



Static grounding and bonding

Clamps
Cables
Reels
Test instruments
Grounding systems
Earth-Rite PLUS
Earth-Rite FIBC
Earth-Rite MULTIPPOINT
Earth-Rite OMEGA
Bond-Rite
Bond-Rite REMOTE

**Maximise safety in the area:**

- ☐ Ensure all operators and managers are trained in safe working with flammable products. It is vital that they understand the characteristics and dangers of flammable products and the principles of static control.
- ☐ Ensure all electrical equipment is appropriate for use in the designated flammable atmosphere.
- ☐ Ensure lift trucks and other vehicles used in the vicinity are explosion protected to the appropriate standard.
- ☐ Ensure "No Smoking" and "Static Hazard" warning signs are clearly posted.

Minimise charge generation and accumulation:

- ☐ Ensure operators are supplied with static-dissipative/anti-static footwear. Gloves, if worn, should also be static-dissipative.
- ☐ Ensure floors are adequately conductive and are well earthed.
- ☐ Ensure static-dissipative footwear is always worn and remains in good condition by use of resistance testing before entry into the flammable area.
- ☐ Ensure all containers, pipework, hoses, plant, etc., are conductive or static-dissipative, bonded together and earthed.
- ☐ Ensure that sufficient, suitable earthing leads and clamps are provided to enable all movable containers to be earthed prior to product transfer or mixing
- ☐ Where practical, pipe liquids directly from storage to the point of use.
- ☐ Eliminate or minimise product free-fall distances. Where practical, keep pumping speeds low.
- ☐ When using plastic materials, such as drums, kegs, liners and hoses in flammable areas, they should be static-dissipative and suitably earthed.
- ☐ When using FIBCs (Big Bags) in flammable areas or with potentially combustible dusts or powders, they should be "Type C" static-dissipative and suitably earthed.
- ☐ The use of anti-static additives should be considered in low conductivity liquids if they do not harm the product.
- ☐ Controlling Static Electricity in Flammable Atmospheres

Maintain safe working practices:

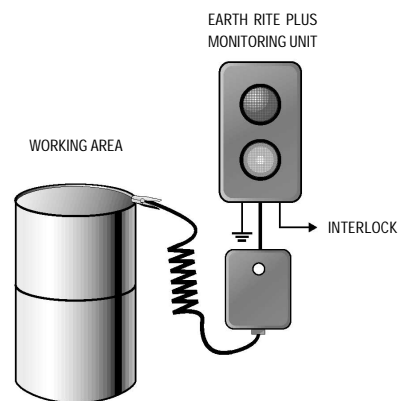
- ☐ Ensure all NEW operators, managers and maintenance staff are trained in safe working with flammable products.
- ☐ Develop a written "safe system of working" for the handling of flammable products.
- ☐ Ensure all earthing straps, clamps, wires and monitoring systems are regularly inspected and maintained. The results of inspections should be recorded. Intrinsically safe equipment should be used to test electrical continuity.
- ☐ Ensure static-dissipative floors remain non-insulating.
- ☐ Ensure all contractors are controlled by strict "permit-to-work" systems.
- ☐ Where large, conductive, movable equipment, such as stainless steel IBCs, road tankers or "Type C" FIBCs could become isolated from earth, the use of earth-monitoring systems, with suitable interlocks to process equipment, pumps or valves is recommended, to ensure that they cannot pose a static hazard.



Static grounding Systems for special applications

As specialists in the field of static grounding and bonding, we have developed over the years many "custom designed systems" for unique applications within the chemical and processing industries. Some examples include Helicopter/Aircraft Refuelling, Loading systems for chemical barges and rail tankers, Floating Roofs on Chemical storage tanks and Static Earth Monitoring on rotating equipment. We always welcome the opportunity to discuss specific customer requirements and to propose solutions.

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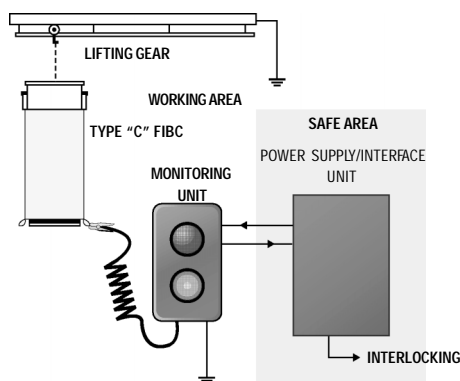


For many other flammable material transfer applications involving fully conductive items of plant (drums, IBC's, vessels, rail tankers etc) the Earth-Rite PLUS (single mode) monitors the static earth path down to an acceptably low level according to international static control requirements. Indicator lights confirm the earth condition to the operator, whilst the internal voltage free switch contacts may be interlocked with pumps, valves, alarms etc.

Ex [ia] IIC (Monitoring modul) Ex d IIB T5 (Control enclosure) IP 57

SCS No: Ex 96 D 2048 U

| Art. nr | Type | Power | System elements |
|---------|------------|------------------|---|
| 129860 | EMUE91 | 230 V +-10% 50Hz | Controller with Earth Indicator lights junction box, stowage point, heavy duty universal clamp, Hytrel spiral cable |
| | EMUE91/110 | 110 V | |
| Options | | | Ex sounds, alarms. Self retracting cable reel enhanced enclosure ratings (Ex & Ip) |



