ATEX IECEx

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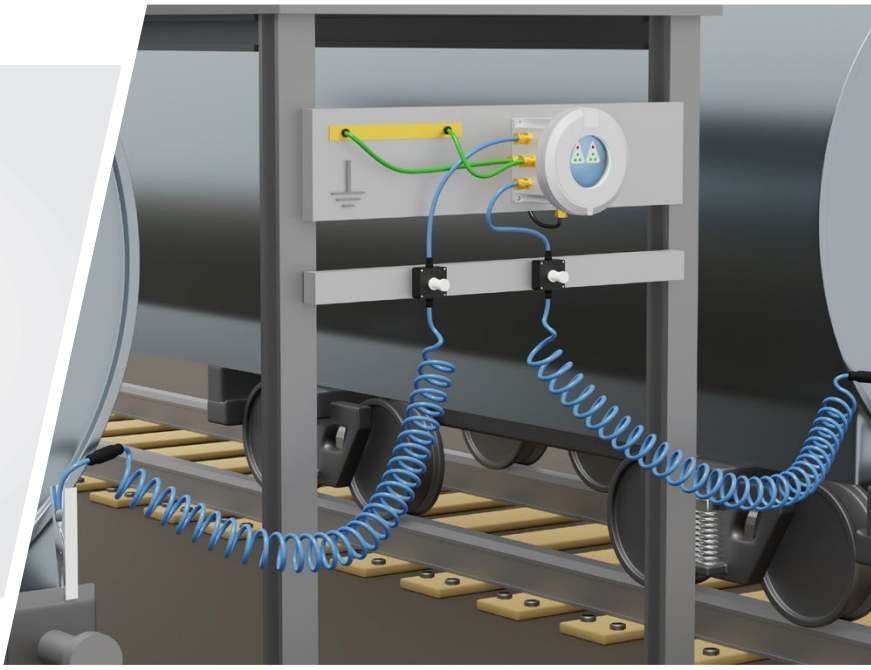
Earth-Rite® DGS

Dual Grounding System



Earth-Rite® DGS Static Grounding System

Protecting plant and personnel from the hazards associated with electrostatic discharge is usually the responsibility of HAZMAT professionals and engineers. Effective grounding and bonding procedures are always the first step in controlling static with special solutions being called for to suit individual applications.

There are times when one or two plant items need to be grounded simultaneously and both of their grounding connections monitored to less than 10 Ohms as required by International Standards Guidance and / or Recommended Practices. The Earth-Rite DGS is the ideal solution for grounding up to two bulk transportation vehicles or other objects to be grounded simultaneously.

The Earth-Rite DGS includes:

- **Flameproof Ex (d) aluminium enclosure** (suitable for installation in Zone 1, Gas and Dust) with dual Intrinsically Safe Continuous Ground Monitoring Circuits (Ex ia suitable for use in Zone 0, Gas and Dust)
- **A very simple "GO / NO GO" user interface** for each grounding channel. A single RED LED indicates to the operator a "NO GO" situation Three flashing high intensity GREEN LEDs per channel indicates to the operator when the ground monitoring circuits have detected a resistance of 10 Ohms or less
- **2 Ground Connection Junction Boxes** are provided and are complete with a stowage pin, VESX90-IP grounding clamp and a 2 conductor Cen-Stat protected spiral cable and quick connectors (3m, 5m, 10m, 15m or 30m lengths are available)

Interlocking the grounding system with the process equipment being used enhances the safety and operating procedure before the process starts. If the ground is lost then Earth-Rite DGS can shut down the process for one or both of the channels. Interlocking the grounding system with strobes provides personnel working in the surrounding area with a clear view of when the grounded process is underway and protected.

Typical Applications

- Two metal drums
- Two Ex IBCs
- Two rail cars
- Transloading (railcar to truck or truck to rail car)
- LACT (Lease Automatic Custody Transfer) skids

Or any combination of the plant items above.

Please read the latest version of the following **International Standards, Guidance** and / or **Recommended Practices** for more useful information on static hazards and solutions:

IEC TS 60079-32-1 Explosive atmospheres. Electrostatic hazards, guidance

NFPA 77 "Recommended Practice on Static Electricity"

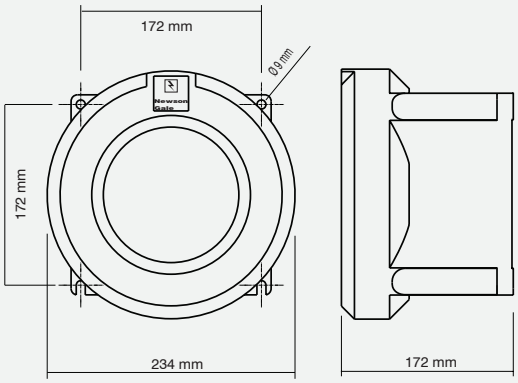
API RP 2003 Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents.

