

# Earth-Rite® MULTIPOINT II

## Static Grounding System



The **Earth-Rite® MULTIPOINT II** is a unique static grounding system that can monitor the simultaneous grounding of up to eight (8) individual pieces of equipment at risk of discharging electrostatic sparks.

**Inquiry** > Click here to submit a product related query or a request for quotation.

To ground and monitor multiple items of equipment at points like multi drum loading stations and mixing stations, tote loading stations and railcar loading racks, a large number of conventional static grounding systems would be required to provide protection against incendive electrostatic sparks. In addition to flammable liquid and gas operations, powder processing equipment that typically includes interconnected pipes, fluid bed dryers, hoppers and micronizers would require multiple grounding systems. With the Earth-Rite MULTIPOINT II up to eight individual items of potentially isolated equipment can be ground monitored simultaneously with a single static grounding system.

The Earth-Rite MULTIPOINT II is an ATEX / IECEx / cCSAus certified static grounding system that identifies when equipment exceeds ground resistance levels outlined in codes of practice including NFPA 77 and IEC 60079-32-1. The system consists of a hazardous area monitoring unit that contains eight pairs of red and green LED indicators that verify when the

equipment at risk of static charge accumulation has a resistance of 10 ohms or less to the plant's designated true earth grounding point.

For applications where ground monitoring indication is required at the point of operation (e.g. drum filling) local ground status indicator stations can be specified. The Intrinsically Safe indicator stations can be mounted in any EX/HAZLOC atmosphere, are more energy efficient than line powered indicators and more cost effective than standard HAZLOC approved indicators. Each ground monitoring channel interfaces with it an individual dry contact as standard. In addition to the 8 individual dry contacts a group relay is provided so that multiple ground monitoring channels can be setup to provide a permissive / non-permissive condition to external equipment (e.g. PLCs, pumps, valves, sounders). If a software or hardware error is detected by the Earth-Rite MULTIPOINT II's self-monitoring function, it activates a fault relay ensuring the system shuts down in a fail-safe condition.



**Earth-Rite MULTIPOINT II** Static Grounding System

### Earth-Rite MULTIPOINT II applications include:

- > multiple railcar loading points.
- > multiple drum / tote loading points.
- > liquid / powder mixing and blending.
- > powder conveying equipment.
- > fluid bed dryers.
- > silo / container filling and emptying.
- > hoppers and dust collectors.
- > powder micronizing, pulverising and grinding equipment.

## Earth-Rite® MULTIPOINT II Static Grounding System

The **Earth-Rite MULTIPOINT II** builds on the success of its predecessor offering equipment specifiers an advanced digitally embedded system that actively monitors the grounding of up to 8 separate items of plant equipment.

The incorporation of embedded digital technology enables the **Earth-Rite MULTIPOINT II** to:

- > offer unrivalled precision with which a grounding system can monitor EX/HAZLOC grounding and bonding circuits.
  - > self-check the EX/HAZLOC monitored grounding circuits so that permissive conditions are only achieved when a resistance value of 10 ohms or less is seen by the micro-controller.
  - > offer flexible, energy efficient Intrinsically Safe indicator stations that can be positioned in any Zone or Division around a plant.
- > provide an off the shelf system that incorporates an individual SP/DT relay contact for each monitored channel.
  - > provide a group relay function that enables the grouping of any number of monitored channels via a set of SP/DT relay contacts.
  - > incorporate software written to the leading industry standard MISRA-C protocol.
  - > provide a self-monitoring watchdog emergency shutdown function that ensures a fail-safe condition is achieved if a circuit or software malfunction is detected via a SP/DT relay.



The **Earth-Rite MULTIPOINT II's** energy efficient external indicator stations provide ground status indication for each individual channel. The attention grabbing GREEN LED pulses continuously when a positive ground connection is made. The indicator stations can be mounted in all ATEX / IECEx zones and all Class and Division rated hazardous locations. In addition to the standard GRP option, stainless steel indicator stations can be specified.

The Earth-Rite® MULTIPOINT II forms part of the Earth-Rite® range of Static Grounding and Bonding Equipment available from Newson Gale Ltd.



The **Earth-Rite MULTIPOINT II's** monitoring unit contains 8 pairs of LED ground status indicators (red and green). The unit can be mounted in all ATEX / IECEx zones and all Class and Division rated hazardous locations.

