

# Earth-Rite<sup>®</sup> MULTIPPOINT II

Static Earth Monitoring System

## Installation and Operating Instructions



The safety of any system incorporating the equipment referred to in this manual is the responsibility of the installer of the system.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Any warranty is made void if the equipment is not installed, or used, in accordance with the manufacturers instructions.

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## PRODUCT OVERVIEW

The problem of static electricity in hazardous atmospheres is ever present in many sectors of the processing industries. Effective grounding and bonding procedures are always the first step in controlling static, with special techniques being called for to suit individual applications.

One such application exists with items of process plant incorporating sections, which must be removed periodically for cleaning, product discharge or other purposes. A typical example of this is the product bowl on a Fluid Bed Dryer, but there are many other similar applications such as ductwork sections, conveying systems etc.

In these instances the possibility exists that the removable parts may become isolated conductors if they do not have a sufficiently low resistance path to ground to enable any static generated to safely dissipate. If this happens, high levels of charge may accumulate on the isolated part, posing the risk of energetic static discharges (sparks). If this occurs in a hazardous atmosphere there will be a chance of a resulting fire, explosion or dangerous physiological shocks for operators.

Earth-Rite MULTIPOINT II solves these problems by ensuring that all parts of the equipment are connected together and to ground by using a unique Intrinsically Safe monitoring system. This is achieved by powering the monitoring system from a single I.S. Supply. The Monitoring Unit may be used to monitor up to eight separate points. The system provides permissive outputs only when the ground loop resistance of each utilised channel is less than 10 Ohms, as recommended in the various International standards for the control of undesirable static electricity. The Earth-Rite MULTIPOINT II may be used to provide status indication for the equipment, or automatically linked back to a control system to prevent operation until the required bonding and grounding conditions have been achieved. The system has cCSAus, ATEX and IECEx approval for use in hazardous atmospheres and meets all current EC directives.

## Important Safety Precautions



This symbol, wherever it appears, alerts you to important instructions.

### DETAILED SAFETY INSTRUCTIONS:

Read these instructions. Keep these instructions. Heed all warnings.

Follow all instructions.

Install in accordance with the manufacturer's instructions.

Do not install near any heat sources.

Do not allow water to enter any of the enclosures.

Refer all servicing to qualified service personnel.

Servicing is required when the apparatus has been damaged in any way, such as if liquid has been spilled or objects have fallen into any of the Earth-Rite MULTIPOINT II enclosures, or the equipment does not operate as intended, or has been dropped.

All wiring should be as shown in this manual. Alternative wiring arrangements are not recommended as they may infringe the certification requirements.



The Earth-Rite MULTIPOINT II should be taken out of service if it shows signs of damage or liquid/dust ingress.



**DO NOT OPEN THE POWER SUPPLY UNIT ENCLOSURE WHEN AN EXPLOSIVE GAS AND/OR DUST ATMOSPHERE MAY BE PRESENT.**



The Earth-Rite MULTIPOINT II Monitoring Circuit must have a connection to a verifiable ground point in order to dissipate static electricity.



Connector PL10, on the Monitoring PCB, should be accessed only by a Newson Gale engineer and in a safe area.



Connector PL1, on the Power Supply PCB, should be accessed only by a Newson Gale engineer and in a safe area.



The external ground-terminal of the Monitoring Unit enclosure must be connected to ground in order to dissipate any charge safely away from the enclosure.



#### **ATEX/IECEX Installation**

Special Conditions for Safe Use: The system shall be installed as per the control drawing X MP11 Q15151.



#### **Disposal of the Earth-Rite MULTIPOINT II**

At the end of its life the Earth-Rite MULTIPOINT II should be disposed of in a safe, considerate, environmentally friendly manner.

## INSTALLATION OVERVIEW

### GENERAL

The installation must be in accordance with the manufacturer's guidelines.

The installation shall be carried out by suitably trained personnel.

All cables entering the Power Supply Unit, must be connected through approved cable glands.

The glands should be fitted in such a way as to maintain the ingress protection rating of the enclosure.

Cables connected within the Power Supply Unit shall have a flammability classification of VW-1, equivalent or better.

Cables connected within the Power Supply Unit shall be suitably temperature rated.

The system should be connected as per the enclosed installation drawings.

Unused cable entries must be fitted with suitable stopper plugs.

The Earth-Rite MULTIPOINT II system can be powered from a range of supply voltages.

The Power Supply Unit should be protected using a 2A fast blow fuse, or circuit breaker, mounted in the distribution board / fuse box.

The Monitoring Unit and Remote Indicator Stations should be mounted, with the indicators facing away from direct sunlight, at a convenient location, visible to the operator.

After installation of wiring, replace the enclosure covers, making sure they are tight.

**NOTE:** Cables must be secured close to the enclosure in order to prevent them being accidentally pulled out.

It is recommended that the transfer or mixing operation is interlocked with the contacts of the Earth-Rite MULTIPOINT II unit. This will ensure that the operation is stopped if the earth connection is inadvertently lost.

**Maintenance:** Periodically check exterior of all enclosures for damage or deterioration.

## SPECIFIC INSTRUCTIONS RELATING TO APPROVAL TYPE

### ATEX/IECEX

The installation shall be carried out by suitably trained personnel in accordance with the relevant sections of IEC 60079 and EN 60079.

All cables entering the Power Supply Unit, must be connected through approved cable glands in accordance with EN 60079-14.

**IF YOU HAVE ANY QUERIES REGARDING THE ABOVE POINTS THEN PLEASE CONTACT NEWSON GALE, OR THEIR APPROVED DISTRIBUTOR, WITHOUT DELAY.**

### OTHER APPROVALS

#### Electromagnetic Compatibility

The Earth-Rite MULTIPOINT II has been tested and shown conformity to European Directive 2004/108/EC, and FCC Part 15 Emissions. Conformity has been proven to BS EN 61000-6-3 and BS EN 61000-6-2.

## Environmental Conditions

The equipment is designed to be used both indoors and outdoors in hazardous atmospheres.

Altitude up to	5000m
Ambient Temperature Range	-40°C to +60°C
Maximum Relative Humidity	100%
Mains supply voltage fluctuations	Up to +/- 10% of the nominal voltage
Transient Over-voltages levels	Up to the levels of Category II of IEC 61010-1: 2010 Clause 6.7
Temporary Over-voltages	In accordance with IEC 61010-1: 2010 Clause 6.7
Applicable pollution degree	Degree 2

## The Ingress Protection ratings of the various parts of the equipment are as follows:

Power Supply Unit	IP66, NEMA 4X
Monitoring Unit	IP66, NEMA 4X
Marshalling Junction Box	IP66
Remote Indicator Station	IP66

**Note:** The tightening torque for the green Ex e terminals, of the Power Supply Unit, is 0.4 Nm minimum to 0.5 Nm maximum.

**IF YOU ARE IN ANY DOUBT REGARDING THE INSTALLATION THEN PLEASE CONTACT NEWSON GALE, OR THEIR APPROVED DISTRIBUTOR, WITHOUT DELAY.**

## Maximum Cable Length Considerations for the Earth-Rite MULTIPOINT II Intrinsically Safe Circuits

The Intrinsically Safe cables connected to the Earth-Rite MULTIPOINT II are restricted in length by three I.S. Parameters, namely C (capacitance), L (inductance) and the L/R ratio. The cable parameters correspond to the output parameters of the equipment (Co, Lo & Lo/Ro).

The IEC code of practice (IEC 60079-14) suggests practical maximum cable parameters, for C, L and the L/R ratio, as 200pf/m, 1µH/m and 30 µH/ohm respectively. However, cable manufacturers generally publish specific data for their cables.

This data can be used by the installer, in conjunction with the table below, to determine the maximum allowed cable length.

Consideration must also be given to the resistance of the cable loops as the Earth-Rite MULTIPOINT II monitors to a maximum resistance of 10 ohm per channel.

In addition, all installations must be carried out in accordance with any relevant national standards and requirements.

**For operational purposes, the cable between the Power Supply Unit and the Monitoring Unit should be no more than 200m in length.**

## Earth-Rite MULTIPOINT II

### Approved Cable Parameters

Gas Group	IIC & IIIC	IIB & IIIB	IIA & IIIA
External Capacitance (PSU to Monitor Unit)	1.5uF	9.9uF	39uF
External Inductance (PSU to Monitor Unit)	208uH	833uH	1667uH
External Lo/Ro (PSU to Monitor Unit)	29.1uH/ohm	117uH/ohm	234uH/ohm
External Capacitance (Monitor Unit field wiring terminals) Co	1.5uF	9.9uF	39uF
External Inductance (Monitor Unit field wiring terminals) Lo	1022uH	4088uH	8175uH
External Lo/Ro (Monitor Unit field wiring terminals) Lo/Ro	68uH/ohm	272uH/ohm	544uH/ohm

### Cable resistance values

The resistance figure shown should be multiplied by 2 to give the loop resistance.

Length	Cable Size and Type	Ohms
100m	of 1.0mm sq copper cable has a resistance of	1.73
100m	of 1.5mm sq copper cable has a resistance of	1.13
100m	of 2.5mm sq copper cable has a resistance of	0.69
100m	of 4.0mm sq copper cable has a resistance of	0.43

## Earth-Rite MULTIPOINT II - Customer Supplied Cable Specification – ATEX/IECEX

### Recommended Specification

#### Typical Installation – using Newson Gale Clamps, Cables etc for Plant-Item Connections

**Cable from Earth-Rite MULTIPOINT II Monitoring Unit to the Earth-Rite MULTIPOINT II Marshalling Box**  
0.75mm<sup>2</sup> multi-core Cable with blue sheath or identifier (IS Circuit).

