NewsonGale
HOERBIGER Safety Solutions

Earth-Rite® MGV

ATEX IECEx SIL 2

The **Earth-Rite** Mobile Ground Verification system (MGV) is a unique, patented technology designed to provide automatic confirmation of a positive electrostatic ground connection for trucks collecting and transferring flammable / combustible products.

The **Earth-Rite** MGV system performs two system checks which ensures the vehicle can dissipate static charges for the duration of the transfer process.

1. Static Ground Verification.

The MGV system ensures the connection resistance of the object that is identified as the ground source to earth, is low enough to safely dissipate static charges from the truck.

2. Continuous Ground Loop Monitoring.

When the Static Ground Verification process is confirmed, the MGV system continuously monitors the connection resistance of the truck to this verified grounding point for the duration of the transfer process. This connection resistance must be maintained at 10 ohms (or less) for the duration of the transfer process.

Two output contacts located in the control unit of the MGV system can interlock with pumps or other control devices to prevent transfer operations should a static ground connection fail to be established or maintained for the transfer process.

When the Static Ground Verification and Continuous Ground Loop Monitoring checks are positive, a cluster of attention grabbing green LEDs pulse continuously informing the operator that the truck is securely grounded.

The driver activates the system by simply connecting the system's grounding clamp to a site designated grounding point, buried metal structure (pipes, storage tanks) or temporary points like buried grounding rods.

Europe / International:

IECEx
Ex nA nC [ia] IIC T4 Gc(Ga) (gas & vapour).
Ex tb IIIC T70ºC Db (combustible dusts).
Ta = -40ºC to +55ºC.
IECEx SIR 09.0097
IECEx certifying body: SIRA.

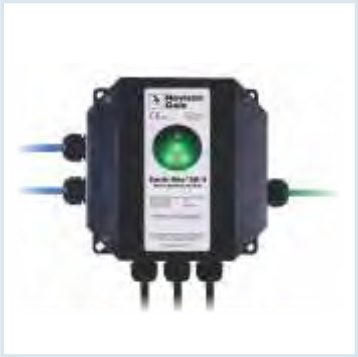
ATEX
Ⓔx II 3(1) G
Ex II 2D
Ex nA nC [ia] IIC T4 Gc(Ga)
Ex tb IIIC T70ºC Db
Ta = -40ºC to +55ºC.
Sira 09ATEX2247
ATEX Notified Body: SIRA.

North America:

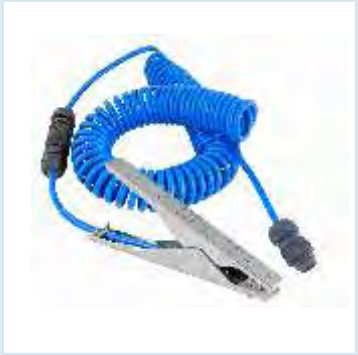
NEC 500 / CEC (Class & Division)
Associated Equipment [Ex ia] for use in
Class I, Div. 2, Groups A, B, C, D;
Class II, Div. 2, Groups E, F, G
Class III, Div. 2,
Providing Intrinsically Safe circuits for
Class I, Div. 1, Groups A, B, C, D;
Class II, Div. 1, Groups E, F, G;
Class III, Div. 1,
When installed per Control Dwg;
ERII-Q-10165 cCSAus
Ta = -25°C to +55°C.
Ta = -13°F to +131°F.
OSHA recognized NRTL: CSA.

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

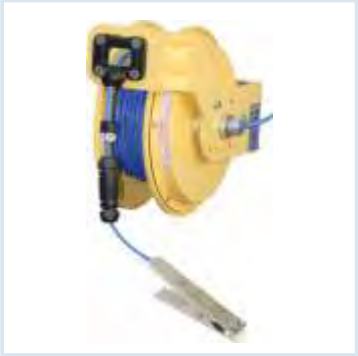
CEC Section 18 (Class & Zoning)
Class I, Zone 2 (Zone 0) Ex nA[ia] IIC T4
DIP A21, IP66, T70ºC