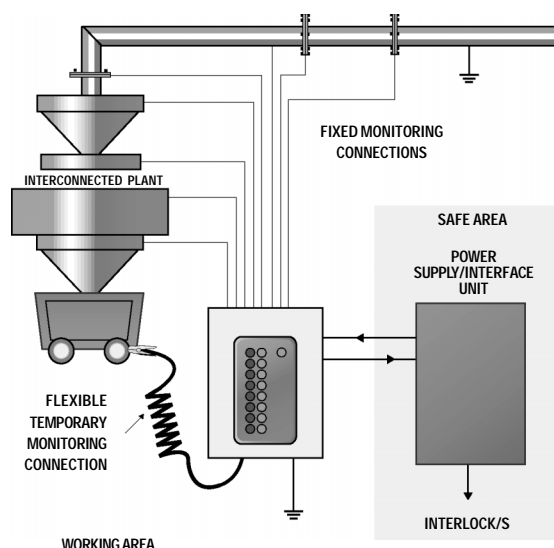
Type "C" static dissipative FIBCs (Big Bags) are commonly used in the chemical and processing industries to prevent dangerous levels of static accumulation which may result in electrostatic discharges from the surface of the container, and adjacent objects/operators becoming charged by induction. The Earth-Rite FIBC ensures that the container is correctly grounded, and within the correct surface resistivity range before material filling/discharging commences. The resistance monitoring range of the system enables it to also be used with other "static dissipative" materials such as flexible linings and hoses etc.

Ex [ia] IIC T4

Sira Ex 98 E 2132

| Art. nr | Type | Power | System elements |
|---------|------------|------------------|---|
| 129870 | EMUF01 | 230 V +-10% 50Hz | Monitoring modul with Earth Indicator Lights, stowage point, power supply unit, special monitoring clamp, Hytrel spiral cable |
| | EMUF01/110 | 110 V | |
| Options | VESX43/G06 | | Earthing clamp for flexible materials including 10 m green spiral cable |

For plant and machinery where there are several pieces of potentially isolated conductive materials, the Earth-Rite MULTIPOINT provides monitoring and static earthing of up to 8 channels, with operator feedback and interlock(s). Typical applications include fluid bed dryers, filling and discharge equipment and many other installations where part(s) of the assembly must be disconnected periodically. The system maintains hazardous area and operator safety at all times by operating from a single intrinsically safe power supply.

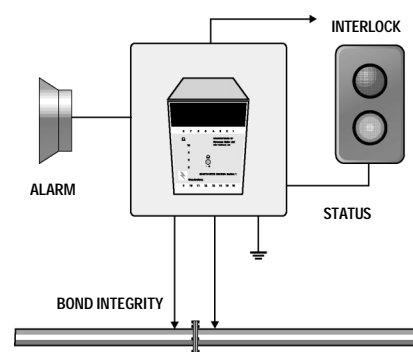


Ex [ia] IIC T4

Sira Ex 98 E 2132

| Art. nr | Type | Power | System elements |
|---------|---------------|-------------------|--|
| 129875 | ER MULTIPOINT | 230 V +- 10% 50Hz | Monitoring Module with Multiple Earth indicator lights, cable marshalling box, power supply unit |
| Options | | | Multiple output switch contacts, static earth monitoring clamps and cables for mobile equipment, fixed earthing leads, pin/socket connectors |

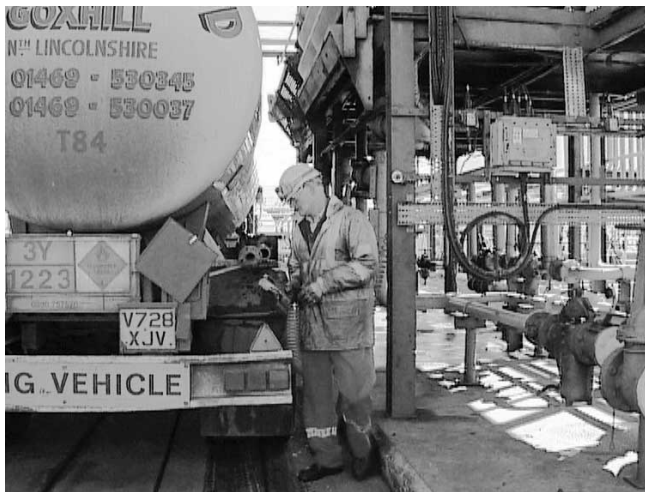
The Earth-Rite OMEGA enables engineers, contractors and OEMs to incorporate dedicated static earth monitoring as part of larger plant instrumentation and control systems. The Earth-Rite OMEGA module has been designed for rail mounting (35 mm DIN standard) into control panels, and is capable of checking resistance between two points and providing relay output switching at a user-defined set point. Typical applications include temporary ground condition monitoring of all mobile conductive plant items and permanent continuity monitoring of fixed plant items in Zone 0, 1 & 2 flammable atmospheres, as well as monitoring simple devices such as float switches in hazardous areas.



Ex [ia] IIC

ISse P 00E.101.247

| Art. nr | Type | Power | System elements |
|---------|---------|---------------|--|
| 129880 | VESF 70 | Supply: 24VDC | Earth-Rite OMEGA module, supply 24VDC Monitoring range 1 - 16 Ohms, (set point) Output contacts DPDT 250V: 5A:500VA (ac) 250V:5A:250W (dc) max. resistive |
| 129881 | VESF 80 | Out: 24V DC | Power supply unit, input 230VAC |