**Cable from Earth-Rite MULTIPOINT II Monitoring Unit to Earth-Rite MULTIPOINT II Power Supply Unit**  
0.75mm<sup>2</sup> 4-core Cable with blue sheath or identifier (IS Circuit). [Maximum Length: 200m]

**Cable from Earth-Rite MULTIPOINT II Monitoring unit to Site Static Earthing Bar/Tape**  
4mm<sup>2</sup> single-core cable with green sheath.

**Cable from the Site Static Earthing Bar/Tape to the Earth-Rite MULTIPOINT II Marshalling Box**  
4mm<sup>2</sup> single-core cable with green sheath.

**Cable from the Earth-Rite MULTIPOINT II Marshalling Box to each Remote Indicator Station**  
1.0mm<sup>2</sup> 5-core Cable with blue sheath or identifier (IS Circuit).

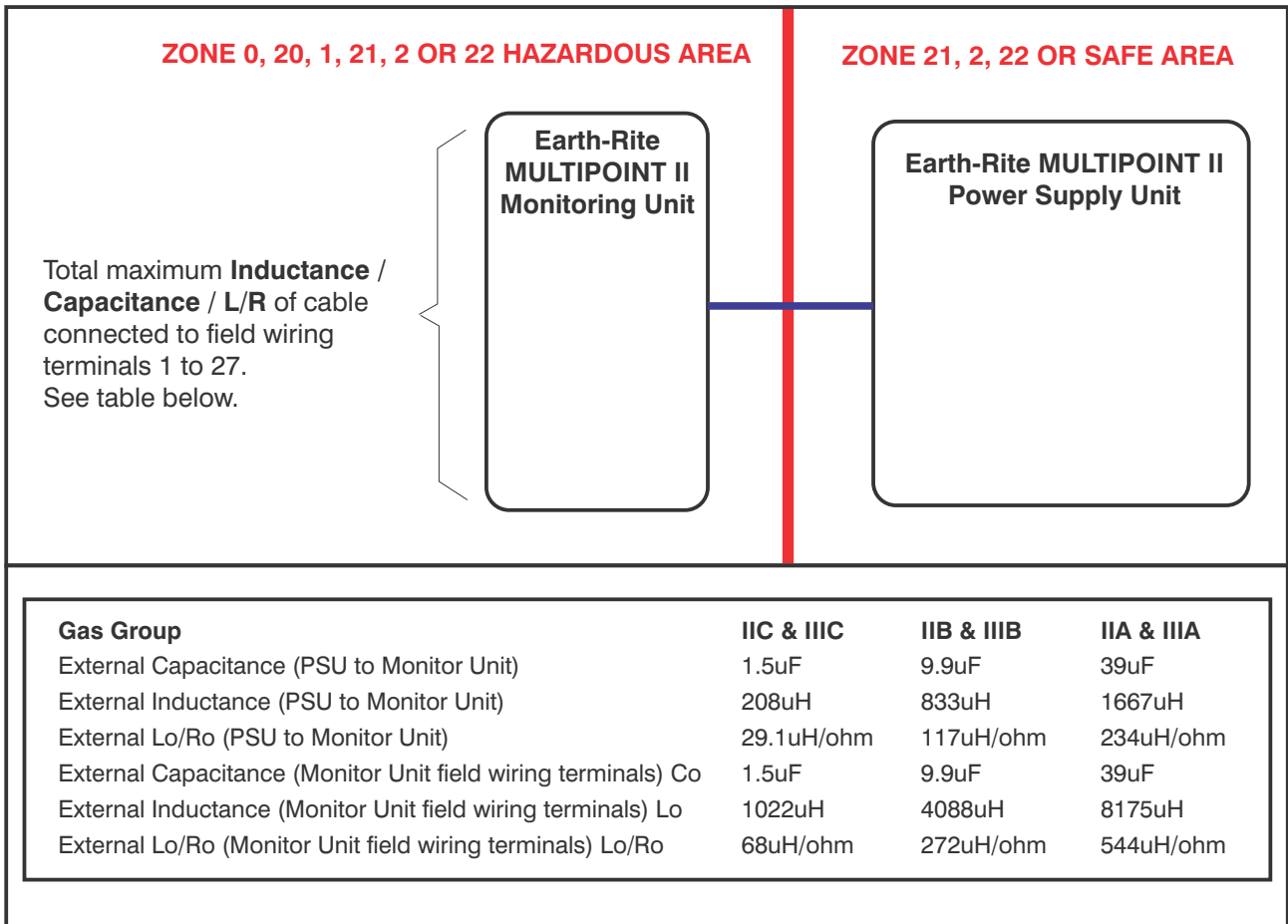
**Cable from Earth-Rite MULTIPOINT II Power Supply Unit to the Pump/Mixer/etc control circuit**  
1.5mm<sup>2</sup> 2 core cable + Protective Earth Conductor (PE)

**Cable from Supply to the Earth-Rite MULTIPOINT II Power Supply Unit**  
1.5mm<sup>2</sup> 2 core cable + Protective Earth Conductor (PE)

#### Insulation of cables connected to the Power Supply Unit

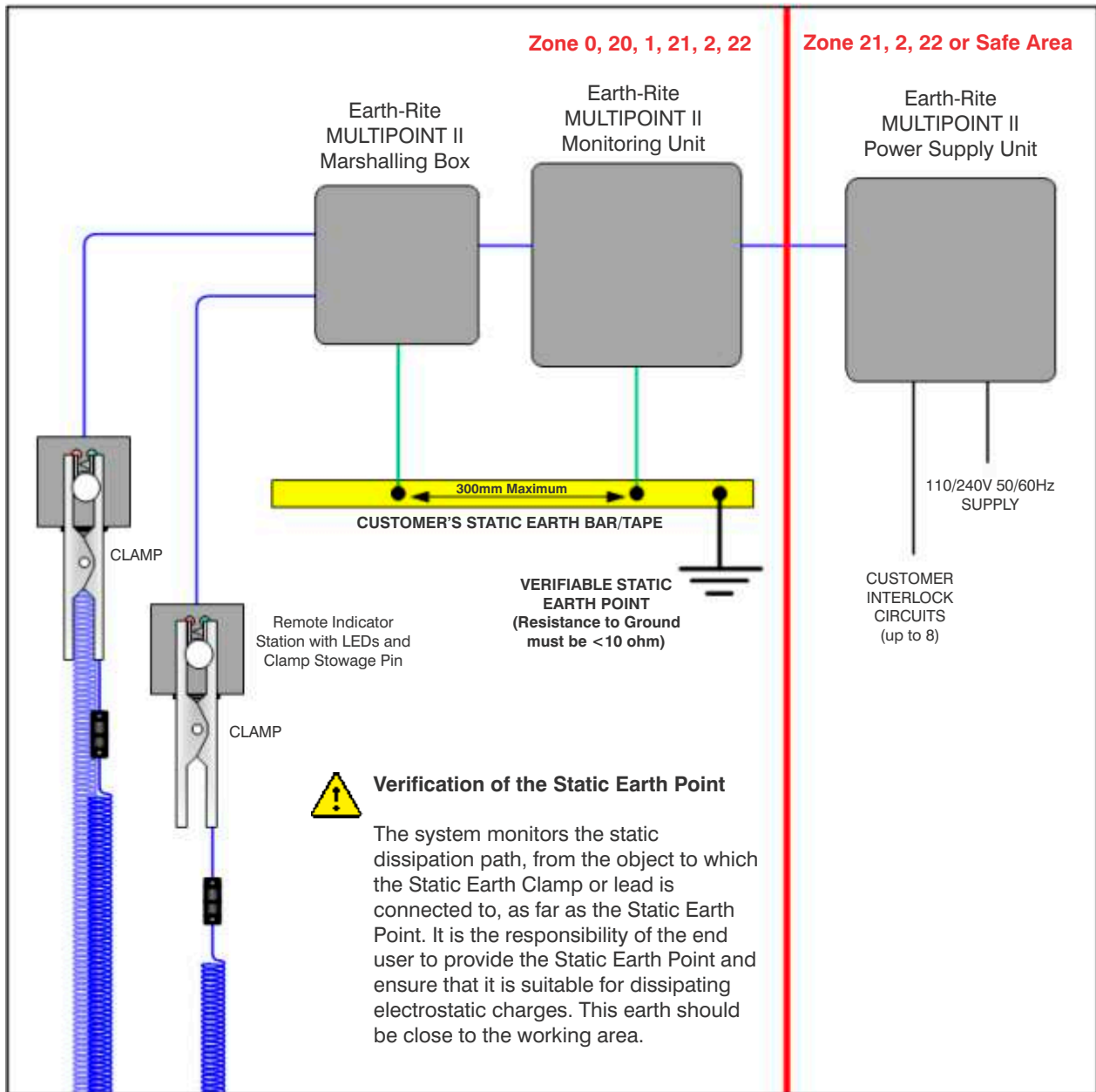
All cables connected to the non-Intrinsically Safe terminals of the Power Supply Unit shall have adequate insulation to suit the voltage and the environmental conditions. The insulation for all cables should be rated to at least 500V.

