Earth-Rite® II PLUS

Static Grounding Indicator and Interlock System

Online Inquiry >

Earth-Rite II PLUS Static Grounding System

Medium and Large Heavy Duty Clamp/s
with Quick Connect and optional lengths of Hytrel coated 2 core cable included

Precision and reliability of the Earth-Rite® II PLUS provides QHSE professionals and engineers who are tasked with protecting personnel and plant assets from the ignition hazards of static electricity during railcar, skid, and IBC loading/unloading operations.

Conductive metal objects like railcars, LACT units, skids and IBCs that contain electrostatically charged liquids can accumulate hazardous levels of electrostatic charge if they are not grounded.

This hazardous level of electrostatic charge can spark to other objects close by and is in excess of the minimum ignition energy of combustible gases and vapours present.

The ignition of combustible atmospheres by static electricity can be mitigated by ensuring that such objects are grounded.

The Earth-Rite II PLUS is the ideal solution for grounding and bonding a broad range of equipment at risk of igniting combustible gases and vapours.

The **Earth-Rite II PLUS** ensures that 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 IEC TS 60079-32*, NFPA 77* and API RP 2003*.

***IEC TS 60079-32**, “Explosive atmospheres: electrostatic hazards, guidance.”

***NFPA 77**, “Recommended Practice on Static Electricity.”

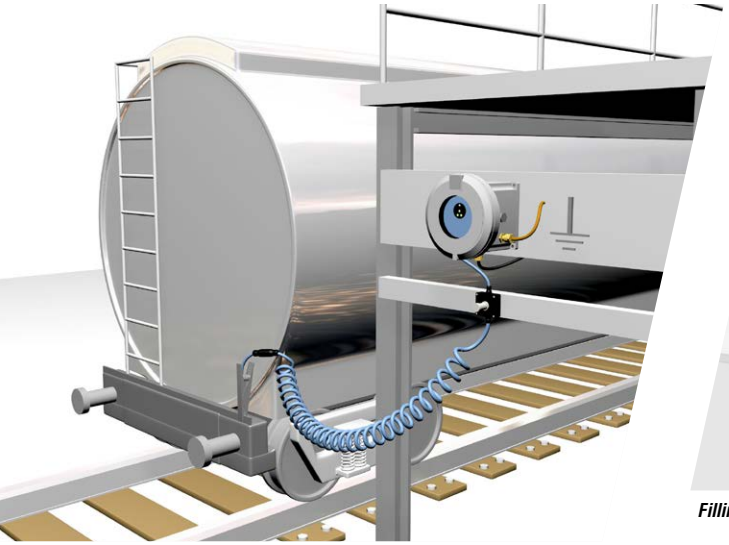
***API RP 2003**, “Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents.”

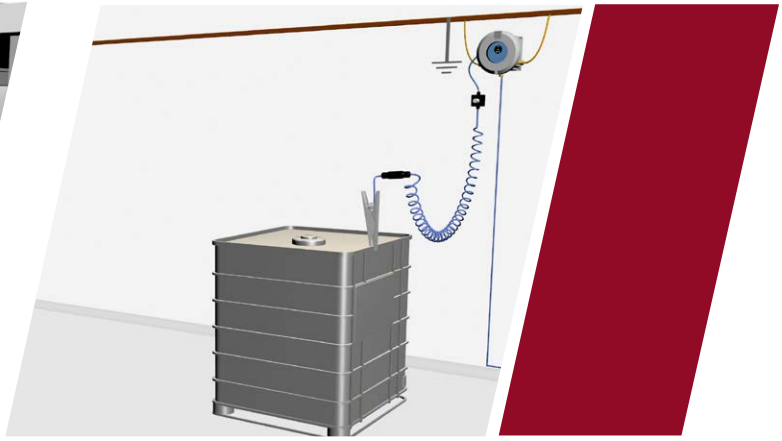
* Always check for and read the latest version of the International Standards, Guidance and/or Recommended Practices.