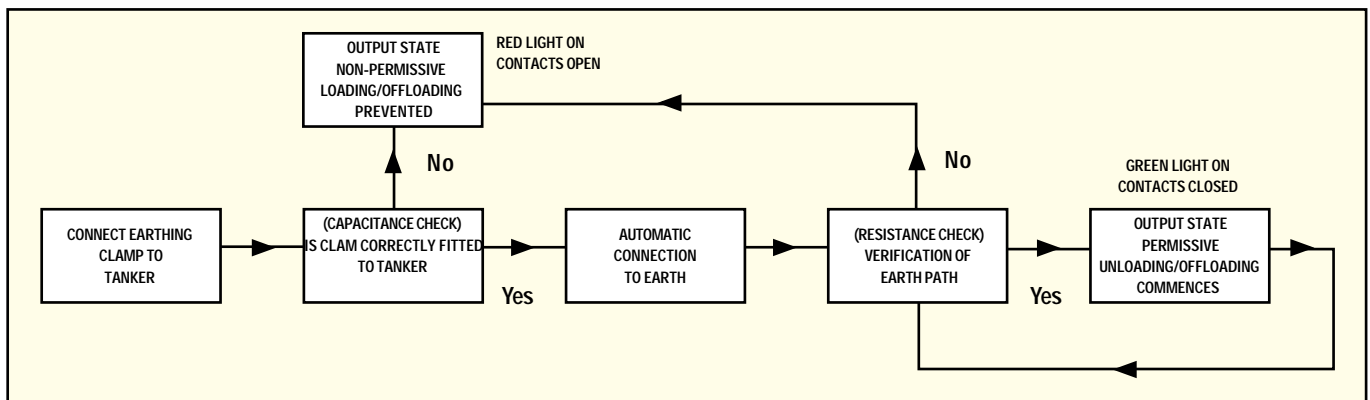
Earth-Rite PLUS (SE) Dual Mode

Cenelectrex® Static Grounding Systems have been developed to provide security in safety critical applications, where flammable products are being transferred at high velocity, or wherever there is a real danger of isolated objects becoming highly charged in hazardous atmospheres. All systems utilise certified intrinsically safe monitoring circuits, and provide switch contact outputs which may be interlocked with process control or alarm systems as well as visual indication of earth condition.

Designed to prevent static accumulation and discharge during road tanker filling and off-loading, the Earth-Rite PLUS (SE) Dual Mode ensures that correct bonding and grounding procedures are carried out before the transfer process begins. The Earth-Rite PLUS (SE) Dual Mode carries out a unique "tanker verification" check before going over to monitor the static earth path. The system only becomes permissive when these two conditions are within correct parameters, thereby eliminating the potential for operator error. Local indicator lights confirm the tanker/earth condition to the operator, whilst the internal voltage free switch contacts may be interlocked with pumps, valves, alarms etc. For applications involving other types of conductive plant (drums, IBCs, vessels, Rail Tankers etc), a single mode version of the Earth-Rite PLUS (SE) is available - please refer to separate Cenelectrex datasheet.

Key user benefits of the Earth-Rite PLUS (SE)

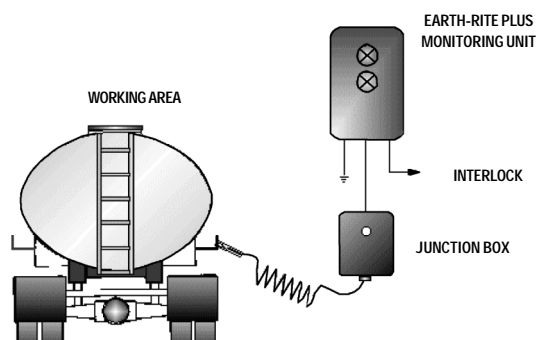
- It provides an effective connection to earth and so prevents static accumulation
- It constantly monitors the connection to the tanker and to earth, providing instant feedback to the operator
- It may be interlocked with equipment (pumps/valves/alarms) to stop the operation if the earth or tanker connection should become faulty
- It is self diagnostic and will always fail-safe in the event of a short or open circuit
- Dual Mode monitoring (capacitance and resistance) means the system cannot be bypassed by clamping onto any object other than the tanker
- The earth connection is automatically made enabling any residual charge to safely dissipate within the explosion protected enclosure (or out of the hazardous area in the case of a safe area controller)
- The Earth-Rite PLUS (SE) fulfils the requirements of major International Static Safety Standards





Each Earth-Rite PLUS (SE) static grounding system consists of the following elements:

- Controller (incorporating intrinsically safe monitoring module)
- 316L Stainless Steel Heavy duty earthing clamp complete with hytrel covered self retracting spiral cable (10 metres)
- Earth connection junction box complete with clamp stowage point



Ex [ia] IIC / EExd IIB T5 IP57

SCS No: Ex 96 D 2048 U

| Art.nr | Type | Power | System elements |
|--------|--------|------------------|---|
| 129850 | EMUE90 | 230 V +-10% 50Hz | Controller (incorporating intrinsically safe monitoring module, 316L Stainless Steel heavy duty earthing clamp complete with Hytrel covered self retracting spiral cable (10m), earth connection junction box complete with calmp stowage point |

The Earth-Rite PLUS (SE) has proved invaluable wherever road tankers are involved in the transfer of flammable products (liquids or bulk powders, flakes or granules). If necessary, the system may be adapted to meet your individual needs and site conditions.

Spare parts

| Art.nr | Type | Power | System elements |
|--------|--------|-------|---|
| | VESR21 | - | 316L Stainless Steel heavy duty clamp 2-pole tungsten carbide contacts complete with cable 2 core 1,0 mm ² spiral, extended 10 m |

The self testing static grounding clamp

In many branches of the process industries, fires and explosions can result from electrostatic discharge in hazardous areas. Even relatively small sparks have sufficient energy to ignite many flammable vapours, gases and even airborne dusts. In situations where this risk exists, static grounding (earthing) and bonding clamps are required wherever mobile or portable conductive plant items (such as drums and vessels etc) are used. In these applications, it is necessary for the clamp to make a low resistance contact with the object, to enable any static to be safely dissipated to ground (earth) via a suitable conductor before the energy available for discharge builds up to dangerous levels.