## Approved Cable Parameters



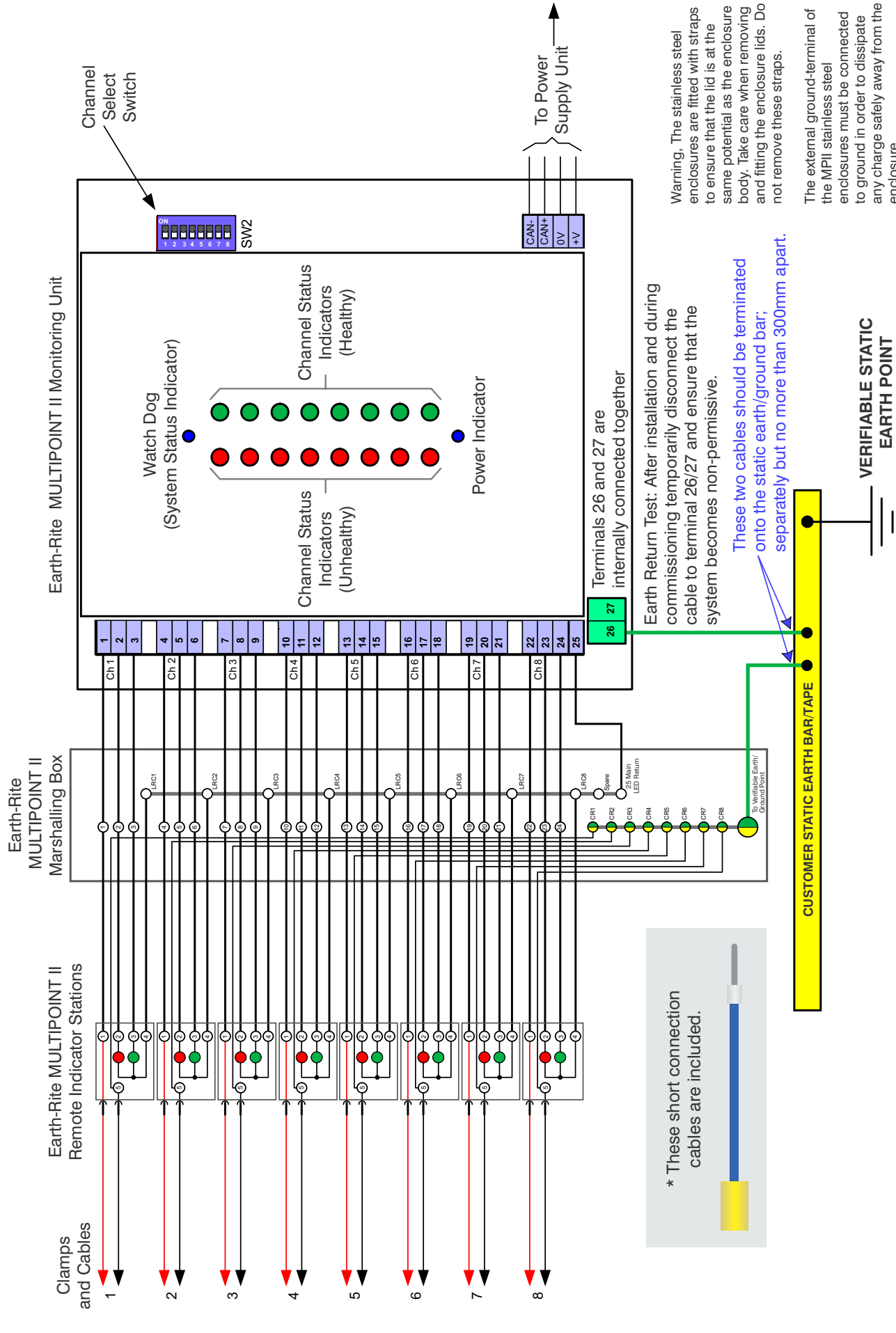
# Earth-Rite MULTIPOINT II - SYSTEM PLAN

## ATEX / IECEx



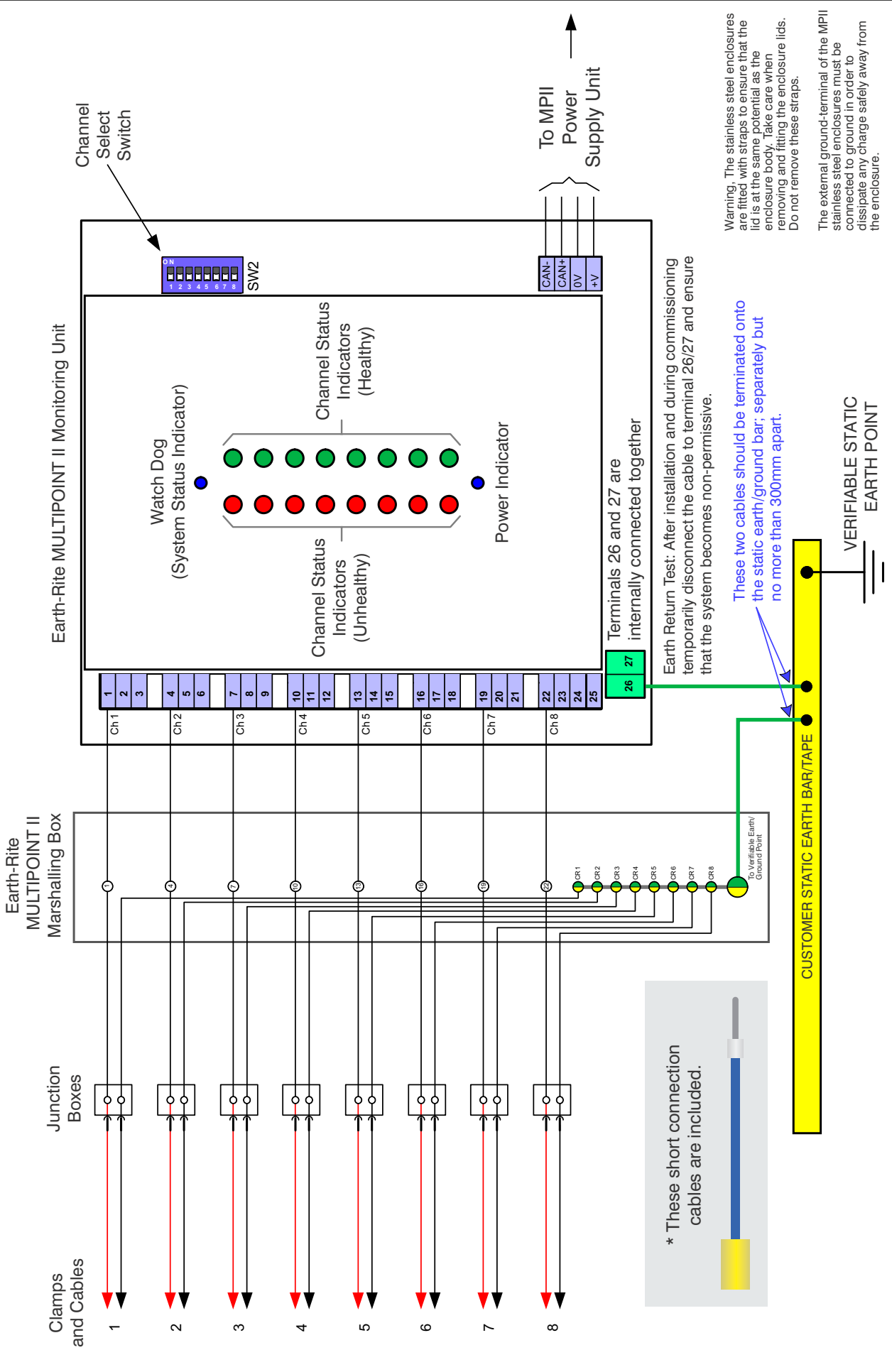


# Earth-Rite MULTIPOINT II - Typical Monitoring Unit Connections - Using 2-Pole Clamps and Cables and Remote Indicator Stations

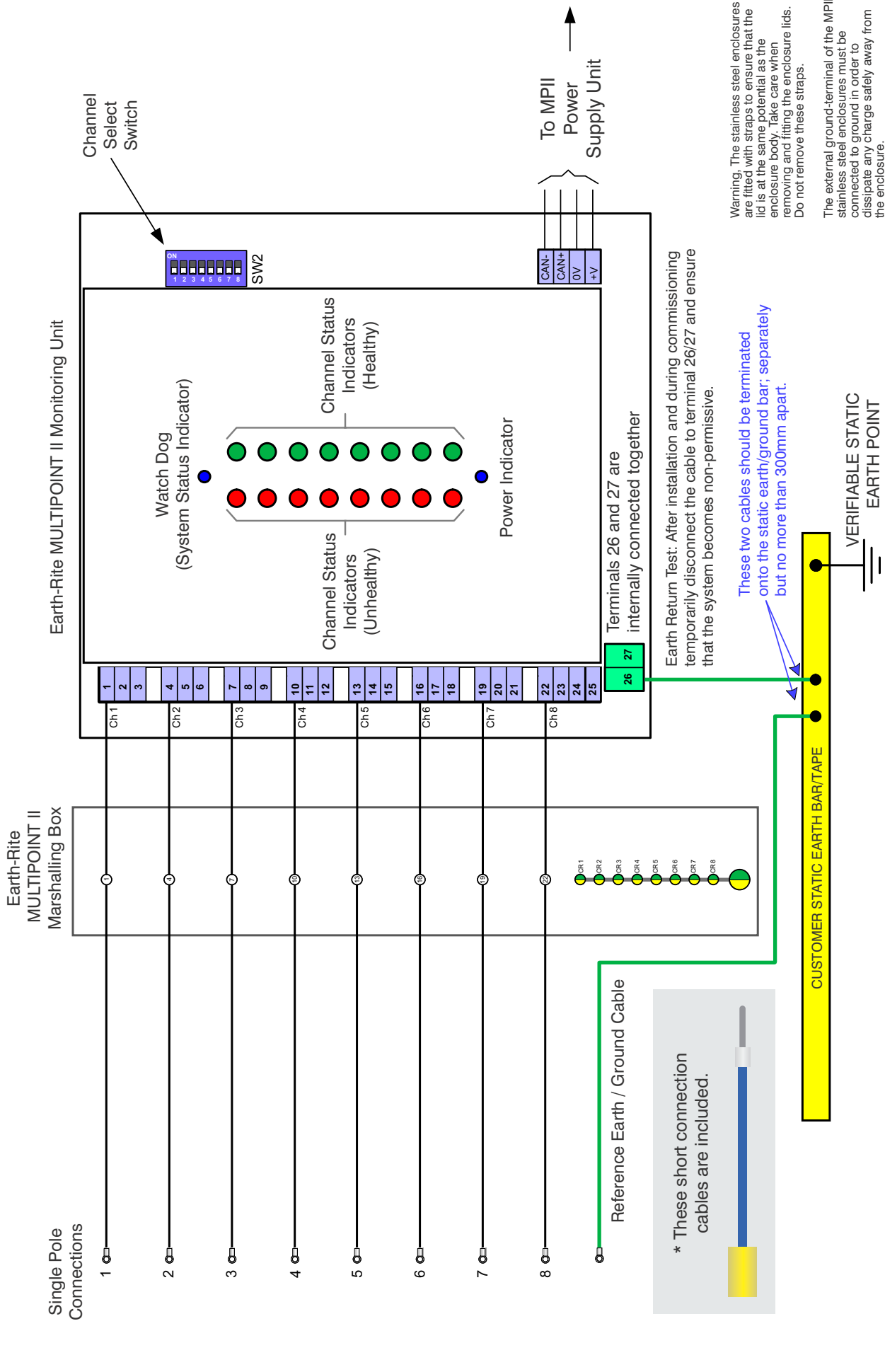


\* These short connection cables are included.

