

Earth-Rite® PLUS™

Static Ground Indicator and Interlock System



Precision and reliability is what the **Earth-Rite® PLUS™** provides to HAZMAT professionals and engineers who are tasked with protecting personnel and plant assets from the ignition hazards of static electricity during tank car, LACT & skid unit and tote loading/unloading operations.

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

Conductive metal objects like tank cars, LACT units, skids, totes and IBCs that come into contact with electrostatically charged liquids can accumulate hazardous levels of electrostatic charge that could discharge static sparks with energies far in excess of the minimum ignition energies of a vast range of combustible gases and vapors. The ignition of combustible atmospheres by static electricity can be prevented by ensuring that such objects are grounded.

The **Earth-Rite PLUS** is the ideal solution for grounding and bonding a broad range of equipment at risk of igniting combustible gases and vapors. In combination with demonstrating the full range of Class I, Div. 1 approvals for all gas and

liquid vapor groups, the **Earth-Rite PLUS** ensures a continuously monitored 10 ohm, or less, connection is present between the grounded object and a designated true earth grounding point. This feature provides equipment specifiers with the ability to demonstrate compliance with the grounding and bonding recommendations of NFPA 77*, API RP 2003* and IEC 60079-32*.

***NFPA 77**, "Recommended Practice on Static Electricity."

***API RP 2003**, "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents."

***IEC 60079-32**, "Explosive atmospheres: electrostatic hazards, guidance".



Earth-Rite PLUS Static Grounding System

The Earth-Rite PLUS includes:

- > **Ex(d) / XP Controller** with Intrinsically Safe Monitoring Circuit.
- > **Ground Connection Junction Box** with Clamp Stowage Point and Quick Release Connector.
- > **Junction Box with Stowage Pin** for stowing Universal Grounding Clamp.

Earth-Rite® PLUS™ Static Ground Indicator and Interlock System

Features and Benefits

Attention grabbing LEDs

Three green LEDs continuously pulse informing operators that the object to be protected from static discharges is grounded. When the system is not in use, or when it detects the resistance in the static grounding path is higher than 10 ohms*, a red LED illuminates the indicator panel located inside the XP enclosure.

Continuous Ground Loop Monitoring

Monitors the resistance of the ground loop from the grounded object through to the site's verified true earth grounding point. If the Earth-Rite® PLUS detects that resistance in the ground loop is higher than 10 ohms*, it engages a pair of dry output contacts that can be interlocked with the product transfer system.

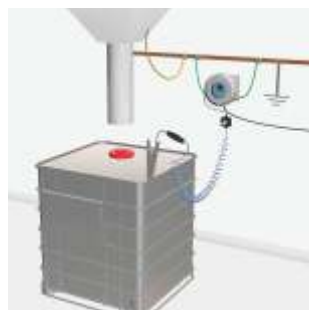
Two dry output contacts

The primary contact can be interlocked with electro-mechanical devices or PLC systems to shut down the flow of product. The secondary contact can interface with attention grabbing audible alarms or strobe lights to provide an extra layer of protection over the hazard.

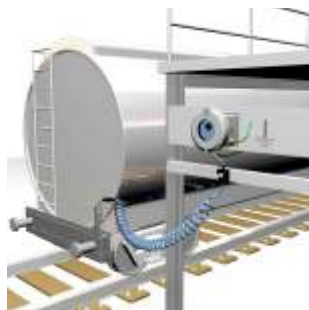
Easy Installation

Simple "bolt-on" enclosures complemented by straightforward cabling and PCB system wiring requirements. Flexible hazardous location enclosure options and power supplies which can run off both 240 V / 110 V AC and 24 V / 12V DC.

* The international recommended practice for controlling the ignition hazards of static electricity in HAZLOC atmospheres, IEC 60079-32 and NFPA 77, recommend that the maximum resistance between conductive metal plant equipment and verified true earth grounding points should not be more than 10 ohms resistance.



Filling IBCs, Totes, Drums, Containers and Rail Cars



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



Universal grounding clamp

with Quick Connect and optional lengths of Hytrel protected 2 core cable included.