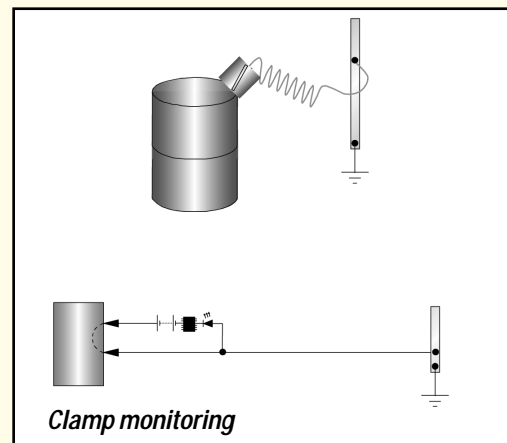
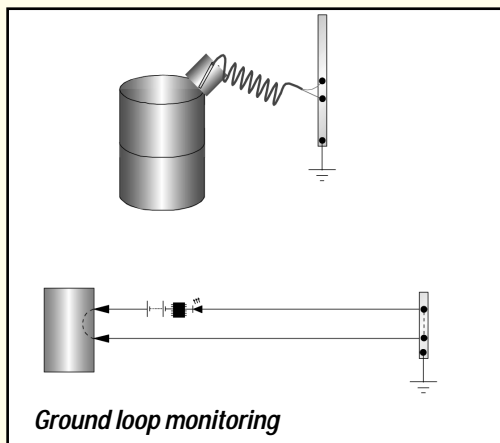
If the correct clamp has been selected for the application, and the object to be grounded does not have surface insulation, then it should be possible to make good enough contact to prevent static accumulation. However, in practice many drums, containers and other equipment have coated surfaces (even when new), and this problem is compounded in use due to build up of further insulating layers such as paint, resins, adhesives and other products inherent to the processing environment.

In tests, many standard grounding clamps in use today show very high resistance readings when clamped onto conductive objects with insulating surfaces. This may result in the clamp being physically attached in the eyes of the operator, but not actually performing it's intended function (ie: dissipating static safely).

The Bond-Rite clamp provides enhanced safety and security by continuously testing the connection onto the object, and providing visual verification of this condition back to the operator.



- Simple to operate
- Intrinsically Safe
- 316L Stainless Steel Body
- Pulsing Green LED Indicator
- Tungsten carbide Teeth
- Unique clamping action
- Patents pending





The Bond-Rite clamp may be used with either single or twin core grounding cables. In single core form it verifies a positive connection onto the object to be grounded (clamp monitoring). In twin core form, it performs this function, and also checks the complete loop back to the grounding point (ground loop monitoring). The Bond-Rite clamp may be supplied with our special Hytrel Coated Spiral Cables or Static Discharge Reels (single or twin core), or connected to existing grounding and bonding cables and reels.

Specification

| | |
|-------------|--|
| Clamp body | 316L Stainless steel |
| Contacts | Tungsten Carbide (2) |
| Spring jaws | 42 mm max. opening |
| Battery | 9 V Lithium Manganese (included) Lifetime approx. 420 h |
| Set point | 10 Ohm |
| Certificate | (Europe) Sira 00ATEX 2199 X (North America) pending |
| Patents | European & US Pending |

EEx ia IIC T4

Sira 00ATEX 2199X

| Art. nr | Type | Power | System elements |
|---------|--------|---|---|
| 129828 | VESC50 | Battery 9V Lithium manganese (included) | Bond-Rite self monitoring clamp Function: Ground loop or clamp monitoring |
| 129824 | VESC51 | | Bond-Rite complete with 5 m blue Hytrel spiral twin core cable, earth connection box and clamp stowage point Function: Ground loop monitoring |
| 129825 | VESC52 | | Bond-Rite complete with 5 m blue Hytrel spiral cable, earth connection box with quick release connector and clamp stowage point. Function: Ground loop monitoring |
| 129826 | VESC54 | | Bond-Rite complete with 5 m green Hytrel spiral singel core cable Function: Clamp monitoring |
| | VESC55 | | Bond-Rite complete with 5 m green Hytrel spiral singel core cable, earth connection box with quick release connector and clamp stowage point Function: Clamp monitoring |

OPTIONS for use with the Bond-Rite

- Hytrel Spiral Cables in various lengths (blue, green or orange cover)
- Static Discharge Reels
- Additional earth connection boxes with quick release sockets

The Bond-Rite forms part of the Cenelectrex® range of static control equipment for hazardous areas which includes static grounding interlock systems and accessories. For more information please contact our technical sales team or the local distributor in your area.

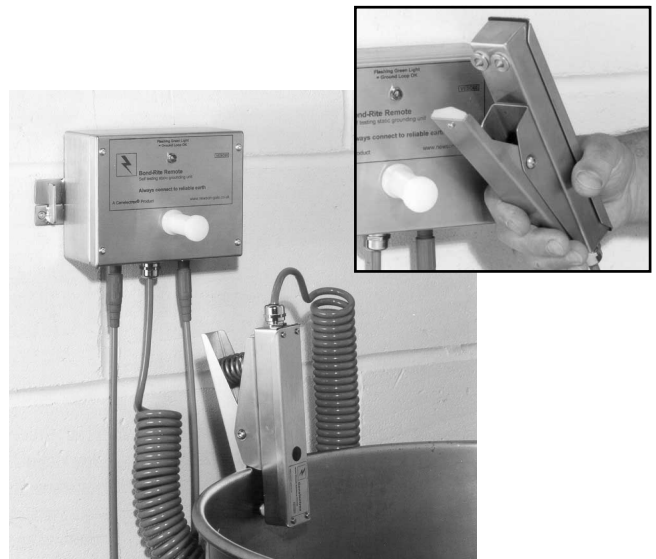
Static grounding system

The unique patented Bond-Rite self-testing static grounding clamp helps prevent static caused fires and explosions by continuously testing its connection to drums, containers and other mobile plant. As an alternative to the standard Bond-Rite, a wall mounted remote version is also available. In this configuration the intrinsically safe monitoring electronics flashing green LED and battery power supply are housed inside a tough, corrosion resistant stainless steel enclosure.