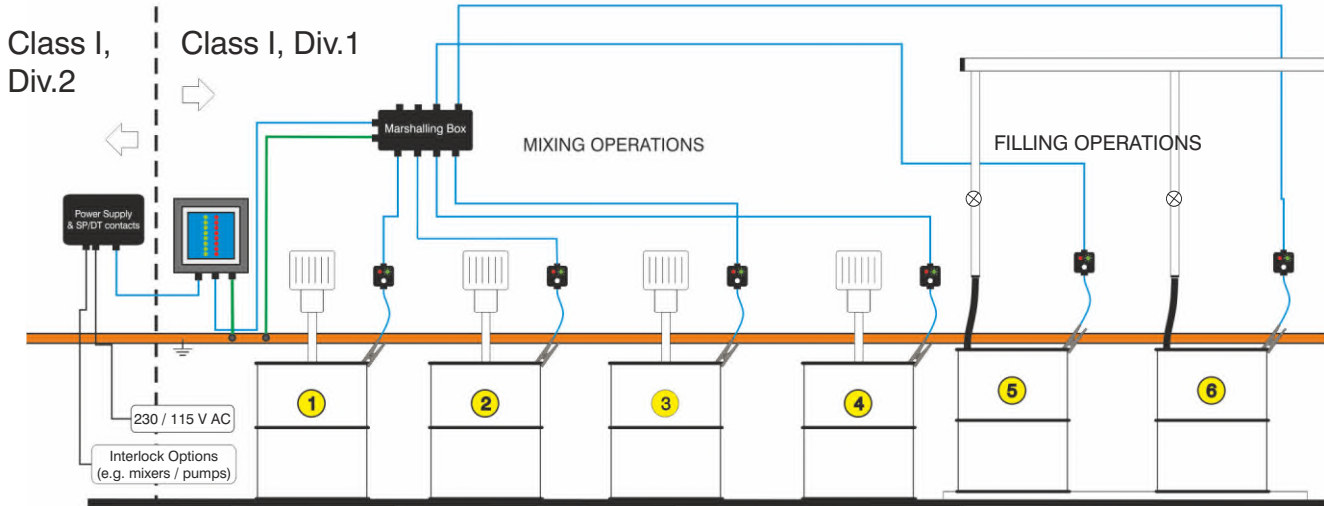


The **Earth-Rite MULTIPOINT II's** 230 V/110 V AC power supply unit houses eleven (11) dry contacts. 8 of these interface with each monitored grounding channel, 2 provide the grouped channel function and 1 relay provides the fail-safe redundancy output function. The power supply can be installed in Zone 2/21 and Class I, Div.2, Class II, Div.1, Class III, Div.1 areas. The power supply can be housed in GRP or stainless steel enclosures.