Pulsing LEDs confirm positive ground condition

Options

- 50ft Self-Retracting Cable Reel
- 16ft, 32ft, 50ft lengths of Retractable Spiral Cable
- Explosion Proof Strobe Light
- IEC/Cenelec (European) and NEC/CEC (North American) versions available

Certification



Ingress Protection
Type 4X - IP 66

Temperature Range
-40°C to +55°C - ATEX /
IECEX
-40°F to +122°F - CSA

Power Supply

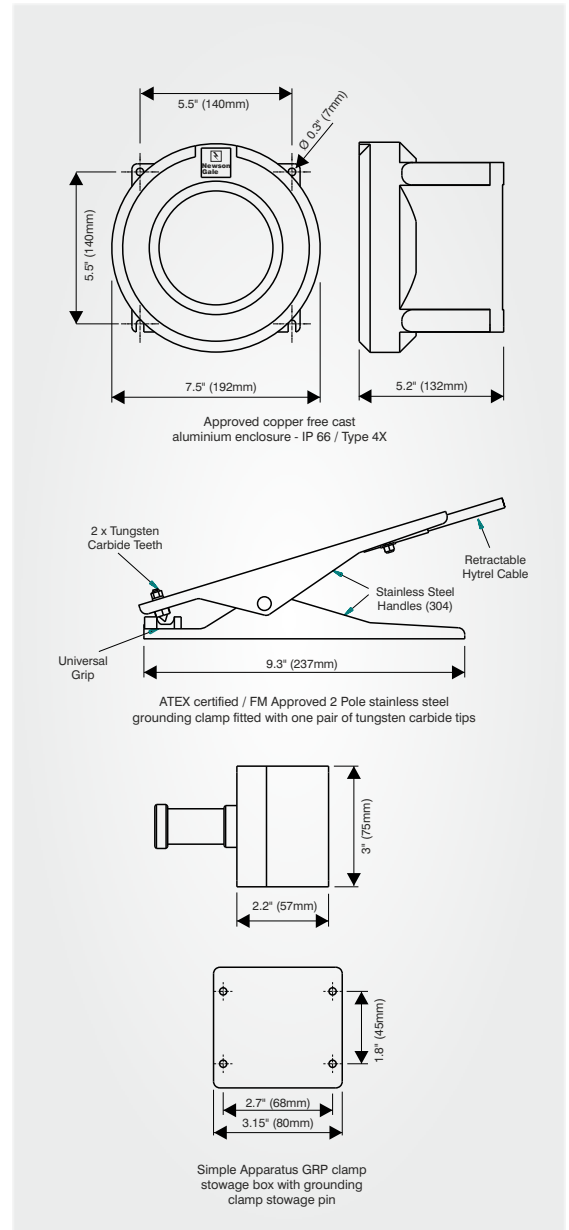
110/120 V or 220/240 V AC, 50-60 Hz
12 V or 24 V DC

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Technical Specification

XP (Class I, II, III - Div 1 Installations)

| | |
|---|--|
| Monitoring unit | |
| Power supply | 110/120 V or 220/240 V AC, 50-60 Hz 12 V or 24 V DC |
| Power rating | 10 watt |
| Ambient temperature range | -13°F to +122°F |
| Ingress protection | Type 4X (IP 66) |
| Weight | 9.9 lbs (4.5 kg) nett |
| Construction | Copper-free cast aluminium |
| Monitoring Circuit | Intrinsically Safe |
| Operational Series Ground Resistance | Nominally ≤10 Ohm |
| Output Relay Contact Rating | 2 off dry contacts, 250 V AC, 5 A, 500 VA max resistive 30 V DC, 2 A, 60 W max resistive |
| Cable Entries | 7 x 3/4" NPT (supplied with 4 stopper plugs) |
| Junction Box/Stowage Point | |
| Enclosure Material | GRP with carbon loading |
| Terminals | 2 x AWG #14 conductor capacity |
| Stowage Device | Insulated 0.79" diameter pin |
| Cable Entries | 1 x M20 |
| Clamp Cable Connection | Quick Connect |
| Grounding Clamp | |
| Clamp Design | 2 pole with tungsten carbide teeth |
| Body | Stainless steel |
| Certification | Ex II 1 GD T6 |
| Approval | FM Approved |
| Spiral Cable | |
| Cable | Blue Cen-Stat Hytrel sheath (Static dissipative, chemical & abrasion resistant) |
| Conductors | 2 x AWG #18 copper |
| Length | 32 ft. extended, 3 ft. unextended (other lengths available - please inquire) |



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Hazardous Area Certification

Europe / International:

IECEX

Ex d[ia] IIC T6 Gb(Ga) (gas & vapour).
 Ex tb IIIC T80°C IP66 Db (combustible dusts).
 Ta = -40°C to +55°C.
 IECEX SIR 09.0018
 IECEX certifying body: SIRA.

ATEX

⊕ II 2(1)GD
 Ex d[ia] IIC T6 Gb(Ga)
 Ex tb IIIC T80°C IP66 Db
 Ta = -40°C to +55°C.
 Sira 09ATEX2047
 ATEX Notified Body: SIRA.

North America:

NEC 500 / CEC (Class & Division)

Associated 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,
 Providing intrinsically safe circuits 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:
 ER11-Q-10110 cCSAus
 Ta = -25°C to +50°C.
 Ta = -13°F to +122°F.