This enables a variety of clamps to be used depending on the specific needs of the application. The Bond-Rite REMOTE functions exactly as a regular Bond-Rite in Ground Loop Monitoring - it verifies the connection of the clamp onto the object to be grounded (drum, vessel, tank etc), as well as proving the integrity of the bonding cable back to the ground bus or bonding point.

Each Bond-Rite Remote is supplied with quick release flying leads for ground bus connection, and a quick detachable wall mounting bracket, enabling the unit to be easily removed from the hazardous area for battery change. The flashing green LED (verifying clamp connection and low resistance ground loop) is positioned in the front of the enclosure, together with an insulated stowage point for safe return of the clamp when not in use.

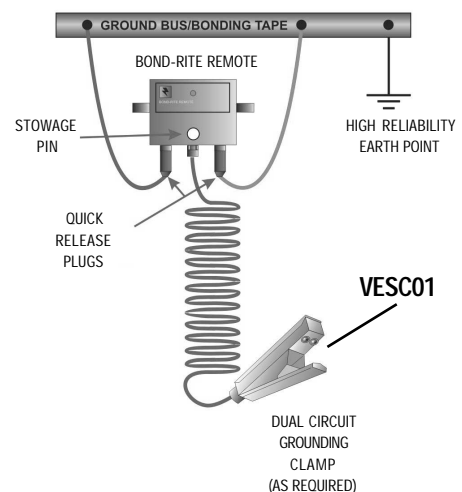
Bond-Rite REMOTE is covered by the same Intrinsically Safe approvals (ATEX and FM), and uses the same 9V-battery power sources as the regular model (supplied with unit)



Bond-Rite REMOTE offers a safe, economical and simple to install solution for applications where it is necessary to verify a good static ground connection onto drums, containers and other mobile plant.

Specification for wall mounted

| | |
|--------------------|---|
| Enclosure | 316L Stainless steel |
| Dimensions | 170 x 130 x 75 mm (approx - not including bracket) |
| Ingress protection | IP65 |
| Battery | 9V Lithium Manganese (included) |
| Set point | 10 Ohm |
| Bonding cable | 5 m (16,5 ft) Blue Hytel covered spiral, twin core |
| Certificate | Europe ATEX EEx ia IIC T4 Ex II 1 GD North America FM-approved IS, Clasas I, II & III, Division 1 Groups A, B, C, D, E, F & G - T4 |
| Patents | European & US Pending |

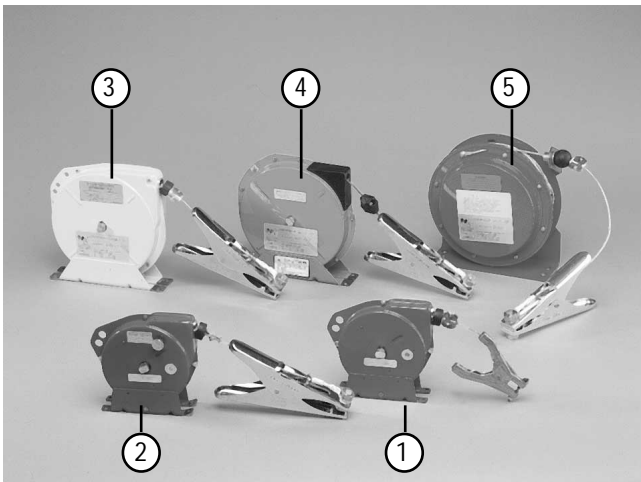


ATEX EEx ia IIC T4 Ex II 1GD IP65

| Art. nr | Type | Power | System elements |
|---------|--------|---|---|
| 129841 | VESC61 | Battery 9V Lithium manganese (included) | Bond-Rite REMOTE complete with 5 m blue Hytel spiral twin core cable and REB-IP Plier clamp |
| 129842 | VESC62 | | Bond-Rite REMOTE complete with 5 m blue Hytel spiral twin core cable and GAT-IP cast aluminium clamp. |
| 129843 | VESC63 | | Bond-Rite REMOTE complete with 5 m blue Hytel spiral twin core cable and Heavy duty stainless steel clamp, VESC01 |
| 129844 | VESC60 | | Replacement Bond-Rite REMOTE |

Options for use with the Bond-Rite REMOTE

- Hytel Spiral Cables in alternative lengths
- Plug/socket connectors (as alternative to clamps)



Static discharge reels

1. Art. nr 129671, type VESX41/M05
2. Art. nr 129818, type VESX07
3. Art. nr 129820, type VESX08
4. Art. nr 129816, type VESX34 or
Art. nr 129817, type VESX90/M34
5. Art. nr 129821, type VESX04/M19

Design

Designed to provide safe and reliable grounding of drums, containers and mobile tanks these heavy duty Static Discharge Reels are totally self-contained in a cross-bonded conductive housing comprising a dual foot bracket.

Compact and simple to install, they provide a light, constant spring tension on the grounding/bonding cable, eliminating the danger of static accumulation and preventing the cable from becoming tangled. The payout of a given amount of multicore static discharge cable may be stopped at the required working length using the instant-acting lock and release mechanism.