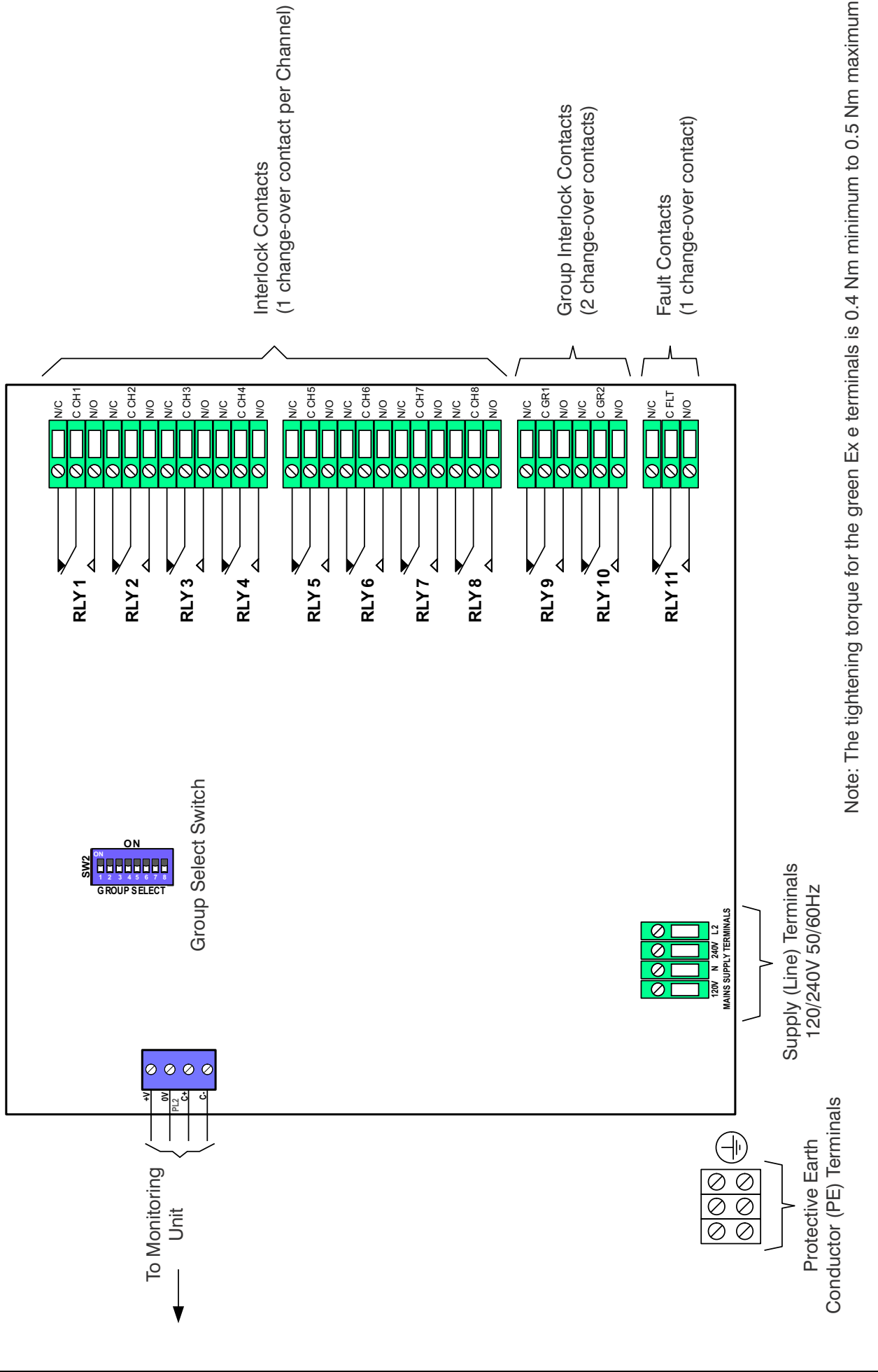
# Earth-Rite MULTIPOINT II - Typical Monitoring Unit Connections - Using 2-Pole Clamps and Cables



# Earth-Rite MULTIPOINT II - Typical Monitoring Unit Connections - Using Single-Pole Connections and Cables



# Earth-Rite MULTIPOINT II - Power Supply Unit



## Setting The Group Relays – Power Supply Unit

Earth-Rite MULTIPPOINT II has a Group Relay facility which allows additional relays (RLY9 and RL10) to energise when one or more channels become permissive. This feature is useful for controlling common remote circuits such as strobe lights, sounders etc., and for interfacing with a computer or PLC.

The Group Relays operate as a pair, in unison, to provide two sets of changeover contacts. In other-words, Relay 9 (RLY9) will always switch at the same time as Relay 10 (RLY10).

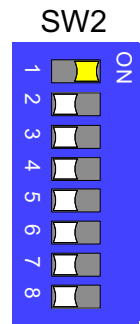
Group Select DIP-Switch (SW2) comprises 8 switches which are used to select which Channel, or Channels, cause the Group Relays to energise.

### Examples

#### To energise the Group Relays when Channel 1 becomes permissive:

Move switch 1 to the ON position.

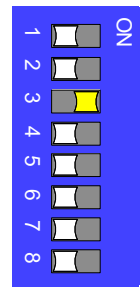
This will cause the Group Relays to energise when Channel 1 becomes permissive.



#### To energise the Group Relays when Channel 3 becomes permissive:

Move switch 3 to the ON position.

This will cause the Group Relays to energise when Channel 3 becomes permissive.

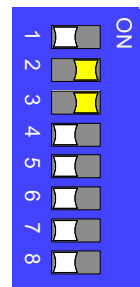


#### To energise the Group Relays when Channels 2 AND 3 become permissive:

Move switches 2 and 3 to the ON position.

This will cause the Group Relays to energise when Channels 2 AND 3 become permissive.

Channels 2 AND 3 have to be permissive for the Group Relays to energise. If either Channel 2 or Channel 3 becomes non-permissive the Group Relays will de-energise.

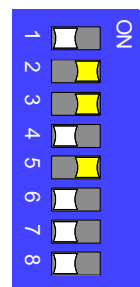


#### To energise the Group Relays when Channels 2 AND 3 AND 5 become permissive:

Move switches 2, 3 and 5 to the ON position.

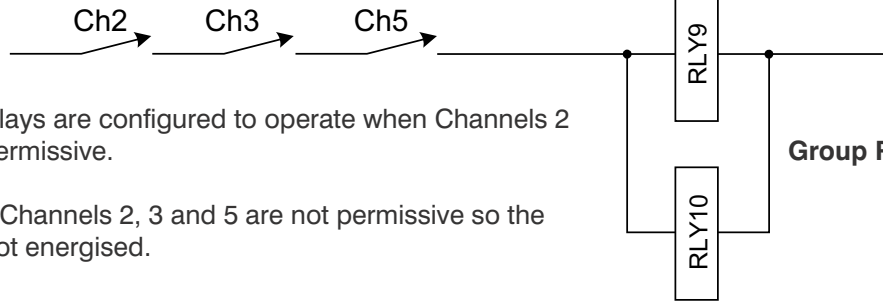
This will cause the Group Relays to energise when Channels 2 AND 3 AND 5 become permissive.

Channels 2 AND 3 AND 5 have to be permissive for the Group Relays to energise. If either Channel 2 or Channel 3 or Channel 5 becomes non-permissive the Group Relays will de-energise. Please refer to Fig.1.



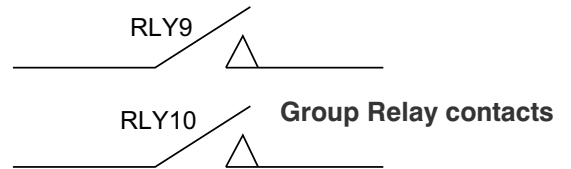
**Fig. 1 - Illustration example Group Relay control**

①

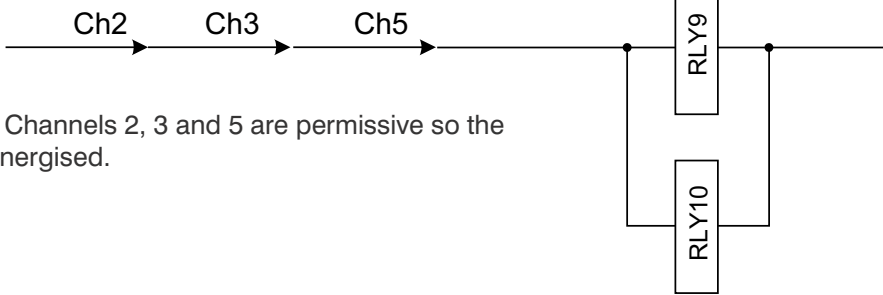


Example: Group Relays are configured to operate when Channels 2 AND 3 AND 5 are permissive.