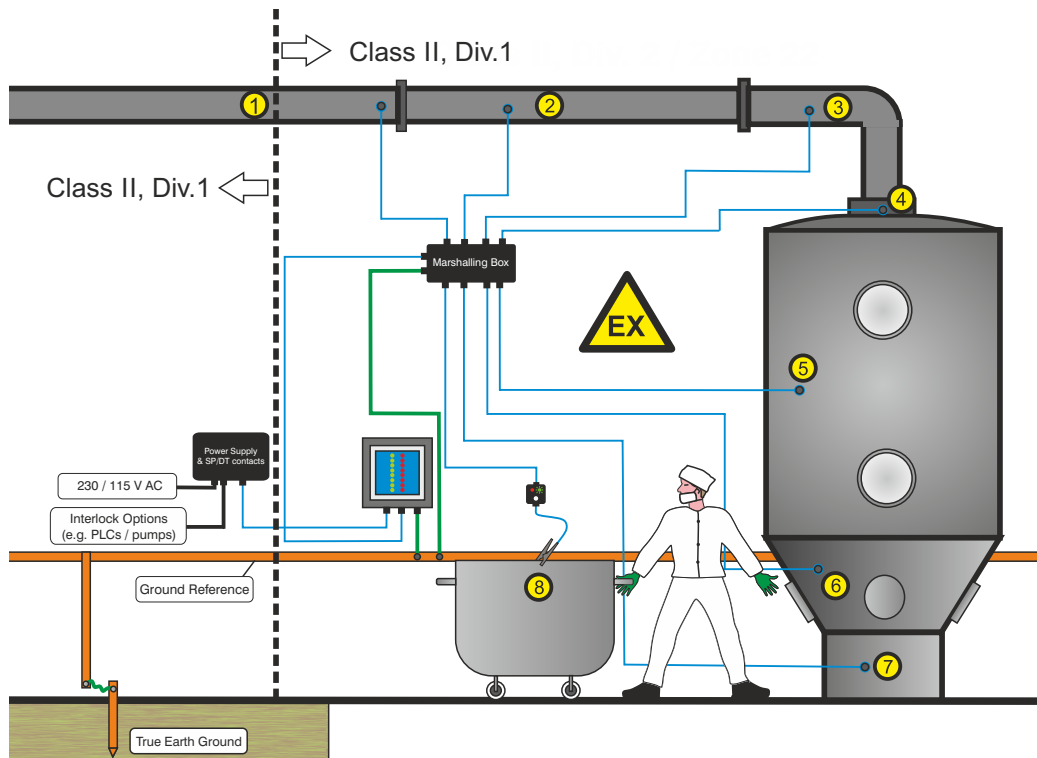


The **Earth-Rite MULTIPOINT II's** 4 way and 8 way marshalling junction boxes link the monitoring unit with the external ground connection points and external LED ground status indicator stations. The marshalling boxes can be supplied as GRP and stainless steel.

**Earth-Rite® MULTIPOINT II** Static Grounding System



The Earth-Rite MULTIPOINT II's monitoring unit and power supply can be configured to ground and monitor a wide range of equipment. In this example the system is setup to ground four mixing stations (1 to 4) and two filling stations (5 and 6). Each mixer is interlocked with an individual relay corresponding to the equivalent ground monitoring channel. Channels 5 and 6 are grouped via the group relay so that if either drum is not grounded the pump feeding the filling station is shut down immediately, thereby preventing the build up of static on the drums.



In this example the Earth-Rite MULTIPOINT II is configured to ground multiple interconnected components for a fluid bed dryer system. The marshalling box feeds seven channels out to seven permanent ground connection points [the connection points may be disconnected for routine cleaning, inspection and maintenance]. Channels 1 to 7 are grouped together to provide a single output contact controlling the flow of powder into the fluid bed dryer. Channel 8 utilises an external ground status indicator station to provide the operator with a visual confirmation that the mobile bin is grounded when filled.

**Earth-Rite® MULTIPPOINT II** Static Grounding System

Technical Specification (with GRP power supply)

Monitoring unit Div.1 Installations	
<b>Ambient Temperature Range</b>	-40°F to +140°F
<b>Ingress Protection</b>	Type 4X (IP66)
<b>Construction</b>	Stainless Steel 304
<b>Monitoring Circuit</b>	Intrinsically Safe
<b>Operational Series Ground Resistance</b>	Nominally ≤10 Ohm
<b>Cable Entries</b>	3 x M20, 1 X M25 (NPT adaptors available)
Power Supply unit Div.2 (Class II, Div.1) Installations	
<b>Power Supply</b>	110 V or 240 V AC, 50-60 Hz
<b>Current Rating</b>	200 mA
<b>Power Rating</b>	10 Watts
<b>Ambient Temperature Range</b>	-40°F to +140°F
<b>Ingress Protection</b>	Type 4X (IP66)
<b>Construction</b>	GRP with carbon loading
<b>Output to Monitoring Unit</b>	Intrinsically Safe
<b>Output Channel Relay</b>	8 off dry change over switch contacts
<b>Output Group Relay</b>	2 off dry change over switch contacts
<b>Output Fault Relay</b>	1 off dry change over switch contacts
<b>Relay Contact Rating</b>	240 V AC, 5 A, 500 VA max resistive 30 V DC, 2 A, 60 W max resistive
<b>Cable Entries</b>	12 x M20 (NPT Adaptors available)
Marshalling Junction Box	
<b>Enclosure Material</b>	GRP with carbon loading
<b>Cable Entries</b>	8 Way - 10 x M20, 1 x M25 4 Way - 6 x M20, 1 x M25 (NPT Adaptors available)
Remote Indicator Station Associated Apparatus - Div.1 installation	
<b>Enclosure Material</b>	GRP with carbon loading
<b>Cable Entries</b>	1 x M20 (NPT Adaptors available)

Product Description	Length	Height	Depth
8-Way Junction Box	10.2"	6.3"	3.6"
4-Way Junction Box	6.3"	6.3"	3.7"
Remote Indicator Station	4.8"	4.8"	3"
Junction Box with Stowage Pin	3.15"	3"	2.2"

