



### Green light for safe monitoring

#### Mobile ground monitoring with the battery-operated Eltex ground monitoring device TERRALIGHT and the new ground clamp TERRACLAMP

Mobile containers are often controlled by means of grid-connected ground monitoring systems. These are connected to the process control system which controls the filling and emptying processes. The installation of such a stationary grounding system is often complex and thus cost-intensive. The connection to a higher-level control system, however, is not necessary for many industrial processes.

Then passive grounding components are often used, which consist of a grounding clamp and a tear-resistant, stable cable. The latter is connected to an grounding point of the system. The major disadvantage is that users can hardly see whether they have really created equipotential bonding by connecting the earthing contact.

This can be prevented, for example, by invisible damage inside the cable or because the clamp jaws cannot penetrate the paint or encrustations on the object to be grounded due to insufficient closing force or sharpness.



Passive barrel  
grounding

Here, the Eltex **TERRALIGHT** grounding device provides certainty, because it gives the user immediate feedback on the state of the ground connection. If it is intact, a green LED on the grounding clamp **TERRACLAMP** lights up.



Eltex **TERRALIGHT** thus combines the advantages of stationary ground monitoring equipment with flexible and mobile applications.



Details **TERRALIGHT/**  
**TERRACLAMP**

**TERRALIGHT** with **TERRACLAMP** on barrel pump

### Facts on **TERRALIGHT**

**Simple:** Due to its battery operation, the **TERRALIGHT** can be used as easily as a passive grounding unit. In normal operation, the battery pack of the **TERRALIGHT** will last up to two years, with a timely indication of any necessary battery change.

**Flexible:** The **TERRALIGHT** can also be mounted directly at appropriate locations. The big advantage, however, is that the grounding system can be installed directly on mobile containers, mobile pumping or mixing stations or many other mobile units.

**Safe:** Since the **TERRALIGHT** monitors both the connection of the device to a suitable grounding point as well as the contact to the object to be grounded, the greatest possible safety against uncontrolled spark discharge due to electrostatic charges when handling highly flammable media is guaranteed when used correctly.



Mobile barrel scale



mobile pump station

**High closing force:** The new grounding clamp **TERRACLAMP** with its high closing force holds reliably on the object to be grounded and the extremely sharp and durable grounding contacts safely penetrate even heavy dirt and paint.



**TERRACLAMP**

Both the **TERRALIGHT** and the **TERRACLAMP** are allowed to be operated in zone 0 or 20.

**TERRACLAMP**



### **Background information :**

#### **How does electrostatics actually occur?**

The cause of electrostatic charge is the displacement of liquid or solid surfaces against each other. This occurs, for example, in all types of liquid or solid conveyance in pipelines. "Ions" of one potential are deposited on the pipeline wall, while "ions" of the opposite potential are diffusely distributed in the conveyed medium. When the medium is pumped through the pipeline, the charge carriers on the pipe separate from those in the liquid. When the medium exits the pipe, it is charged. This charge is transferred to the container wall when it touches the wall or very slowly by charge transport.

To protect against these undesirable high-risk effects, it is necessary to bring all electrically conductive containers and equipment components to the same potential and to ground them via the connection to a potential equalization line (PAL).

#### **Conclusion:**

In practice, the operating personnel tries to meet the plant requirements and regulations for safe operation, but there is often a lack of knowledge of the actual requirements necessary for safe operation of the equipment..

All the more important here is the use of grounding devices for controlled electrostatic grounding in accordance with TRGS 727 and the IEC 60079 series of standards.

#### **Author:**

Walter Schwarzwälder  
Sales Manager Grounding

Eltex-Elektrostatik-GmbH  
Blauenstrasse 67-69  
79576 Weil am Rhein  
[www.eltex.de](http://www.eltex.de)