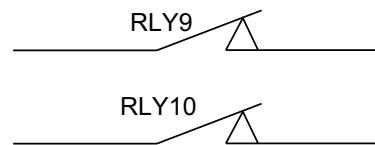
At this point in time Channels 2, 3 and 5 are not permissive so the Group Relays are not energised.



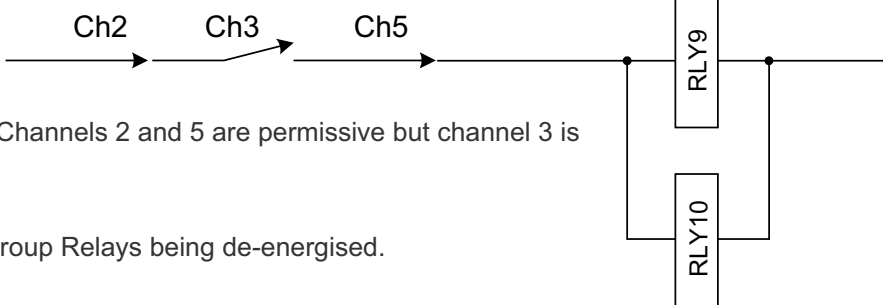
②



At this point in time Channels 2, 3 and 5 are permissive so the Group Relays are energised.



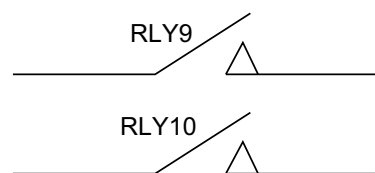
③



At this point in time Channels 2 and 5 are permissive but channel 3 is not permissive.

This results in the Group Relays being de-energised.

All selected channels have to be permissive in order to energise the Group Relays.

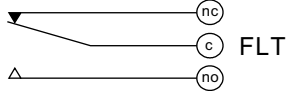
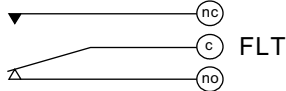
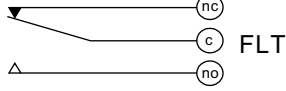


## Using The Fault Relay Contacts - FLT

Earth-Rite MULTIPOINT II has a Fault-Relay facility which allows relay RLY11 to switch when the system encounters a communication fault. This feature is useful for alerting operators and supervisors in the unlikely event of a system fault.

The fault-relay contact status, with respect to the system condition, is shown in the table below.

**Fault-Relay RLY11 Contact Status**

Condition	Status
Power to Earth-Rite MULTIPOINT II is OFF	
Power to Earth-Rite MULTIPOINT II is ON and system is communicating correctly	
Power to Earth-Rite MULTIPOINT II is ON and system has a communication fault	

### MPII Watchdog LED

#### Monitor Board

##### Healthy/Watchdog (WD) LED

While the program is running normally, the healthy LED is toggled every 250 msec.

If it stops flashing, this indicates an error.

#### Output Board

##### Healthy/Watchdog LED

While the program is running normally, the healthy LED is toggled every 250 msec.

If it stops flashing, this indicates an error.

### Fault Relay RLY11

The Fault Relay is driven from the CPU, but instead of just setting the control line HI or LOW, it has to be constantly toggled in order to energise the relay.

This is an additional safeguard to ensure that if the control line got stuck (either HI or LOW) the relay would be de-energised.

### Transmission Fault

In the event of a transmission fault between the Monitor Board and Output Board:

- The Healthy LED will be turned OFF
- All relays will be turned OFF
- The Fault circuit will be turned OFF
- The RxLED will be turned OFF
- The CAN Fail LED will be turned ON

## Setting The Active Channels – Monitoring Unit

Earth-Rite MULTIPPOINT II has a Channel Select facility which allows the installer to select which channels are active and which are inactive.

Channel Select DIP-Switch (SW2) comprises 8 switches which are used to select the channels.

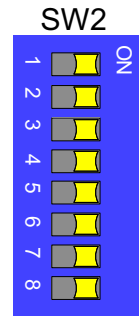
### Examples

#### To activate all Channels (1 to 8):

Move all switches (1 to 8) to the ON position.

This will activate all Channels (1 to 8).

The LEDs for all channels will function (Red/Green depending on channel status).



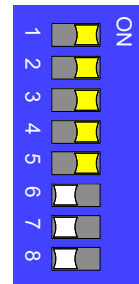
#### To activate Channels 1 to 5:

Move switches 1, 2, 3, 4 and 5 to the ON position.

This will activate Channels 1 to 5 only.

The LEDs for channels 1 to 5 will function (Red/Green depending on channel status).

The LEDs for the other channels will not show.



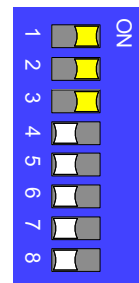
#### To activate Channels 1 to 3:

Move switches 1, 2, and 3 to the ON position.

This will activate Channels 1 to 3 only.

The LEDs for channels 1 to 3 will function (Red/Green depending on channel status).

The LEDs for the other channels will not show.



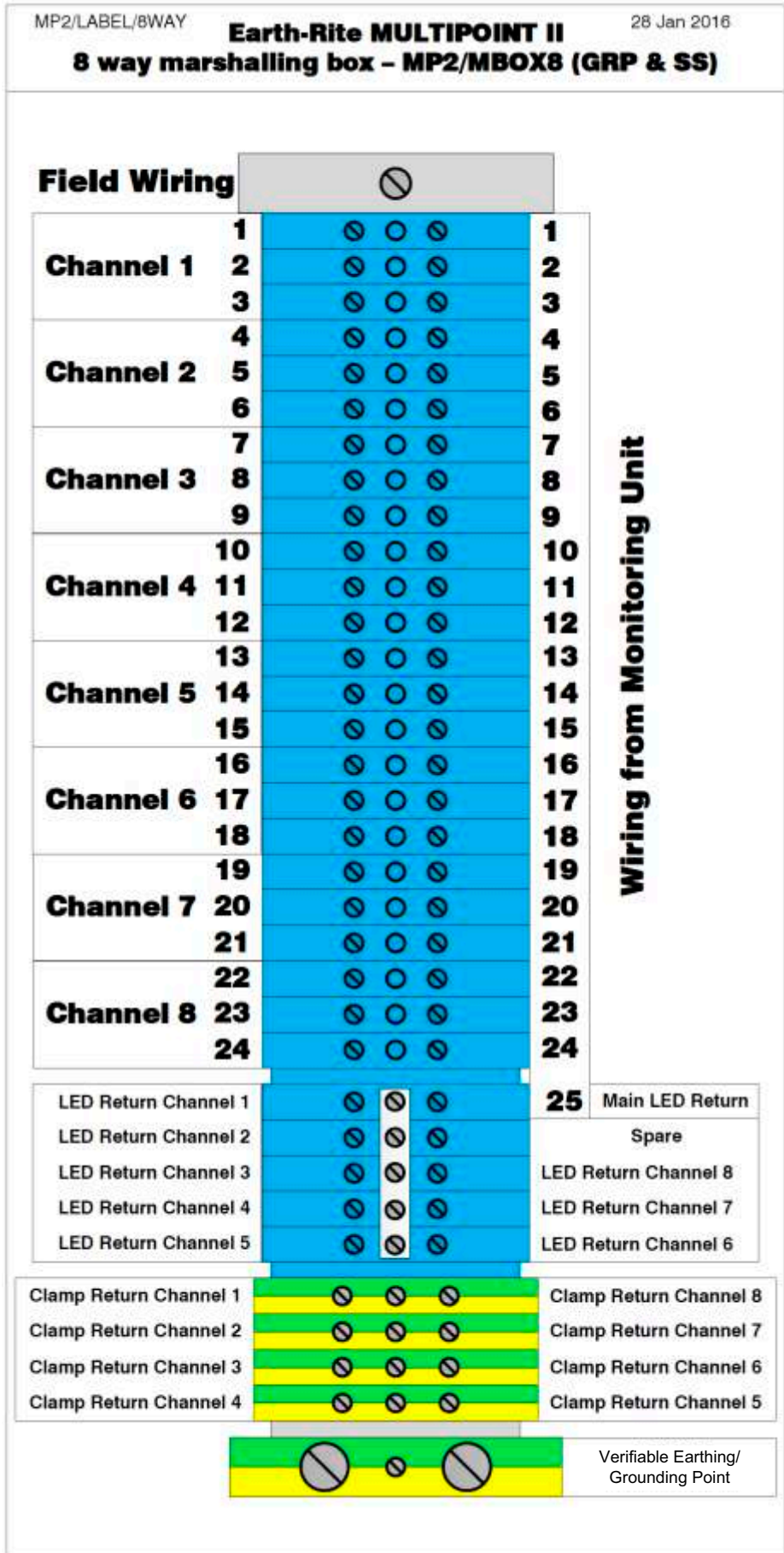
### Note

Each active Monitoring Unit Channel controls its own relay within the Earth-Rite MULTIPPOINT II Power Supply Unit.