For more detailed mechanical descriptions please refer to instruction manual

**Earth-Rite® MULTIPPOINT II** Static Grounding System

Technical Specification (with stainless steel power supply)

Monitoring unit  
Div.1 Installations

<b>Ambient Temperature Range</b>	-40°F to +140°F
<b>Ingress Protection</b>	Type 4X (IP66)
<b>Construction</b>	Stainless Steel 304
<b>Monitoring Circuit</b>	Intrinsically Safe
<b>Operational Series Ground Resistance</b>	Nominally ≤10 Ohm
<b>Cable Entries</b>	3 x M20, 1 X M25 (NPT Adaptors available)

Power Supply unit  
Div.2 (Class II, Div.1) Installations

<b>Power Supply</b>	110 V or 240 V AC, 50-60 Hz
<b>Current Rating</b>	200 mA
<b>Power Rating</b>	10 Watts
<b>Ambient Temperature Range</b>	-40°F to +140°F
<b>Ingress Protection</b>	Type 4X (IP66)
<b>Construction</b>	Stainless Steel 304
<b>Output to Monitoring Unit</b>	Intrinsically Safe
<b>Output Channel Relay</b>	8 off dry change over switch contacts
<b>Output Group Relay</b>	2 off dry change over switch contacts
<b>Output Fault Relay</b>	1 off dry change over switch contacts
<b>Relay Contact Rating</b>	240 V AC, 5 A, 500 VA max resistive 30 V DC, 2 A, 60 W max resistive
<b>Cable Entries</b>	12 x M20 mm (NPT Adaptors available)

Marshalling Junction Box

<b>Enclosure Material</b>	Stainless Steel 304
<b>Cable Entries</b>	8 Way - 10 x M20, 1x M25 mm dia. 4 Way - 6 x M20, 1x M25 mm dia. (NPT Adaptors available)

Remote Indicator Station  
Associated Apparatus - Div.1 installation

<b>Enclosure Material</b>	Stainless Steel 304
<b>Cable Entries</b>	1 x M20 (NPT Adaptors available)

Technical drawings of the Monitoring Unit Enclosure and PSU Enclosure. Both enclosures are rectangular with a width of 11.8" (300mm) and a height of 12.99" (330mm). The depth is 4.8" (140mm). The distance between the two fixing holes at the bottom is 9.59" (243.50mm). The fixing hole diameter is 0.39" (10.2mm).

Product Description	Length	Height	Depth
8-Way Junction Box	11.8"	7.9"	3.2"
4-Way Junction Box	5.9"	5.9"	3.2"
Remote Indicator Station	5.9"	5.9"	3.2"
Junction Box with Stowage Pin	5.9"	5.9"	3.2"

For more detailed mechanical descriptions please refer to instruction manual

## Earth-Rite® MULTIPPOINT II Static Grounding System

### Hazardous Location Approvals

#### Monitoring Unit

##### Europe / International:

###### IECEX

Ex ia IIC T4 Ga  
 Ex ia IIIC T135°C Da  
 Ta = -40°C to +60°C.  
 IECEX SIR 15.0094X  
 IECEX certifying body: SIRA.

###### ATEX

⊕ II 1GD  
 Ex ia IIC T4 Ga  
 Ex ia IIIC T135°C Da  
 Ta = -40°C to +60°C.  
 Sira 15ATEX2259X  
 ATEX Notified Body: SIRA.

##### North America:

###### NEC 500 / CEC (Class & Division)

Intrinsically Safe Equipment Ex ia for use in  
 Class I, Div. 1, Groups A, B, C, D;  
 Class II, Div. 1, Groups E, F, G;  
 Class III, Div. 1,  
 When installed per Control Dwg:  
 X MPII Q15152 cCSAus  
 Ta = -40°C to +60°C.  
 Ta = -40°F to +140°F.

OSHA recognised NRTL: CSA.  
 CSA 15.70005381

###### NEC 505 & 506 (Class & Zoning)

Class I, Zone 0, AEx ia IIC T4 Ga  
 (gas & vapor).  
 Class II, Zone 20, AEx ia IIIC T135°C Da  
 (combustible dusts).