Earth-Rite MGV



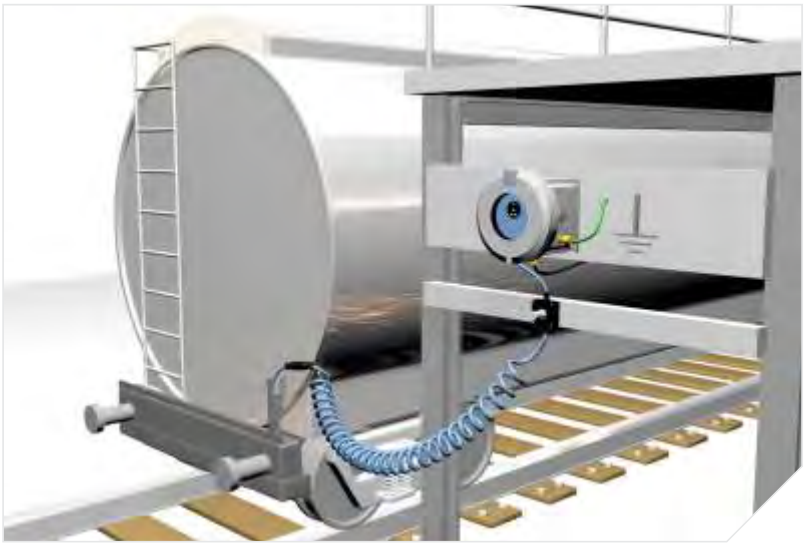
Intrinsically Safe circuits delivered via **FM** / **ATEX** certified stainless steel grounding clamps.

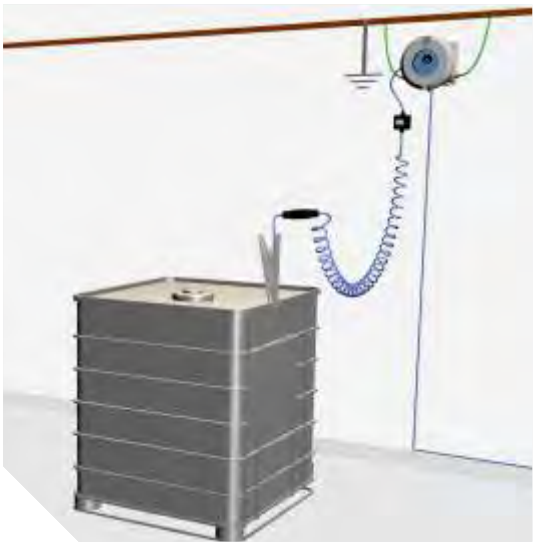


Optional 50 ft. (15 m) 2 pole cable reel.

Click here for more information

Grounding tank cars, IBC's and drums with system interlocks and indication





Conductive metal objects like tank cars, LACT units, skids 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.

If an ungrounded object is allowed to accumulate electrostatic charges, the voltage present on the object rises dramatically in a very short space of time. Because the object is at a high voltage, it is seeking to find ways of discharging this excess energy and the most efficient way of doing this is to discharge the excess charge in the form of a spark.

Grounded objects that are in close proximity to charged objects are good targets for electrostatic discharges. Permitting the uncontrolled accumulation of static electricity in an EX / HAZLOC atmosphere is no different to having an engine's spark plug exposed to a potentially flammable atmosphere.

If the transfer system is not grounded, the electrostatic voltage of objects like railcars can build up to hazardous levels in less than 20 seconds.

A grounding system that combines a simple visual "GO / NO GO" communication via indicators with interlock control capability is the most effective means of controlling the risk of ignitions caused by static electricity during operations involving railcars, IBCs and drums. Interlocking the transfer system with the grounding system is probably the ultimate layer of protection equipment specifiers and designers can take to ensure the equipment is grounded.

IEC 60079-32-1, 13.3.1.4
"Movable metal items" states:

Where such situations are expected, the object should be earthed by an alternative means (e.g. earthing cable). A connection resistance of 10 Ω between the cable and the item to be earthed is recommended. Earthing and bonding need to be continuous during the period that charge build-up could occur and cause electrostatic hazards.

NFPA 77, 12.4.1 & 12.4.2.
"Railroad Tank Cars" states:

In general, the precautions for railroad tank cars are similar to those for tank vehicles specified in **Section 12.2***.

Many tank cars are equipped with non conductive bearings and nonconductive wear pads located between the car itself and the trucks (wheel assemblies). Consequently, resistance to ground through the rails might not be low enough to prevent accumulation of a static charge on the tank car body. Therefore, bonding of the tank car body to the fill system piping is necessary to protect against charge accumulation.

***Section 12.2:**

Tank trucks should be bonded to the fill system, and all bonding and grounding should be in place prior to starting operations. Ground indicators, often interlocked with the filling system, frequently are used to ensure bonding is in place.