STUVEX | FIRE & EXPLOSION SAFETY ENGINEERING

EXPLOSION PREVENTION

SAFE GROUND EARTHING CONTROL SG/E-S604 & S804

General data sheet

Background

Static electricity is a frequent source of ignition

An electrostatic charge can be generated while handling conductive liquids or powders. This in turn can lead to the electrical charging of conductive objects such as barrels, filling pipes, tanker trucks, FIBCs (Big Bags), etc.

Preventing static spark discharges by earth connection

Spark discharges can be prevented by properly earthing the objects.

IP version

Product

The earth connection of a fixed installation can be checked on a regular basis. With mobile installations, such as a truck, a barrel or an FIBC, the situation is different: the earth connection can easily be forgotten. In addition, simple lamps are often used and this connection might be neglected and/or be working inefficiently (break in the cable, dirt, paint etc...).

Continuous monitoring of the earth connection is essential in this case.

EX version

Earth control system with object recognition

The StuvEx earth monitoring system permanently monitors the earth connection and uses object recognition, thereby eliminating the possibility of incorrect use.

Functioning

A **resistive system (S604)** recognises the low conductive resistance of the object and of fixed installations. It is meant for general use with barrels, carts, railway wagons, metal objects. ...

- An earth connection might be working inefficiently or even be lacking altogether.
- A resistive earth monitoring system eliminates such human errors.

A **conductive system (S804)** recognises the conductivity of an FIBC (Big Bag) type C, and reacts only to this application:

- Here again the system knows that the clamp is connected to the Big Bag and not to something else. A measurement of the conductivity verifies that it is indeed a type C Big Bag. When using two clamps, the measuring is done through the Big Bag. This allows verification that the Big Bag still meets the conductivity requirements (an often-occurring problem when reusing such Big Bags).

Cable reel

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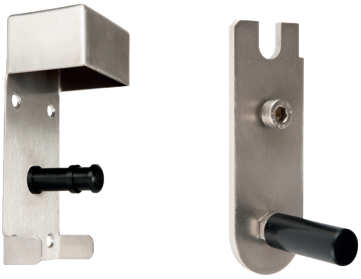
Active clamp CMS1

Active clamp set CB1—big bag



Clamp station & Clamp hook

System description

The system consists of a control unit, an earth clamp and an optional cable reel.

The control unit handles five functions:

- Monitoring the quality of the clamp connection
- Recognition of the object to be earthed
- Connection of the object to earth. Since the static electricity is safely discharged through the control unit, no sparks are generated at the clamp.
- Potential free contact for the release of the loading and unloading functions.
- Status indication lights.

The earth clamp is 'active'

With active clamps, both clamp jaws are insulated from each other and from the clamp body. As long as the clamp is not connected to a conductive body, the circuit between the clamp jaws stays open. Once the clamp is connected, the circuit is closed.

The cable reel

The cable reel is equipped with cable and an automatic roll-up mechanism.

Intended use

The system, consisting of the control unit, the intrinsically safe measuring circuit and that circuit's components (clamp, plug connection and cable reel) is ATEX certified.

Depending on the type, the system can be set up in Ex zones 1, 2, 21, 22 or in an industrial environment IP 65.

Technical specifications

For more details on this product, we refer to the technical datasheet.

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