

TRUCK EARTHING VERIFICATION SG/E-TES01-V2 (IP) (EX)

General data sheet

Scope

Loading and unloading non-conducting liquids or powders from trucks can generate electrostatic charges. If enough electrostatic energy is generated, there will be an explosion hazard. This risk can be avoided by earthing the truck via a TES01-V2 earthing verification system.

Benefits

The StuvEx TES01-V2 earthing verification system has been specially designed for the safe earthing of trucks and offers the following benefits:

- ◆ Safe electrostatic discharge of the truck
- ◆ Verification of the truck's electrical capacity
- ◆ Low resistance ($< 10 \Omega$) between truck and TES01-V2
- ◆ Clearly visible red and green LEDs
- ◆ Potential-free contact provides release of loading and unloading functions
- ◆ Power supply 110-240 V AC and 24 V DC as standard
- ◆ Easy 'plug and play' installation
- ◆ Truck detection ON/OFF, integrated for TES01/IP
- ◆ Stainless steel housing for TES01-V2 IP version
- ◆ ATEX and IECEx certified
- ◆ Complies with IEC/TS60079-32-1 and NFPA77
- ◆ Safety class SIL 2

Variants

The TES01-V2 IP variant may be used in ATEX/IECEx zones 21 and 22.

The TES01-V2 EX is suitable for use in ATEX/IECEx zones 1,2, 21 and 22.



SG/E-TES01-V2/EX with clamp hook and cable glands



SG/E-TES01-V2/IP



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Operation

The StuvEx TES01-V2 earthing verification system has been designed to detect a low electrical resistance between the clamp jaws that are attached to the truck's earthing point. If resistance values are low enough, the TES01-V2 will conduct the electrostatic charge from the truck to earth in a controlled way. This will avoid sparks. The TES01-V2 will subsequently check the electrical capacity at the clamp. If the capacitance corresponds with that of the truck, the green indicator will light up and loading or unloading will be released. The TES01-V2 will now continuously monitor the connection between the truck and the clamp jaws to avoid an electrostatic charge build-up. If the clamp is removed from the truck, the TES01-V2 will see this as a potentially hazardous situation and the red indicator will light up. This will immediately interrupt loading or unloading thanks to the interlock relay.

The TES01-V2 earthing system is a set consisting of a control unit, a connecting cable and a stainless steel connection clamp. All components are ATEX certified.

Earthing verification unit TES01-V2

The control unit provides five important functions:

- ◆ Verification of the earth clamp connection with the truck
- ◆ Recognizes that the object to be earthed is a truck
- ◆ Earths the truck without forming sparks
- ◆ Potential-free contact to release loading and unloading functions
- ◆ Status indication

Cable, spiral cable or cable reel

You can choose from a separate cable (10 m), spiral cable (3 m - 10 m) or cable reel (15 m) to connect the TES01-V2 to the truck. The cable reel has an automatic retractor.

Active earth clamp

With active clamps, the two clamp jaws are insulated from each other and from the clamp body itself. As long as the clamp jaw is not connected to a conductor, the circuit between the clamp jaws will stay open and no current can flow. Connecting the clamp to the truck's earthing point will close the circuit. The TES01-V2 becomes operational. An optional storage point for the clamp can be supplied, with or without a shelter.



SG/E-CR1/65-15SCF with F connector



SG/B-SP1-HD with clamp and connector



SG/B-CMS1-SCM, clamp with M connector