Technical Specification

Exd (Zone 1 Gas / Vapour Installations)

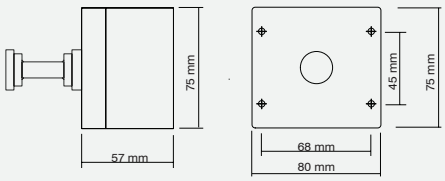
Monitoring Unit

Power Supply	90 V to 265 V AC, 50-60 Hz
Power Rating	10 watts
Ambient Temperature Range	-40°C to + 50°C
Ingress Protection	IP 66
Weight	7 kgs (nett)
Construction	Copper-free cast aluminium
Monitoring Circuit	Intrinsically safe
Monitoring Loop Resistance	Nominally ≤10 ohm per channel (+/- 10%)
Output Relay Contact Rating	3 off voltage free change-over switch contacts 250 V AC, 5 A, 500 VA max resistive 30 V DC, 2 A, 60 W max resistive
Cable Entries	7 x M20 (1 x plugged) 4 in the West Face (EX) 3 in the South Face (NonEX)



2 Junction Boxes complete with Stowage Point

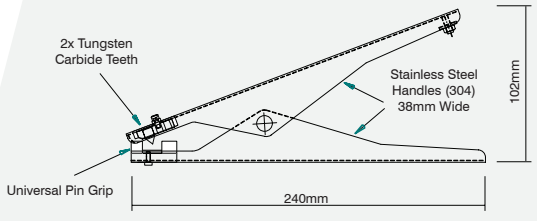
Enclosure Material	GRP with carbon loading
Terminals	2 x 2.5 mm² conductor capacity
Stowage Device	Insulated universal stowage pin
Cable Entries	1 x M20 x 1.5
Connection	Quick Connect



Simple Apparatus
GRP junction box with nylon grounding clamp stowage pin

Grounding Clamp

Clamp Design	2 pole with tungsten carbide teeth
Body	Stainless steel
ATEX / FM / IECEx Certification:	Ex II 1 GD T6 (Assessed to EN 13463-1: 2009) ATEX certificate number: Sira 02ATEX9381 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



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

Spiral Cable

Cable	Blue Cen-Stat Hytrel sheath (Static dissipative, chemical & abrasion resistant)
Conductors	2 x 1.00 mm² 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

Earth-Rite® DGS

Hazardous Area Certification

Europe / International:	North America Version Available:
IECEx	***NEC 500 / CEC (Class & Division)***
Ex db [ia Ga] IIC T6 Gb Ex tb [ia Da] IIIC T135°C Db Ta = -40°C to +50°C IECEx EXV 19.0069 IECEx Certifying Body: ExVeritas	Class I, Div. 1, Groups A, B, C and D, T6 Class II, Div. 1, Groups E, F, G, T135°C Class III, Div. 1, 135°C Associated Equipment for Class I, Div. 1, Groups A, B, C & D Class II, Div. 1, Groups E, F, G Class III, Division 1 Ex db [ia Ga] IIC T6 Gb Ex tb [ia Da] IIIC T135°C Db When installed as per the control drawing: X DGS-Q-17051 cCSAus Ambient Temperature Range -40°C ≤ Tamb ≤ +50°C Ambient Temperature Range -40°F ≤ Tamb ≤ +122°F Enclosure type: 4X, IP66 OSHA recognised NRTL: CSA Group
ATEX Ⓔx II 2(1)GD Ex db [ia Ga] IIC T6 Gb Ex tb [ia Da] IIIC T135°C Db Ta = -40°C to +50°C IP66 Um = 250V ac ExVeritas 19ATEX0564 ATEX Notified Body: ExVeritas	***NEC 505 & 506 (Class & Zoning)*** Class I, Div. 1, Groups A, B, C and D T6 Class II, Div. 1, Groups E, F, G T135°C Class III, Division 1 T135°C Associated Equipment for Class I, Division 1, Groups A, B, C and D Class II, Division 1, Groups E, F, G Class III, Division 1 Class I, Zone 1, AEx db [ia Ga] IIC T6 Gb Zone 21, AEx tb [ia Da] IIIC T135°C Db When installed as per the control drawing: X DGS-Q-17051 cCSAus Ambient Temperature Range -40°C ≤ Tamb ≤ +50°C Ambient Temperature Range -40°F ≤ Tamb ≤ +122°F Enclosure type: 4X, IP66

Additional Certification

EMC Tested:	to EN 61000-6-3, EN 61000-6-2 FCC - Part 15 (Class A)

System Options

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 DGS**.

- 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
- ATEX - Ⓔx II 2 GD T6

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 DGS**.

- 115 V / 230 V AC and 24 V DC options
- ATEX /IECEx approved Exd strobe light
- Ⓔx II 2 Ex d IIC T4 (Ta. -50°C to +70°C)
- II 2G Ex d IIC T5 (Ta. -50°C to +40°C)
- II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C

Universal Resistance Tester

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

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.

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