Available in a range of clamp/cable/length options, these reels are ideal for arduous working environments, and reduce the risk of operator injury due to tripping etc.

- Automatic Rewinding
- Durable, rugged construction
- Positive ratchet lock
- Hard wearing polyester paint finish.

| Art. nr | Type | Clamp type | Cable length m | Cable type | Ø mm | mm ² | Housing colour | kg |
|---------|------------|----------------------------------|----------------|--|------|-----------------|----------------|-------|
| 129671 | VESX41/M05 | REB Plier Clamp | 6,1 | Galvanised Steel (uncoated) | 2,37 | 4 | red | 2,1 |
| 129818 | VESX07 | Cling-On heavy duty clamp | 7,6 | Galvanised Steel (uncoated) | 2,37 | 4 | red | 2,45 |
| | VESX04/M07 | Cling-On heavy duty clamp | 7,6 | Galvanised Steel (orange nylon coated) | 3,18 | 4 | red | 2,5 |
| | VESX90/M07 | Stainless Steel heavy duty clamp | 7,6 | Galvanised Steel (orange nylon coated) | 3,18 | 4 | red | 2,65 |
| | VESX54 | Heavy duty screwdown clamp | 7,6 | Galvanised Steel (uncoated) | 2,37 | 4 | red | 3,2 |
| 129820 | VESX08 | Cling-On heavy duty clamp | 15,2 | Galvanised Steel (uncoated) | 2,37 | 4 | red | 4,8 |
| | VESX55 | Heavy duty screwdown clamp | 15,2 | Galvanised Steel (uncoated) | 2,37 | 4 | red | 5,5 |
| | VESX33 | Cling-On heavy duty clamp | 15,2 | Galvanised Steel (clear nylon coated) | 3,18 | 4 | orange | 5,2 |
| 129816 | VESX34 | Cling-On heavy duty clamp | 15,2 | Stainless Steel (orange nylon coated) | 3,18 | 4 | orange | 5,2 |
| 129817 | VESX90/M34 | Stainless Steel heavy duty clamp | 15,2 | Stainless Steel (orange nylon coated) | 3,18 | 4 | orange | 5,2 |
| 129821 | VESX04/M19 | Cling-On heavy duty clamp | 30,5 | Galvanised Steel (clear nylon coated) | 3,18 | 4 | red | 10,15 |

All items may be purchased separately for self-assembly, or supplied as fitted and tested assemblies.

Cling-On

Cling-on heavy duty clamp with tungsten carbide contacts – suitable for grounding and bonding a wide range of larger containers such as drums, IBC's and mobile tankers.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|---|-------------------|
| 129800 | VESX04 | Mild steel body with tungsten carbide contacts | 0 - 40 mm |
| 129804 | VESX90 | 316 stainless steel body with tungsten carbide contacts | 0 - 40 mm |

Earthling

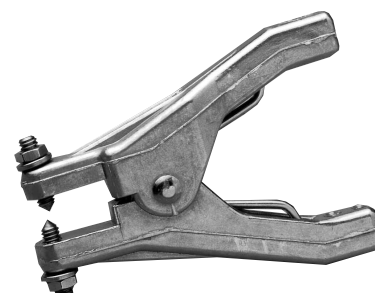
Earthling medium duty clamp – available in stainless steel or carbon steel options, suitable for lighter applications such as grounding and bonding smaller containers.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|---|-------------------|
| 129802 | VESX05 | Mild steel body with Stainless Steel contacts | 0 - 14 mm |
| 129806 | VESX02 | Stainless steel with Stainless Steel contacts | 0 - 14 mm |

REB Plier clamp

REB medium duty cast aluminium clamp – with stainless steel pins to provide a reliable earth through paint and accumulated product. Ideal for use on containers with a lip or rim (for example solvent containers).



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|--|-------------------|
| 129666 | VESX41 | Die cast aluminium with Stainless Steel contacts | 0 - 23 mm |

All items may be purchased separately for self-assembly, or supplied as fitted and tested assemblies.

FIBC Clamp

FIBC clamp – specially designed to provide a positive connection to Type "C" big bags (FIBCs) or static dissipative liners without damaging material.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|--|-------------------|
| 129807 | VESX43 | Die cast aluminium with Stainless Steel contacts | 0 - 25 mm |

C-Clamps

C-Clamps – available in two sizes for semi-permanent bonding of drums etc. to storage racks, or where a screw tight connection is required.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|--|-------------------|
| 129830 | VESC41 | EP-1, Mild steel body with Stainless Steel contact | 0 - 20 mm |
| 129831 | VESC43 | EP-2, Mild steel body with Stainless Steel contact | 0 - 60 mm |
| 129832 | VESC42 | EP-3, (heavy duty) Bronze body with bronze contact | 0 - 30 mm |

Aircraft clamp

Aircraft clamp – ALS-10A static bonding clamp with special plated steel jaws designed for attaching to aircraft grounding posts or landing gear, made to US military specifications. NSN Nr. 5999-00-134-5844 and MIL M83413/7-1



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|--|-------------------|
| 129810 | VESX42 | Die cast aluminium with mild steel serrated contacts | 0 - 23 mm |

All items may be purchased separately for self-assembly, or supplied as fitted and tested assemblies.