The Earth-Rite II PLUS includes:

- **XP / Ex(d) Controller** with Intrinsically Safe Monitoring Circuit
  or
- **HAZLOC approved static dissipative GRP** controller with Intrinsically Safe Monitoring Circuit
- **Ground Connection Junction Box** with Clamp Stowage Point and Quick Release Connector
- **Universal Grounding Clamp** with various lengths of 2 conductor Cen-Stat protected Cable
- **Flexible HAZLOC installation options**

Earth-Rite® II PLUS





Filling IBCs, Totes, Drums, Containers and Rail Cars

Features and Benefits

Attention grabbing high intensity LEDs

Three green LEDs continuously pulse informing operators that the object to be protected from static discharges is grounded. The red LED will illuminate continuously when the system is not in use, or when it detects the resistance in the static grounding loop is higher than 10 Ohms*.

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® II PLUS detects that resistance in the ground loop is higher than 10 Ohms, it engages a pair of volt free changeover contacts that can be interlocked with the control and/or product transfer system to turn them ON or OFF.

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 wall mounted enclosures complemented by straightforward cabling and PCB system wiring requirements. Flexible hazardous location enclosure options and power supplies which can run off both 115 V / 230 V AC and 12 V / 24 V DC.

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

Designed for grounding drums and small containers

Designed for grounding large drums and large containers

Earth-Rite® II PLUS

XP Technical Specification

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

Monitoring Unit

Power Supply	115 V or 230 V AC, 50-60 Hz 12 V or 24 V DC
Power Rating	10 watt
Ambient Temperature Range	-40°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
Monitoring Loop Resistance	Nominally ≤10 Ohm (±10%)
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 ¾" NPT (supplied with 4 stopper plugs)

Junction Box/Stowage Point

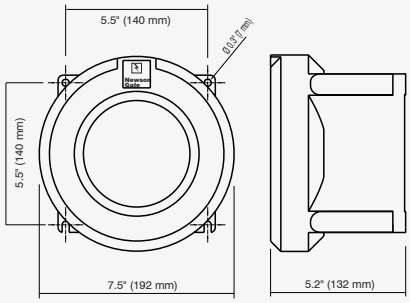
Enclosure Material	GRP with carbon loading
Terminals	2 x AWG #14 conductor capacity
Stowage Device	Insulated universal stowage pin
Cable Entries	1 x M20
Clamp Cable Connection	Quick Connect

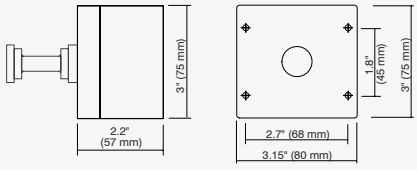
Grounding Clamp

Clamp Design	2 pole with tungsten carbide teeth
Body	Stainless Steel (SS grade: 304)
ATEX / FM / IECEx / UKEX Certification: **UKCA Ex** Ⓔx II 1 G II 1 D Ex h IIC T6 Ga Ex h IIIC T85°C Da Ta = -40°C to +60°C ExVeritas 21UKEX0842 UKCA Ex Approved Body: ExVeritas	**ATEX** Ⓔx II 1 GD T6 (Assessed to EN 13463-1 : 2009) Sira 02ATEX9381 ATEX Notified Body: SIRA **FM** Certificate of Compliance number: 3046346 **IECEx** Ex h IIC T6 Ga Ex h IIIC T85°C Da Ta = -40°C to +60°C IECEx EXV 20.0033 IECEx Certified Body: ExVeritas

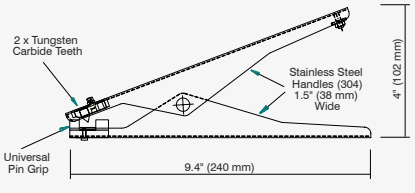
Spiral Cable

Cable	Blue Cen-Stat Hytrel sheath (Static dissipative, chemical & abrasion resistant)
Conductors	2 x AWG #18 copper
Length	3 m (10 ft), 5 m (16 ft), 10 m (32 ft) or 15 m (50 ft) 2 pole Cen-Stat blue spiral cable with Hytrel coating which has colour, UV protective and static dissipative additives