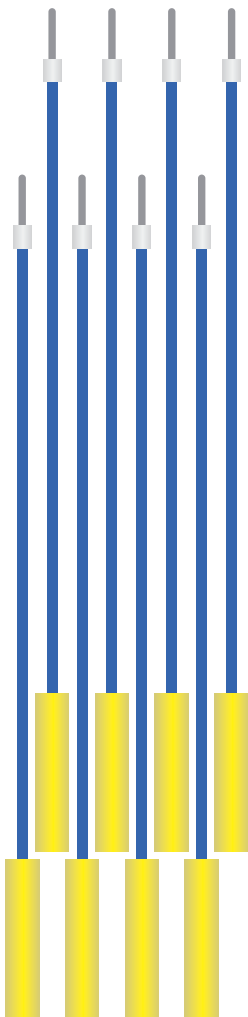
Channel 1 controls Relay RLY1, Channel 2 controls Relay RLY2 etc.



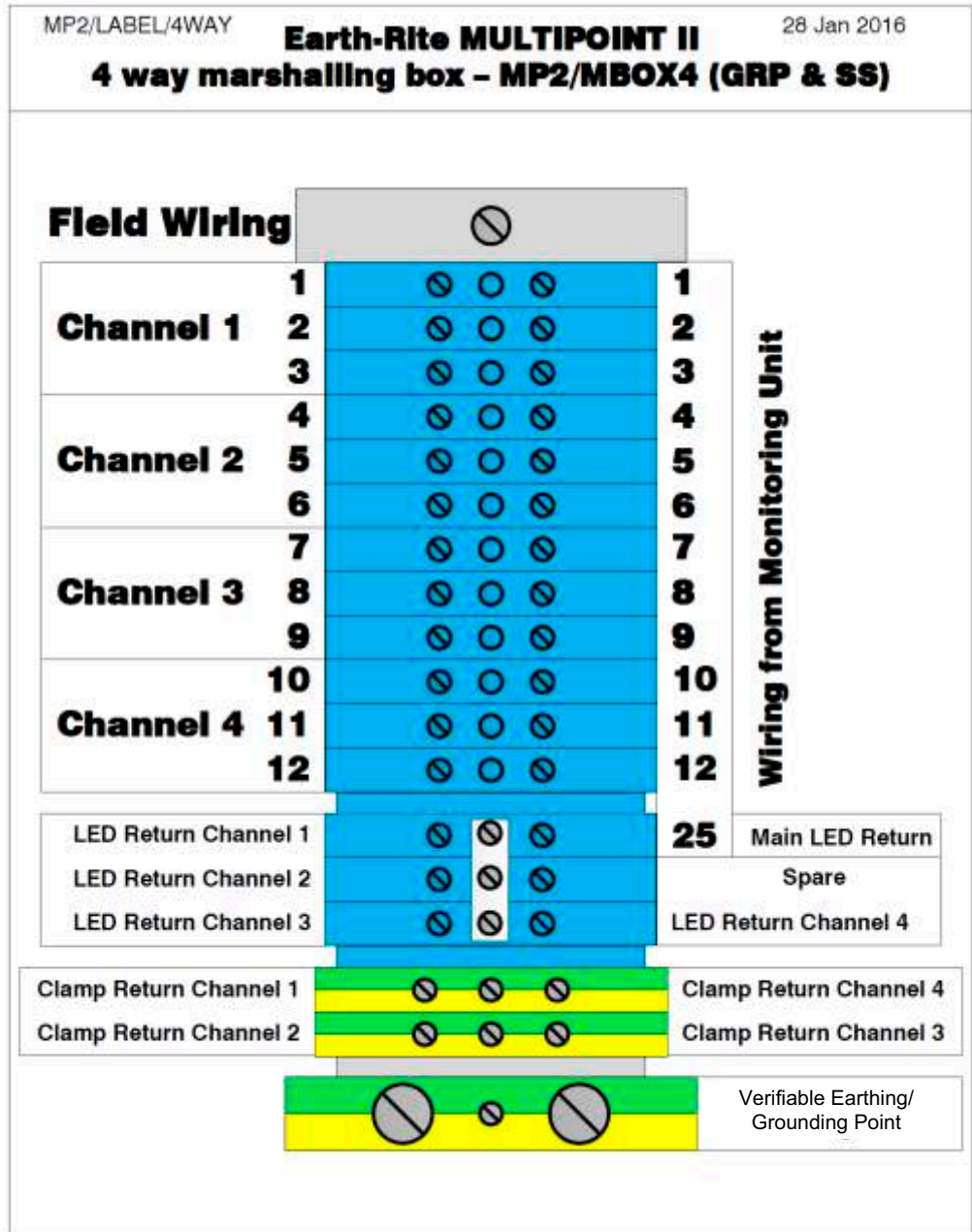
8-way Earth-Rite MULTIPOINT II Marshalling Box - Terminal Utilisation Detail



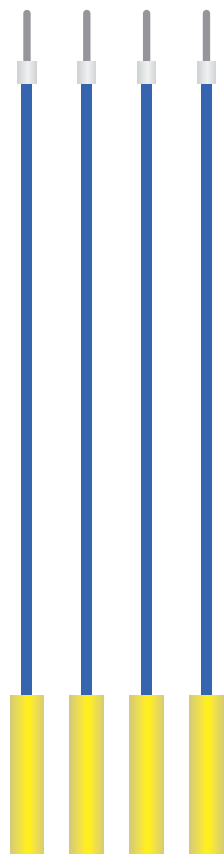
\* These short connection cables are included.



# 4-way Earth-Rite MULTIPOINT II Marshalling Box - Terminal Utilisation Detail



\* These short connection cables are included.



## ATEX/IECEX INSTRUCTIONS FOR SAFE SELECTION, INSTALLATION, USE, MAINTENANCE AND REPAIR

### User instructions in compliance with IEC 60079-0 clause 30

The following instructions apply to the Earth-Rite MULTIPOINT II Earth Monitoring Module, covered by certificates numbered **IECEX EXV 19.0062X** and **ExVeritas 19ATEX0546X**.



### Instructions for safe selection, installation, use, maintenance and repair

The PSU may be used in zones 21, 2 and 22 with flammable gases and dusts.

The Monitor Unit may be used in zones 0, 20, 1, 21, 2 and 22 with flammable gases and dusts.

The equipment may be used in the presence of flammable gases and vapours with apparatus groups IIC or IIB or IIA and with temperature classes T1 or T2 or T3 or T4.

The equipment may be used in the presence of flammable dusts, powders and flyings, conductive or non-conductive, the only limitation being the maximum external surface temperature of 135°C.

The equipment is certified for use in ambient temperatures in the range of -40°C to +60°C and should not be used outside this range.

The equipment is to be installed by suitably trained personnel in accordance with the applicable code of practice (typically IEC/EN 60079-14).

No user adjustment is required.

Regular periodic inspection of the equipment should be performed by suitably trained personnel in accordance with the applicable code of practice (typically IEC/EN 60079-17) to ensure it is maintained in a satisfactory condition.

The equipment is not intended to be repaired by the user. Repair of the equipment is to be carried out by the manufacturer, or their approved agents, in accordance with the applicable code of practice.

The equipment contains no user-replaceable parts.



**The Earth-Rite MULTIPOINT II should be used by trained, competent persons only.**



**Before using the Earth-Rite MULTIPOINT II each day it is important to check the operation to ensure that the LEDs switch on and off as expected. This is particularly important if the Earth-Rite MULTIPOINT II is used to monitor fixed connections.**



**Special Conditions for Safe Use: The system shall be installed as per the control drawing X MPII Q15151.**

## Earth-Rite MULTIPOINT II - Typical Operation



**Note: The Earthing/Grounding Clamp should be fitted prior to any other operation.**

A. In the normal "rest" state, with the Earthing/Grounding Clamp stowed on the insulated pin, the Green *Positive Earth Condition* LED will be switched off and the c-no output contacts will be open.

B. Attach the Earthing/Grounding Clamp onto the conductive plant item at a suitable point and ensure that the pointed contacts are positively located.

If the connection to the plant item and Earth/Ground is good, then the Green *Positive Earth/Ground Condition* LED will show and the c-no output contacts will close.

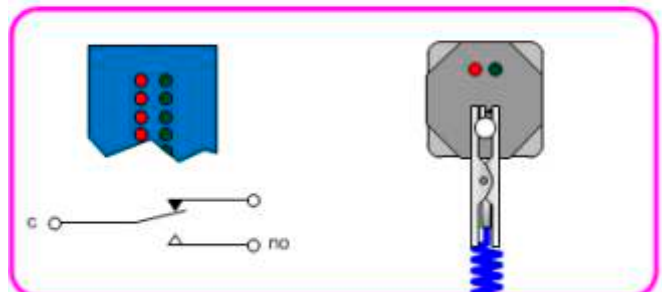
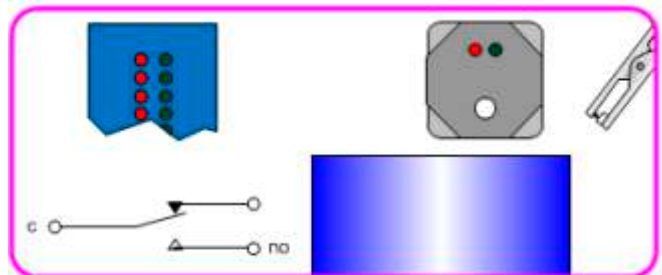
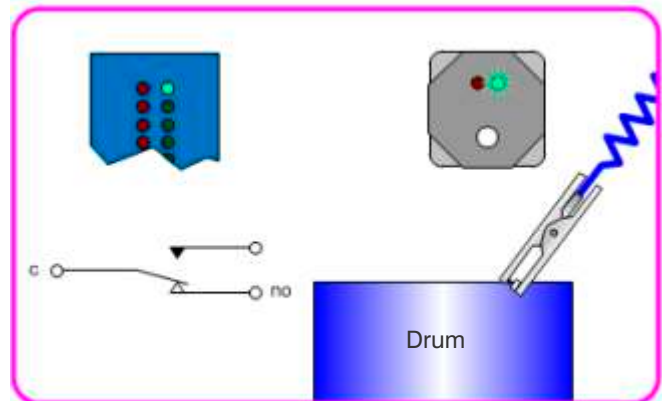
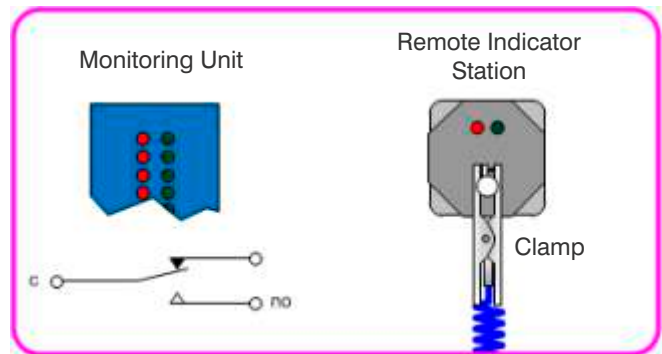
**Note:** The green LED in the Junction Box flashes but the green LED in the Monitoring Unit is steady. The product transfer / mixing operation can now take place.