Pipe Clamps (Bronze)

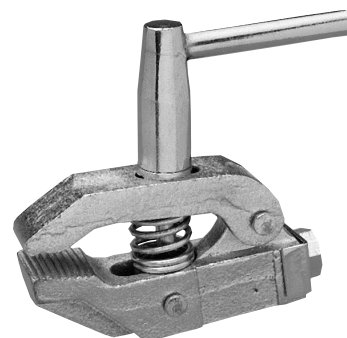
Pipe Clamps – available in a range of nominal sizes from DN 15 to DN 150 provide a semi permanent ground connection for bonding items to earthed conductive pipes.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|---|-------------------|
| 129835 | VESC32 | JR-150-4, Bronze body "saddle" type clamp | 10 - 35 mm |
| 129836 | VESC33 | JR-150-8, Bronze body with serrated contacts | 29 - 34 mm |
| 129837 | VESC36 | JR-150-16, Bronze body with serrated contacts | 57 - 62 mm |
| 129838 | VESC38 | JR-150-24, Bronze body with serrated contacts | 87 - 90 mm |
| 129839 | VESC39 | JR-150-32, Bronze body with serrated contacts | 113 - 118 mm |
| 129840 | VESC40 | JR-150-48, Bronze body with serrated contacts | 156 - 163 mm |

Screwdown clamp

Heavy duty clamp suitable for earthing barges, vessels or rail cars, or wherever a positive screw down clamping action is required.



| Art. nr | Type | Material | Clamp jaw opening |
|---------|--------|---|-------------------|
| 129667 | VESX01 | Cast iron (galvanised) with serrated contacts | 0 - 38 mm |

Clamp GAT-P

In resting position the isolated contact nails are not in contact with the grounded part of the clamp.

Body: aluminium

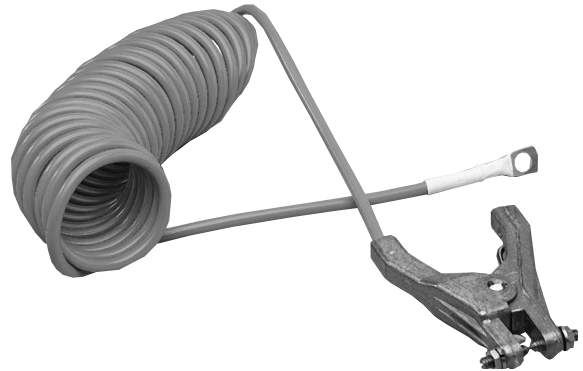


| Art. nr | Type | Description |
|---------|-----------------|---|
| 129668 | GAT-P | Clamp |
| 129670 | VESC26/GAT-P-IP | Clamp with isolated contact nails for connection to 6 mm ² |

Art. nr 129801

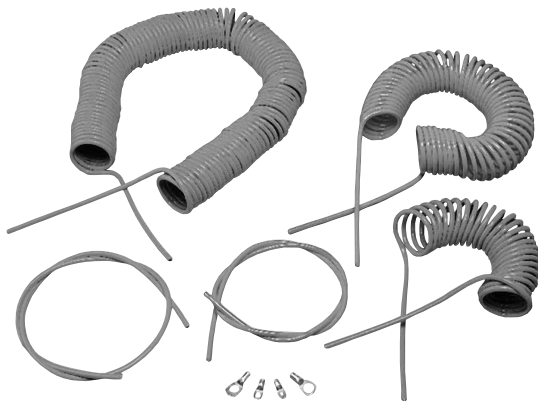


Art. nr 129681



Cenelectrex® grounding and bonding clamps are designed to enable the user to achieve an effective connection to portable/mobile items of plant in order to safely dissipate static electricity. All items combine extremely low electrical resistance with high levels of mechanical strength, and are available as fitted assemblies complete with special Hytrel® coated spiral cables, or as separate items for self assembly.

In all cases, customers should be aware of the need to check the efficiency of all static grounding and bonding devices as part of a planned maintenance programme, and to ensure compliance with local safety standards. For extremely safety-critical applications, or where there is a need for constant verification of static grounding and bonding conditions, we recommend our range of static grounding systems, which provide visual and interlock outputs.



Grounding and bonding cables

Designed to combine low electrical resistance with high mechanical strength, special grounding and bonding cables are available in a range of length from 1 to 15 meters. A hytrel chemical and abrasion resistant covering enables the cables to be used in many types of industries/applications. Cables are available in spiral extendable form or straight lengths, and colour coded green for European standards or orange for North America.



Standard static grounding & bonding assemblies

| Art. nr | Type | Clamp type | Cable type | Lenght m |
|---------|----------------|-----------------------------------|---------------------|----------|
| 129801 | VESX10 | Cling-On Heavy duty clamp | Green Hytrel spiral | 5 |
| 129805 | VES90/G03 | Stainless Steel heavy duty clamp | Green Hytrel spiral | 5 |
| 129681 | VESX41/G09 | REB plier clamp | Green Hytrel spiral | 3 |
| 129803 | VESX70 | Earthling medium duty clamp | Green Hytrel spiral | 3 |
| | VESX02/G09 | Medium duty Stainless Steel clamp | Green Hytrel spiral | 3 |
| | VESC41/G09/X41 | "C" clamp and REB plier clamp | Green Hytrel spiral | 3 |