Simple Apparatus
GRP junction box with nylon grounding clamp stowage pin



Static Grounding Clamp
Dual core stainless steel grounding clamp fitted with one pair of tungsten carbide tips

Earth-Rite® II PLUS

XP Hazardous Location Approvals

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
Temperature Code T6
Ta = -40°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)
Class II, Zone 21 [20] AEx tD [iaD] 21 T80°C

CEC Section 18 (Class & Zoning)
Class I, Zone 1[0] Ex d[ia] IIC T6 Gb(Ga)
DIP A21, IP66, T80ºC

Europe / International Version Available:

IECEx
Ex db [ia Ga] IIC T6 Gb
Ex tb [ia Da] IIIC T80°C Db
Ta = -40ºC to +55ºC
IECEx EXV 19.0052
IECEx Certifying Body: ExVeritas

ATEX
Ⓔx II 2(1)G
II 2(1)D
Ex db [ia Ga] IIC T6 Gb
Ex tb [ia Da] IIIC T80°C Db
Ta = -40ºC to +55ºC
ExVeritas 19ATEX0537
ATEX Notified Body: ExVeritas

UKCA Ex
Ⓔx II 2(1)G
II 2(1)D
Ex db [ia Ga] IIC T6 Gb
Ex tb [ia Da] IIIC T80°C Db
Ta = -40ºC to +55ºC
ExVeritas 21UKEX0832
UKCA Ex Approved Body: ExVeritas

CCC
Ex db [ia Ga] IIC T6 Gb
Ex tb [ia Da] IIIC T80°C Db
2021312304001040
Approved Body: CNEX

KCS (Gas)
Ex d [ia Ga] IIC T6 Gb(Ga)
Ta = -40ºC to +55ºC
22-AV4BO-0332X
Approved Body: KOSHA

KCS (Dust)
Ex tb IIIC T80°C IP66 Db
Ta = -40°C to +55°C
22-AV4BO-0333X
Approved Body: KOSHA

Additional Certification

Safety Integrity Level:	SIL 2 (in accordance with IEC/EN 61508)
EMC Tested:	to EN 61000-6-3, EN 61000-6-2 FCC - Part 15 (Class B)

Earth-Rite® II PLUS

GRP Technical Specification
for single unit installation in Div.2 hazardous locations

Power Supply & Monitoring-Unit

Power Supply	115 V or 230 V AC, 50-60 Hz 12 V or 24 V DC
Power Rating	10 watt
Ambient Temperature Range	-13°F to +131°F (-25°C to +55°C)
Ingress Protection	Type 4X (IP 66)
Weight	4.4 lbs (2 Kg) nett
Construction	Carbon-loaded GRP
Monitoring Circuit	Intrinsically safe
Monitoring Loop Resistance	Nominally ≤10 Ohm (±10%)
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 M20 (2 x plugged)

Junction Box/Stowage Point

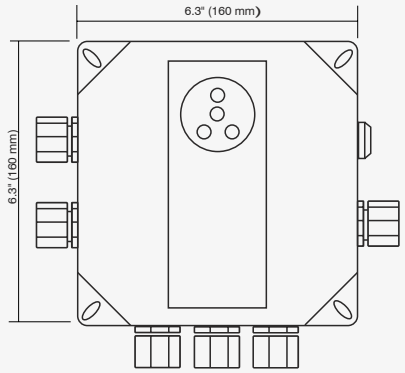
Enclosure Material	GRP with carbon loading
Terminals	2 x AWG #14 conductor capacity
Stowage Device	Insulated universal stowage pin
Cable Entries	1 x M20
Clamp Cable Connection	Quick Connect