C. If the connection between the plant item and Earth/Ground is broken during the transfer operation, then the Green *Positive Earth/Ground Condition* LED will switch off and the c-no output contacts will open.

D. On completion the Earthing/Grounding Clamp should be removed from the plant item and stowed on the insulated pin on the front of the remote indicator station. The Green *Positive Earth/Ground Condition* LED will switch off and the c-no output contacts will open.

**Note:** "no" refers to the normally-open contact and "c" refers to the common contact.

The Red LEDs will show whenever the Earth/Ground Loop resistance is too high.



### Important Note

The earthing clamp should be fitted prior to any other operation as per the recommendations of ATEX 2014/34/EU, ATEX 137, EN 60079-14, IEC TS 60079-32-1 and CLC/TR: 60079-32-1.

# ATEX/IECEX Marking Details for Earth-Rite **MULTIPOINT II** Monitoring Unit

## PRINCIPAL LABEL

SPACE RESERVED FOR  
NEWSON GALE LOGO

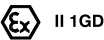
Nottingham, NG4 2JX UK

**Earth-Rite® MULTIPPOINT II**  
Static Earthing System  
[www.newson-gale.com](http://www.newson-gale.com)

**Monitoring Unit**

AREA RESERVED FOR cCSAus MARKINGS

**CE** nnnn

 **II 1GD**

Ex ia IIC T4 Ga  
Ex ia IIIC T135°C Da  
Ta = -40°C to +60°C IP66  
Ex Veritas 19 ATEX 0546X  
IECEX EXV 19.0062X



Ui = 11.76 V, Ii = 0.413 A, Pi = 0.904 W,  
Ci = 1.3 µF, Li = 0,  
Uo = 11.76 V, Io = 0.170 A, Po = 500 mW,  
Ci = 0, Li = 208µH, Co = 1.5µF, Lo = 1022µH,  
Lo/Ro = 68µH/Ω

Part of the Multipoint II Static Earthing System (certificate numbers: ExVeritas 19ATEX0546X and IECEX EXV 19.0062X)

**This equipment shall be powered only from the Newson Gale Multipoint II power supply**

SEE SUPPLEMENTARY LABEL FOR PRODUCT CODE, SERIAL NUMBER AND YEAR OF MANUFACTURE

SUPPLEMENTARY LABEL

## SUPPLEMENTARY LABEL

**Earth-Rite Multipoint II**




Product Code: ??????

Serial No. YY/XXXXX

**NOTE:**  
YY = Year of Manufacture  
XXXXX = Specific Serial Number

# ATEX/IECEX Marking Details for Earth-Rite **MULTIPOINT II** Power Supply Unit

## PRINCIPAL EXTERNAL LABEL

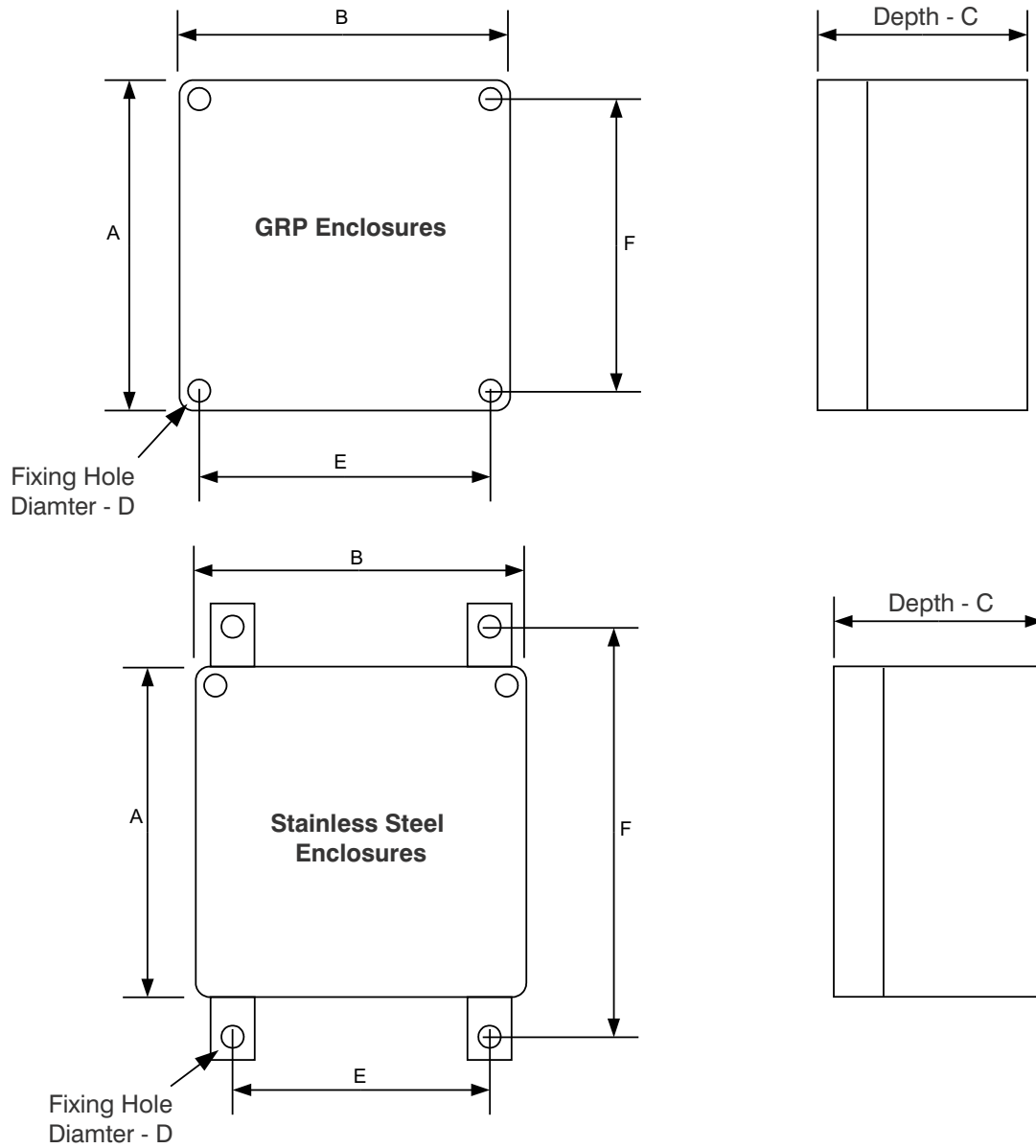
[-----] SPACE RESERVED FOR NEWSON GALE LOGO [-----]	
Nottingham, NG4 2JX UK www.newson-gale.com	
	 
<b>Earth-Rite Multipoint II Static Earthing System</b>	
<b>Power Supply Unit</b>	
Ex ec [ia Ga] nC IIC T4 - Gc Ex tb IIIC T65°C Db Ta = -40°C to +60°C IP66 Ex Veritas 19 ATEX0546X IECEX EXV 19.0062X	
Um = 250V, Uo = 11.76 V, Io = 0.413 A, Po = 0.904 W, Ci = 0, Li = 0, Co = 1.5µF, Lo = 208µH, Lo/Ro = 29.1 µH/Ω	
HAZARDOUS LIVE PARTS - DO NOT OPEN THE ENCLOSURE WHILE ENERGISED	
Supply Voltage: 220-240V, 50/60Hz, 200mA 110-120V, 50/60Hz, 200mA	
Input Ratings: 120/240Vac, 50/60Hz, 200mA	
SEE SUPPLEMENTARY LABEL FOR MODEL NUMBER, PRODUCT CODE, SERIAL NUMBER AND YEAR OF MANUFACTURE	

## SUPPLEMENTARY LABEL

Earth-Rite Multipoint II Model Number: ??????? Product Code: ??????? Serial No. YY/XXXXX
---------------------------------------------------------------------------------------------------