OSHA recognised NRTL: CSA.

NEC 505 & 506 (Class & Zoning)

Class I, Zone 1 [0] AEx d[ia] IIC T6 Gb(Ga)
 (gas & vapour).
 Class II, Zone 21 [20] AEx tD [iaD] 21 T80°C
 (combustible dusts).

CEC Section 18 (Class & Zoning)

Class I, Zone 1[0] Ex d[ia] IIC T6 Gb(Ga)
 DIP A21, IP66, T80°C

Additional Certification

Safety Integrity Level:

SIL 2 (in accordance with IEC/EN 61508).

SIL assessment body:

Exida

EMC Tested:

to EN 61000-6-4, EN 61000-6-2
 FCC - Part 15 (Class B)



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System Options

Newson Gale supplies a range of product options that enhance the control and general safety of transfer processes and aid engineers with system installations and routine system service checks. Contact Newson Gale or your local Newson Gale representative for more information on the range of options available.

Ex Strobe Light

The strobe light is mounted in an elevated position and when the equipment is correctly grounded, flashes continuously informing personnel that a transfer process is underway and is protected from the static hazard. The strobe light can be used in conjunction with the **Earth-Rite RTR**, and **Earth-Rite PLUS**.

- > ATEX and Class/Div approved versions.
- > Bond115 V / 230 V AC and 24 V / 48 V DC options.
- > Amber, Green & Red strobe colour options.



Ex Strobe Light

Product Code: Please inquire for other options.
(Amber strobe).

Universal Resistance Tester

The URT is designed to provide owners of Newson Gale **Earth-Rite®** and **Bond-Rite®** static grounding systems with a means of regularly testing the grounding settings for their system on a routine basis.

Periodic testing with the URT verifies that the grounding system's **GO/NO GO** settings are working in compliance with the recommendations of:

NFPA 77: "Recommended Practice on Static Electricity."

IEC 60079-32-1: "Explosive atmospheres. Part 32-1: Electrostatic hazards, guidance."

The easy to use tester consists of a pair of switches that enable an electrician to set up the resistance level at which the grounding system should be working and conduct a PASS / FAIL test at the required setting.

Earth-Rite® and **Bond-Rite®** products that can be tested with the URT:

- > Earth-Rite® PLUS
- > Earth-Rite® FIBC (both 10 meg-ohm and 100 meg-ohm variants)
- > Bond-Rite® CLAMP
- > Bond-Rite® EZ
- > Bond-Rite® REMOTE
- > OhmGuard® (both 10 ohm and 100 ohm variants).



Universal Resistance Tester

Product Code: URT.

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VESM02 Retractable Cable Reel

The VESM02 Retractable Cable Reel is supplied for grounding system installations where customers want to ensure the grounding clamp and cable are returned to the static grounding system by operators and drivers on completion of the product transfer process. The **VESM02 Reel** can be used in conjunction with the **Earth-Rite RTR**, **Earth-Rite MGV** and **Earth-Rite PLUS**.

- > Certified for ATEX Zone 1 and 21 hazardous areas.
- > Self-retracting with up to 15 m (50 ft.) of Hytrel® protected cable.
- > Silver plated ultra low resistance slip ring contacts.



VESM02 Retractable Cable Reel
Product Code: VESM02.

Sun Shield

Designed for operating environments subject to intense sunlight, the ERII Sun Shield prevents direct sunlight hitting the indicators on the **Earth-Rite RTR** and **Earth-Rite PLUS** static grounding systems.

The Sun Shield casts a shadow over the indicators during peak sun light hours so that operators can easily view the ground status indicators. The shield is constructed from stainless steel and can be fitted to any installation in a matter of minutes.



Sun Shield
Product Code: ER2/SH

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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.

Product Ordering Codes * Additional Options Available

| Ordering Code | Product Description |
|---------------------------------|---|
| PLUSMUA1A3* | Earth-Rite PLUS™ Static Grounding System, Selectable 110/120 V AC or 220/240 V AC including Heavy Duty grounding clamp, 32 ft. retractable spiral cable and GRP clamp stowage box |
| Inquire for options list | Explosion Proof Strobe Light (colour options amber, clear, blue, green and red) - Please enquire for more details |
| VESM02 | VESM02 Retractable Cable reel with 50 ft. (15 m) of 2 conductor Hytrel protected static grounding cable |
| ER2/SH | Earth-Rite Sun Shield |
| ER/VESS60 | SoundEx, XP Electronic Sounder |
| URT | Universal Resistance Tester |

* Alternative clamp, cable length and reel options upon request.
Contact your local sales office or distributor with your requirements.

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