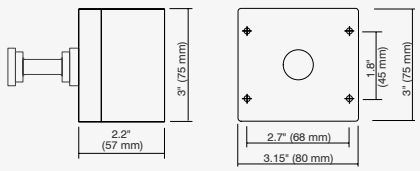
Grounding Clamp

Clamp Design	2 pole with tungsten carbide teeth
Body	Stainless Steel (SS grade: 304)
ATEX / FM / IECEx / UKEX Certification: **UKCA Ex** Ⓔx II 1 G II 1 D Ex h IIC T6 Ga Ex h IIIC T85°C Da Ta = -40°C to +60°C ExVeritas 21UKEX0842 UKCA Ex Approved Body: ExVeritas	**ATEX** Ⓔx II 1 GD T6 (Assessed to EN 13463-1 : 2009) Sira 02ATEX9381 ATEX Notified Body: SIRA **FM** Certificate of Compliance number: 3046346 **IECEx** Ex h IIC T6 Ga Ex h IIIC T85°C Da Ta = -40°C to +60°C IECEx EXV 20.0033 IECEx Certified Body: ExVeritas

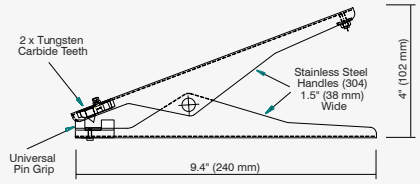
Spiral Cable

Cable	Blue Cen-Stat Hytrel sheath (Static dissipative, chemical & abrasion resistant)
Conductors	2 x AWG #18 copper
Length	3 m (10 ft), 5 m (16 ft), 10 m (32 ft) or 15 m (50 ft) 2 pole Cen-Stat blue spiral cable with Hytrel coating which has colour, UV protective and static dissipative additives

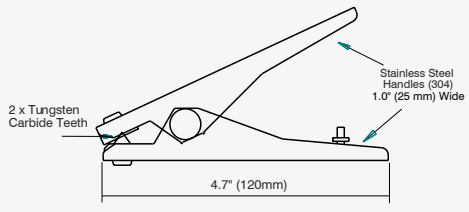




Simple Apparatus
GRP junction box with nylon grounding clamp stowage pin



Static Grounding Clamp



Static Grounding Clamp

Dual core stainless steel grounding clamp fitted with one pair of tungsten carbide tips

Earth-Rite® II PLUS

GRP Hazardous Location Approvals

North America:

NEC 500 / CEC (Class & Division)
Associated Equipment [Ex ia] for use in
Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups E, F, G
Class III, Div. 2
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
Temperature Code T4
Ta = -13F°F to +131°F
OSHA recognised NRTL: CSA

NEC 505 & 506 (Class & Zoning)
Class I, Zone 2, (Zone 0), AEx nA[ia] IIC T4
Class II, Zone 21, AEx tD[iaD] 21, T70ºC

CEC Section 18 (Class & Zoning)
Class I, Zone 2 (Zone 0) Ex nA[ia] IIC T4
DIP A21, IP66, T70ºC

Europe / International Version Available:

IECEx
Ex ec nC [ia Ga] IIC T4 Gc
Ex tb [ia Da] IIIC T70°C Db
Ta = -40ºC to +55ºC
IECEx EXV 19.0059X
IECEx Certifying Body: ExVeritas

ATEX
II 3(1)G
II 2(1)D
Ex ec nC [ia Ga] IIC T4 Gc
Ex tb [ia Da] IIIC T70°C Db
Ta = -40ºC to +55ºC
ExVeritas 19ATEX0545X
ATEX Notified Body: ExVeritas

UKCA Ex
II 3(1)G
II 2(1)D
Ex ec nC [ia Ga] IIC T4 Gc
Ex tb [ia Da] IIIC T70°C Db
Ta = -40ºC to +55ºC
ExVeritas 21UKEX0833X
UKCA Ex Approved Body: ExVeritas