**NOTE:**  
YY = Year of Manufacture  
XXXXX = Specific Serial Number

## Earth-Rite **MULTIPOINT II** Dimensions - Millimetres



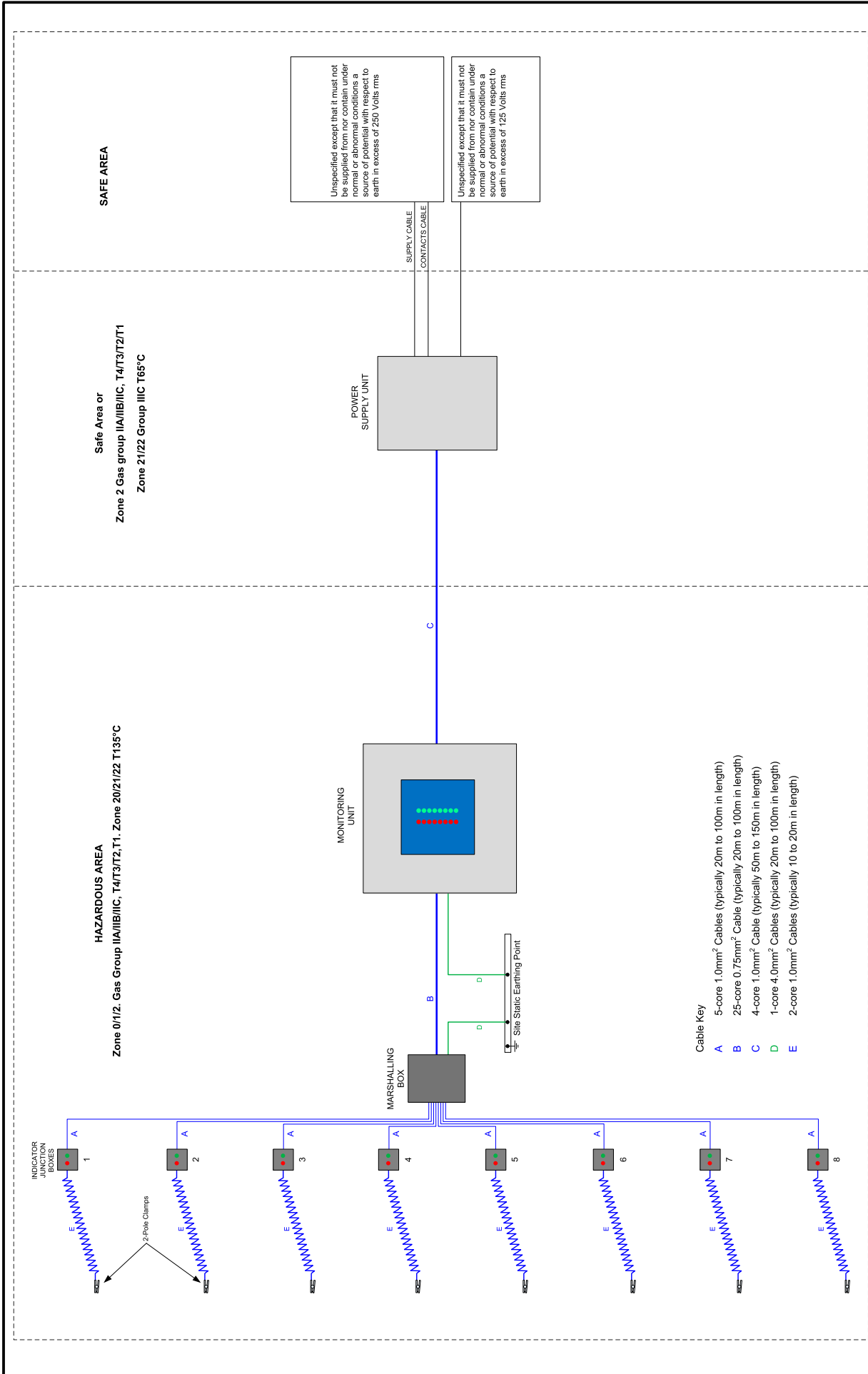
Product	MAIN DIMENSIONS (mm)			FIXING DIMENSIONS (mm)		
	A	B	C	D	E	F
PSU - GRP	250	400	121	6.5	380	200
PSU - Stainless Steel	300	300	140	10.2	243.5	330
Monitoring Unit	300	300	140	10.2	243.5	330
8-way Marshalling Box - GRP	160	260	91	6.5	240	110
8-way Marshalling Box - Stainless Steel	200	300	81	10.2	243.5	230
4-way Marshalling Box - GRP	161	161	93	6.5	140	140
4-way Marshalling Box - Stainless Steel	150	150	100	10.2	93.5	178.5
Remote Indicator Station - GRP	121	121	75	6.5	100	100
Remote Indicator Station - Stainless Steel	150	150	100	10.2	93.5	178.5







Ex scheduled drawing; DO NOT modify without approval from the notified body



- Cable Key**
- A 5-core 1.0mm<sup>2</sup> Cables (typically 20m to 100m in length)
  - B 25-core 0.75mm<sup>2</sup> Cable (typically 20m to 100m in length)
  - C 4-core 1.0mm<sup>2</sup> Cable (typically 50m to 150m in length)
  - D 1-core 4.0mm<sup>2</sup> Cables (typically 20m to 100m in length)
  - E 2-core 1.0mm<sup>2</sup> Cables (typically 10 to 20m in length)

<b>Newson Gale Ltd</b>		Title: Multipoint II Static Earth Monitoring System – Control Drawing
Sheet No. 2 of 2	Drawn: GC	LATEST REVISION DATE: 29/10/2019
	Approved: IW	DATE: 29/10/2019
	Dwg. No. X MPII Q15151 Rev-4.vxd	

**Multipoint II Typical Application - Rail Tanker Earthing System**

Ex scheduled drawing; DO NOT modify without approval from the notified body

**Power Supply Unit Specifications**

**ATEX/IECEX**

**Power Supply Unit**

Power supply	230/240V 50Hz (Supply voltage range: 216V to 250V) 110/120V 50Hz (Supply voltage range: 108V to 125V)
Power rating	10 watt
Current rating	200mA
Ambient temperature range	-40°C to +60°C
Ingress protection	IP66
Weight	4.5 kgs (nett)
Construction	Static Dissipative Glass-Reinforced Polyester or Stainless Steel
Certification	Ex ec [ia Ga] nC IIC T4 Gc Ex tb IIC T65°C Db ExVeritas 19ATEX0546X, IECEX EXV 19.0062X Ta = -40°C to +60°C
Output Relay contact rating	8 voltage free change-over switch contacts (Channel Contacts), 2 voltage free change-over switch contacts (Group Contacts), 1 voltage free change-over switch contacts (Alarm Contacts), 250Vac, 5A, 500VA max resistive 30Vdc, 2A, 60W max resistive
Cable entries	12 x M20 (GRP Enclosure), 12 x 20mm diameter (Stainless Steel Enclosure)

**External Connection Terminals  
Relay Contact Terminals**

Terminal Type	Ex e
Use	For connection to customer's control and alarm circuits
Channel Contact Terminals	24 terminals (normally closed, common, normally open)
Group Contact Terminals	6 terminals (normally closed, common, normally open)
Alarm Contact Terminals	3 terminals (normally closed, common, normally open)
Terminal Ratings	250Vac, 5A, 500VA max resistive 30Vdc, 2A, 60W max resistive

**Mains Supply Terminals**

Terminal Type	Ex e
Use	For connection to customer's mains supply
Number of Terminals	4 terminals (120V, N, 240V, L2)
Terminal Ratings	250Vac, 5A, 500VA max

# Earth-Rite **MULTIPOINT II** System - Technical Specification

## Monitoring Unit & Accessory Specifications

### ATEX/IECEX

#### Monitoring Unit

Ambient temperature range	-40°C to +60°C
Ingress protection	IP66
Weight	4.5 kgs (nett)
Construction	Stainless Steel housing with polycarbonate window
Certification	Ex ia IIC T4 Ga Ex ta IIIC T135°C Da ExVeritas 19ATEX0546X, IECEX EXV 19.0062X
Monitoring circuit	Intrinsically safe
Operational series ground resistance	</= 10 Ohm
Standard Cable entries	3 x 20mm plus 1 x 25mm diameter

#### 8-Way Marshalling Box

Enclosure	GRP or Stainless Steel
Terminals	29 x 4.00mm <sup>2</sup> conductor capacity standard blue terminals 4 x 4.00mm <sup>2</sup> conductor capacity earth terminals 1 x 6.00mm <sup>2</sup> conductor capacity earth terminal
Cable entries	10 x M20 and 1 x M25 (GRP Enclosure) 10 x 20mm diameter and 1 x 25mm diameter (Stainless Steel Enclosure)

#### 4-Way Marshalling Box

Enclosure	GRP or Stainless Steel
Terminals	15 x 4.00mm <sup>2</sup> conductor capacity standard blue terminals 2 x 4.00mm <sup>2</sup> conductor capacity earth terminals 1 x 6.00mm <sup>2</sup> conductor capacity earth terminal
Cable entries	6 x M20 and 1 x M25 (GRP Enclosure) 6 x 20mm diameter and 1 x 25mm diameter (Stainless Steel Enclosure)

#### Remote Indicator Station

Enclosure	GRP or Stainless Steel
Terminals	5 x 2.5mm <sup>2</sup> conductor capacity
Stowage device	Insulated pin
Cable entry	1 x M20 (GRP Enclosure) 1 x 20mm (Stainless Steel Enclosure)
Cable Out Connection	Quick Connect

**NB: In line with our policy of continual product development, we reserve the right to alter specifications at any time.**

#### Warranty

A two year manufacturer's warranty applies to Newson Gale electronic modules. This is subject to the general terms and conditions and correct installation / usage of the product.

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**United Kingdom**

Newson Gale Ltd  
Omega House  
Private Road 8  
Colwick, Nottingham  
NG4 2JX, UK  
+44 (0)115 940 7500  
groundit@newson-gale.co.uk

**Deutschland**

IEP Technologies GmbH  
Kaiserswerther Str. 85C  
40878 Ratingen  
Germany  
+49 (0)2102 5889 0  
erdung@newson-gale.de

**United States**

IEP Technologies LLC  
417-1 South Street  
Marlborough, MA 01752  
USA  
+1 732 961 7610  
groundit@newson-gale.com



[www.newson-gale.com](http://www.newson-gale.com)