###### CEC Section 18 (Class & Zoning)

Ex ia IIC T4 Ga  
 Ex ia IIIC T135°C Da

#### Power Supply Unit

##### Europe / International:

###### IECEX

Ex nA[ja Ga] nC IIC T4 Gc  
 Ex tb IIIC T65°C Db  
 Ta = -40°C to +60°C.  
 IECEX SIR 15.0094X  
 IECEX certifying body: SIRA.

###### ATEX

⊕ II 3(1)G  
 II 2D  
 Ex nA[ja Ga] nC IIC T4 Gc  
 Ex tb IIIC T65°C Db  
 Ta = -40°C to +60°C.  
 Sira 15ATEX2259X  
 ATEX Notified Body: SIRA.

##### North America:

###### NEC 500 / CEC (Class & Division)

Suitable for use In  
 Class I, Div. 2, Groups A, B, C, D;  
 Class II, Div. 1, Groups E, F, G;  
 Class III, Div. 1;  
 Provides intrinsically safe output for  
 Class I, Div. 1, Groups A, B, C, D;  
 Class II, Div. 1, Groups E, F, G;  
 Class III, Div. 1;  
 When installed per Control Dwg:  
 X MPII Q15152  
 Ta = -40°C to +60°C.  
 Ta = -40°F to +140°F.

OSHA recognised NRTL: CSA.  
 CSA 15.70005381

###### NEC 505 & 506 (Class & Zoning)

Class I, Zone 2, AEx nA[ja Ga] nC IIC T4 Gc  
 (Gas & Vapor).  
 Class II, Zone 21, AEx tb IIIC T65°C Db  
 (Combustible Dusts).

###### CEC Section 18 (Class & Zoning)

Ex nA[ja Ga] nC IIC T4 Gc  
 Ex tb IIIC T65°C Db

#### Additional Certification

<b>EMC</b>	to EN 61000-6-2, EN 61000-6-3
<b>Tested:</b>	FCC - Part 15

**Earth-Rite® MULTIPOINT II** Static Grounding System



Product Ordering Codes

**Contact Us >** Your inquiry will be processed rapidly via our webform enquiry service. If you would prefer to call us, or e-mail us, please use the contact details provided below.

Ordering Code	Product Description
<b>MP2PSUG4MBG</b>	An Earth-Rite MULTIPOINT II Monitoring Unit, SS304 with window, Power Supply & Relay unit - GRP, 8 Channel, 2 Group & 1 Fault Relays (115 V AC & 230V AC, 50/60 Hz) ATEX, IECEx & cCSAus, 4-Way Marshalling Box - GRP
<b>MP2PSUG8MBG</b>	An Earth-Rite MULTIPOINT II Monitoring Unit, SS304 with window, Power Supply & Relay unit - GRP, 8 Channel, 2 Group & 1 Fault Relays (115 V AC & 230V AC, 50/60 Hz) ATEX, IECEx & cCSAus, 8-Way Marshalling Box - GRP
<b>MP2PSUS4MBS</b>	An Earth-Rite MULTIPOINT II Monitoring Unit, SS304 with window, Power Supply & Relay unit - SS304, 8 Channel, 2 Group & 1 Fault Relays (115 V AC & 230V AC, 50/60 Hz) ATEX, IECEx & cCSAus, 4-Way Marshalling Box - SS304
<b>MP2PSUS8MBS</b>	An Earth-Rite MULTIPOINT II Monitoring Unit, SS304 with window, Power Supply & Relay unit - SS304, 8 Channel, 2 Group & 1 Fault Relays (115 V AC & 230V AC, 50/60 Hz) ATEX, IECEx & cCSAus, 8-Way Marshalling Box - SS304
<b>MP2/RIS/GRP</b>	An Earth-Rite MULTIPOINT II Remote Indicator Station, GRP - Red/Green LED's and Universal Stowage Point
<b>MP2/RIS/SS</b>	An Earth-Rite MULTIPOINT II Remote Indicator Station, SS304 - Red/Green LED's and Universal Stowage Point
<b>VESX90-IP</b>	SS304, Large, 2 pole static grounding with Tungsten carbide teeth - ATEX/FM approved Ex II 1 GD T6
<b>VESX45-IP</b>	SS304, Medium, 2 pole static grounding clamp with Tungsten carbide teeth - ATEX/FM approved Ex II 1 GD T6
<b>JP1QFSPE</b>	GRP Junction Box c/w Bulkhead Socket + Universal Stowage Pin

Due to the unique nature of each application, each inquiry must be reviewed by our team of specialist engineers to provide the best solution to suit our customers needs.

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