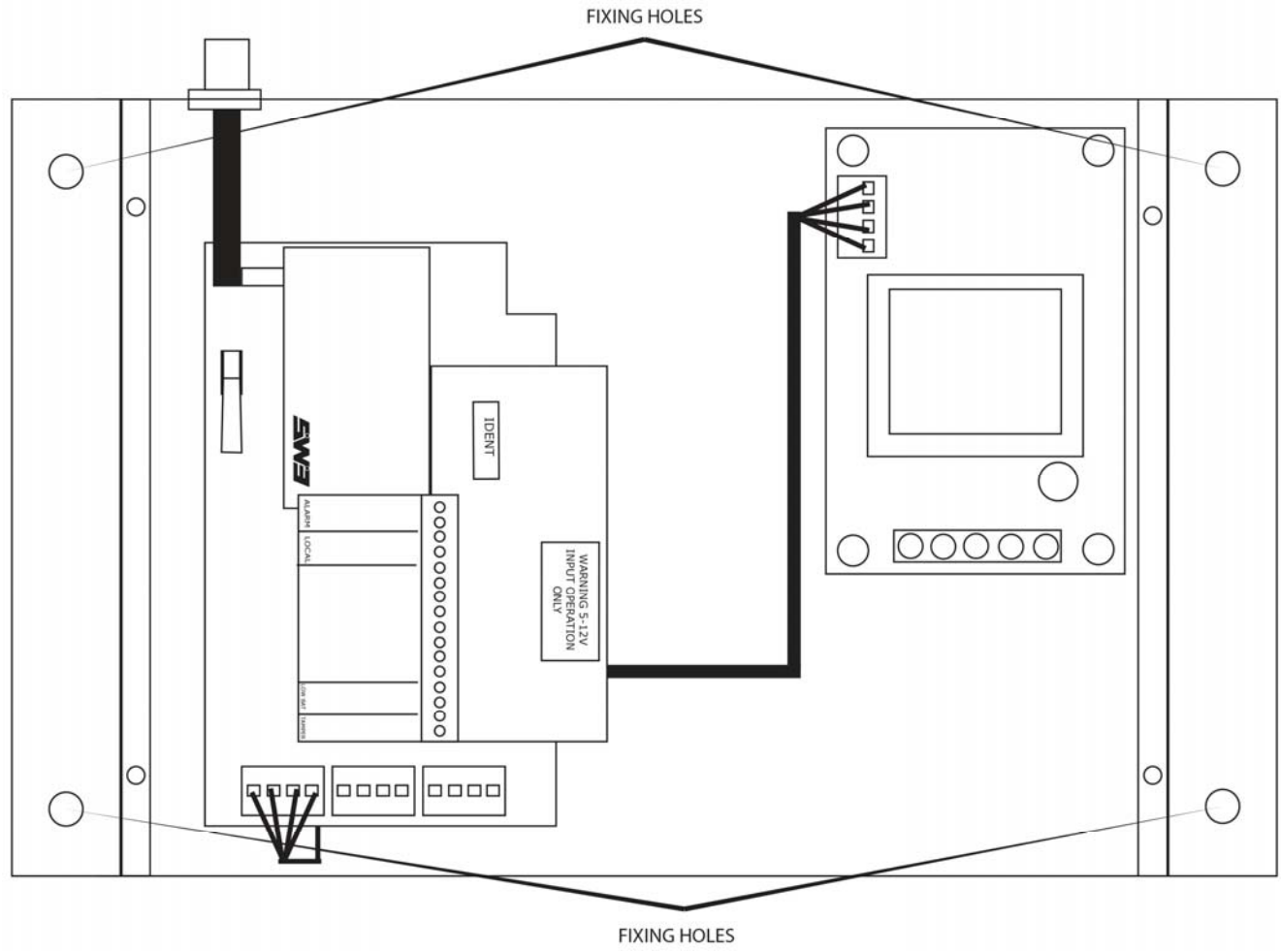

Figure 5

Offer the unit up to the wall and using the back plate as a template mark out the four fixing holes. The unit can be fixed to the wall and all external wiring connections made.

When all connections have been made to the unit the lid can be re-fixed.

13. Controller Information

TECHNICAL INFORMATION FOR THE SIGNALPOINT CONTROLLER

Dimensions:	330mm x 450mm x 116mm
Operating Frequencies:	VHF – 173.2 MHz – 173.5MHz (receiver) UHF – 458.5 MHz – 459.5 MHz (transmitter)
Operating Temperature:	-10 to 55 degrees C
Humidity:	Up to 75% non-Condensing.
Channel Spacing:	25 kHz
Output Transmitter Power:	0.75W (500 mW) (+ 27DBH)
Supply:	240v 50 Hz
Current Consumption:	260mA in standby
Operating Voltages:	24v DC nominal
Battery space:	2 x 12volt 9Ah batteries (not supplied) EMS only recommend: Panasonic Model No: UP-RW1245P1 or a battery of equivalent specification
Inputs:	1 x 27v DC
Outputs:	2 x 0.25amp 24v DC sounder outputs 2 x auxiliary fire relays 2 x auxiliary fault relays 1 x RS 485 serial port 1 x RS 232 serial port
Recommended battery replacement intervals:	Standby 9Ah batteries – 2 years Lithium clock and RAM batteries – 5 years (Re-order no – 5-5812)

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