All free ends terminated with 10mm ring terminal

Static grounding & Bonding Cables

| Art. nr | Type | Clamp type | | Lenght m |
|---------|-----------|--------------------------------------|--|----------|
| 129730 | VESG09 | Green Hytrel spiral one core cable | | 3 |
| 129732 | VESG03 | Green Hytrel spiral one core cable | | 5 |
| 129734 | VESG06 | Green Hytrel spiral one core cable | | 10 |
| 129736 | VESG05 | Green Hytrel spiral one core cable | | 15 |
| 129750 | VESG31 | Green Hytrel straight one core cable | | 1 |
| 129752 | VESG32 | Green Hytrel straight one core cable | | 2 |
| 129754 | VESG33 | Green Hytrel straight one core cable | | 3 |
| 129756 | VESG35 | Green Hytrel straight one core cable | | 5 |
| 129758 | VESG36 | Green Hytrel straight one core cable | | 6 |
| 129760 | VESG30/10 | Green Hytrel straight one core cable | | 10 |
| 129740 | VESG11 | Blue Hytrel spiral twin core cable | | 5 |
| 129742 | VESG12 | Blue Hytrel spiral twin core cable | | 10 |
| 129744 | VESG13 | Blue Hytrel spiral twin core cable | | 15 |
| | VESG19 | Blue Hytrel spiral one core cable | | 10 |
| | VESG41 | Blue Hytrel straight one core cable | | 1 |
| | VESG42 | Blue Hytrel straight one core cable | | 2 |
| | VESG43 | Blue Hytrel straight one core cable | | 3 |
| | VESG45 | Blue Hytrel straight one core cable | | 5 |
| | VESG46 | Blue Hytrel straight one core cable | | 6 |
| | VESG40/10 | Blue Hytrel straight one core cable | | 10 |

To construct a static grounding clamp/cable assembly to your own specification, simply add the clamp to the cable required as per the example listed. If a second clamp is required, add this to the assembly. Clamps always listed in Alpha/Numeric order. (Omit the VES prefix for cable and second clamp).

Example:

EP-1 "C" Clamp; 3 meter green hyterel spiral cable and Cling-On clamp = assembly part number VESC41/G09/X04.

Sole-Mate

The Sole-Mate is used to check the condition of anti-static footwear which is commonly used in hazardous atmospheres. Simple to operate, the unit gives a pass/fail signal to operating personnel ensuring that their footwear complies with International standards.

| Art. nr | Type | Description |
|---------|----------|---------------------------|
| 108634 | VESF50/E | Solo-Mate footwear tester |



IS Earth Lead tester

Approved for use in hazardous atmospheres, the IS Earth Lead Tester ensures compliance with local/company safety standards for static grounding and bonding. The portable unit provides acoustic and optical indication of resistance levels, and allows safety and maintenance personnel to quickly check the condition of grounding and bonding cables and devices.

| Art. nr | Type | Description |
|---------|---------|----------------------|
| 108664 | EX-DT11 | IS Earth lead tester |



Earth Bonding Resistans meter

For checking the resistance of protective conductors, earth conductors and equipotential bonding conductors, including the connections and terminals.

| Art. nr | Type | Description |
|---------|-------------|-------------------------------|
| 108636 | OHM-Ex 413A | Earth bonding resistans meter |



Grounding padles

| Art. nr | Type | Description |
|---------|---------|---|
| | TGPO100 | Static dissipative ground paddle kit for 1" 150lb ANSI flange |
| | TGPO150 | Static dissipative ground paddle kit for 1 1/2" 150lb ANSI flange |
| | TGPO200 | Static dissipative ground paddle kit for 2" 150lb ANSI flange |
| | TGPO300 | Static dissipative ground paddle kit for 3" 150lb ANSI flange |
| | TGPO400 | Static dissipative ground paddle kit for 4" 150lb ANSI flange |
| | TGPO600 | Static dissipative ground paddle kit for 6" 150lb ANSI flange |



Emergency lights Turvavalaistus

Emergency light fittings with or without battery and emergency supply units.

Turvavaloisimia akulla tai ilman, sekä turvavalo-keskuksia.



Emergency light fittings Turvavaloisimia

Emergency light fittings and exit sign light fittings, also for ceiling mounting

Poistumistie-, opas- ja turvavaloisimet, myös kattoasennukseen.



Underwater lighting Vedenalainen valaistus

Swimming and pool light fittings, whirlpool lights, fountain lights and accessories.

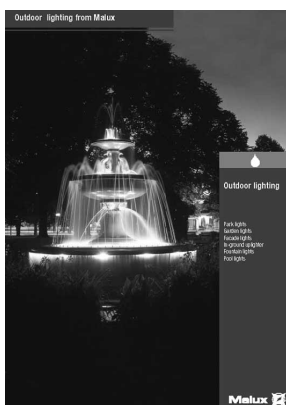
Allas- ja uima-allas-valaisimet, poreallas-valaisimet, suihkulähte-valaisimet ja tarvikkeet.



Ex-light fittings Ex-valaisimet

Fluorescent and incandescent light fittings, pendant light fittings, floodlights, safety lamps and portable lamps.

Loisteputki-, hehkulamppu- ja purkauslamppuvalaisimet, valonheittimet, sekä käsivalaisimet.



Outdoor lighting Ulkovalaistus

Park and garden lights, facade lights, inground up-lighters.

Puisto-, puutarha- ja julkisivuvalaisimet sekä maahanupotettavat valaisimet.



Special light fittings Erikoisvalaisimet

Special lights for extreme ambient atmospheres, also for Zone 2 and Zone 11.

Erikoisvalaisimia erittäin vaativiin olosuhteisiin, myös tilaluokille 2 ja 11.



Vandal safe light fittings, valaisimet

- > 70 J
- > 80 J
- > 100 J
- > 120 J
- > 140 J



Process lighting Prosessivalaistus

Sightglass fittings and light fittings, light and sightglass combinations, camera systems, Sightglass discs and accessories.

Näkölaseja, valaisimia sekä yhdistelmiä, kamerajärjestelmiä, linsssejä ja tarvikkeita.

Other products

Ex-light fittings
Ex-installation units
Ex-sockets and plugs
Ex-control switches and safety switches
Ex-alarm equipment
Ex-heating devices
Ex-telephones
Exi-components and equipment
Ex-actuators
Ex-motors
Tachogenerators and encoders
Emergency lighting
Underwater lighting
Outdoor lighting
Special lighting

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