CCC
Ex ec [ia Ga] nC IIC T4 Gc
Ex tb [ia Da] IIIC T70°C Db
2021312304001041
Approved Body: CNEX

KCS (Gas)
Ex ec nC [ia Ga] IIC T4 Gc(Ga)
Ta = -40ºC to +55ºC
22-AV4BO-0315X
Approved Body: KOSHA

KCS (Dust)
Ex tb IIIC T70°C Db
Ta = -40°C to +55°C
22-AV4BO-0316X
Approved Body: KOSHA

Additional Certification

Safety Integrity Level:	SIL 2 (in accordance with IEC/EN 61508)
EMC Tested:	to EN 61000-6-3, EN 61000-6-2 FCC - Part 15 (Class B)

System Options

Universal Resistance Tester (URT)

The URT is designed to provide users of Newson Gale **Earth-Rite®** static grounding systems with a means of testing the permissive resistance range on a regular basis.

The easy to use tester consists of a pair of rotary switches that enable a competent electrical person to check the resistance level at which the grounding system should be working and conduct a PASS / FAIL test at the required setting.

Retractable Cable Reel

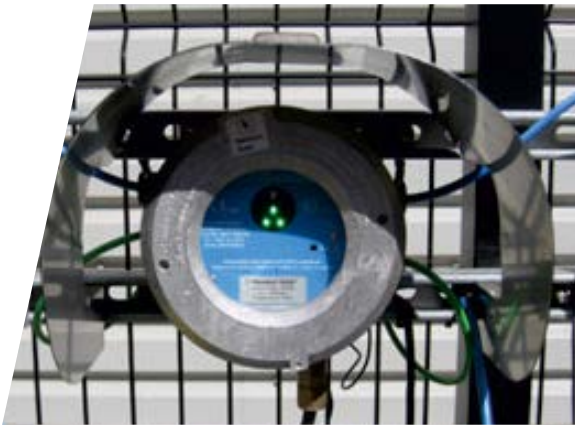
The Retractable Cable Reel is supplied for grounding system installations where customers want to ensure the grounding clamp and cable are returned to the static grounding system by operators and drivers on completion of the product transfer process. The reel can be used in conjunction with the **Earth-Rite®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

- Self-retracting with up to 50 ft (15 m) of Hytrel® protected cable.
- Silver plated ultra low resistance slip ring contacts.

Sun Shield

Designed for operating environments subject to intense sunlight, the ERII Sun Shield protects against direct sunlight hitting the indicators on the **Earth-Rite® II 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.



System Options

Intrinsically Safe (I.S) Switching PCB

The I.S Switching PCB is an additional circuit board added to Newson Gale system enclosures to enable users to directly interface with, and switch intrinsically safe circuits without the need for additional equipment. The I.S Switching PCB is designed not to affect the I.S signals electrical parameters and is compatible with the **Earth-Rite® II PLUS.**

- 30 V DC, 500 mA
- Li = 0H, Ci = 0F
- Suitable for Ex ia, ib, ic rated intrinsically safe circuits only
- NAMUR Compatible

2-Pole Surface Mountable connector

With this assembly operators tasked with earthing mobile process equipment will have a dedicated earthing point to attach the easy to use screw thread connector. The 'plug and play' connector can interface with all Newson Gale 2 core systems to provide earth monitoring capability on a wide range of mobile processes and equipment where generic earthing clamps cannot be used.

The conical shape design aids in the reduction of powder deposit build up over time and aids in clean down operations.

- Made using Stainless Steel (SS grade: 304) with Viton O-Rings
- IP 66
- -40˚F to 140˚F (-40˚C to 60˚C)
- Various lengths of straight or spiral Hytrel cable available
- **IECEx Ex h Certification:**
  Ex h IIC T6 Ga
  Ex h IIIC T85°C Da
  Ta = -40°C to +60°C
  IECEx EXV 20.0033