

The TES-01 V2 system ensures the safe earthing of tankers during the loading and unloading of non-conductive liquids or powders, where there is a risk of electrostatic charge build-up.

When the clamp is connected to the vehicle's earth point, the system checks the electrical resistance of the circuit and the electrical capacitance of the connected object to confirm that it is a tanker. Only when both parameters are within the safe range is the process enabled, indicated by a green light. Resistance is continuously monitored throughout the operation, immediately halting the process if a disconnection is detected.

The system is available in two versions depending on the installation's ATEX zone: TES-01 V2/EX for gas and dust atmospheres, and TES-01 V2/IP for dust atmospheres.

## Key Advantages

- Safe and controlled electrostatic discharge from the lorry before and during the loading or unloading process.
- Double check: measurement of resistance and electrical capacitance to confirm the correct connection and the presence of the lorry.
- Continuous monitoring of the connection throughout the process, with automatic lockout in the event of any disconnection.
- Potential-free contact for interlocking with process equipment or PLCs.
- Simple 'plug-and-play' installation.

## Standards & Certification

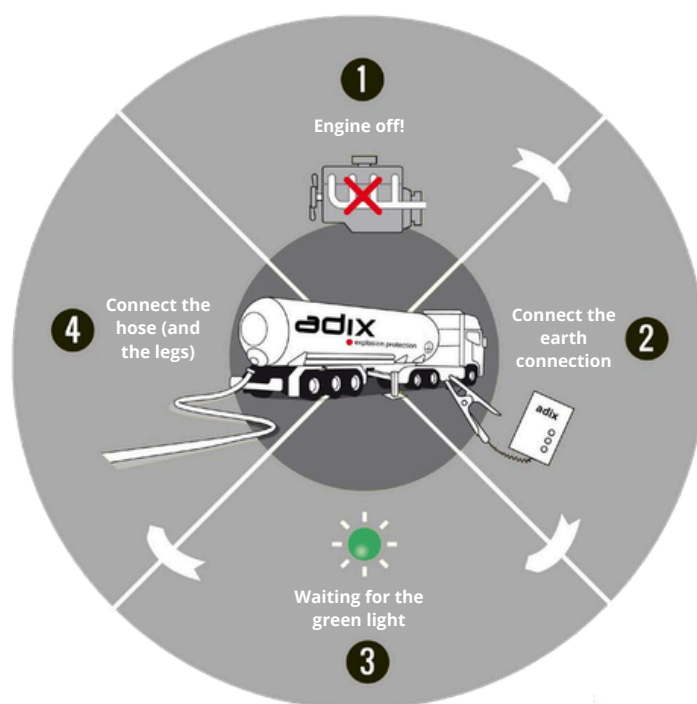
- ATEX marking: Ex II 3D
- ATEX certified for use in zones 1, 2, 21 and 22

## Applications

The TES-01 V2 system is designed for use in the loading and unloading of non-conductive bulk liquids or solids from tankers, in facilities where there is a risk of electrostatic charge build-up and potentially explosive atmospheres.

## Main Characteristics

<b>Power Supply</b>	100–240 V AC, 50/60 Hz, automatic calibration or 24 V DC
<b>Power Consumption</b>	20 W
<b>Operating temperature</b>	-30 a +54°C
<b>Maximum relative humidity</b>	95% at 20°C, non-condensing
<b>Remote signalling</b>	Form-closed contact, 1 A at 240 V AC or 30 V DC (NO)





## Components

### > TES-01 EX control unit - TES-01 IP.




When the earth clamp is connected to the vehicle's connection point, the system measures the electrical resistance between the clamp and the control unit to verify that a conductive circuit has been established. If the resistance is sufficiently low, the TES-01 V2 allows electrostatic charges to be safely discharged to earth, thereby preventing the generation of sparks.

The system then checks the electrical capacitance at the connection point. Only if this corresponds to that of a tanker lorry does the green status light come on and the loading or unloading process begin. In the event of disconnection or loss of continuity, the system activates a red status signal and blocks the operation via an interlock relay.

	TES-01 EX	TES-01 IP
		
<b>ATEX zones of use</b>	21 and 22, zone 1 and 2 and non-risk environments	21 and 22 (dust) and non-risk environments
<b>Certificate</b>	ITS11ATEX27328X	ITS14ATEX17966X
<b>Marking</b>	Marking II 2(1) GD Ex d [ia Ga] IIC T6 Gb, Ex tb [ia Da] IIIC T85 °C Db	Marking II 2 (1)D Ex tb [ia Da] IIIC T135 °C Db
<b>Material</b>	aluminum housing (copper-free)	steel with aluminum front
<b>Dimensions (height x width x depth)</b>	265 x 230 x 150 mm <sup>3</sup>	300 x 200 x 80 mm <sup>3</sup>
<b>Mass</b>	10 kg	5 Kg
<b>Connections</b>	4 entries M20 x 1,5	3 entries for M20 cable gland connections
<b>Gland</b>	Ex d IIC	Ext with a clamp reach of 5-10 mm
<b>External grounding screw</b>	M6 length 10 mm	M8, length 17 mm
<b>Protection class</b>	IP 66	
<b>Power Supply</b>	100-240 V CA 50/60 Hz o 24 V CC (see also installation conditions)	
<b>Consumption</b>	20 W	
<b>Operating temperature</b>	between -20°C and +40°C	
<b>Relative humidity</b>	95 % to 20°C without condensation	

> **Ground clamps for tankers.**

Active clamps designed to connect the lorry to the earthing system. The two clamps are insulated from each other and from the clamp body, so that the circuit remains open until the clamp is connected to the vehicle. Available in three sizes to suit the requirements of the installation. All are resistant to oil and petrol, with a pre-fitted 3 x 1.5 mm<sup>2</sup> cable and ATEX approval for zones 0, 1, 2, 20, 21 and 22.

	Clamp CL1	Clamp CM1	Clamp CS1
			
<b>Use</b>	Heavy-duty industrial	Standard industrial	Occasional industrial
<b>Length</b>	260 mm	210 mm	162 mm
<b>Jaw opening</b>	3-15 mm	3-35 mm	
<b>Material</b>	Aluminium	Stainless steel	
<b>Accessories</b>	Male connector, assembled		

> **CMS1 general-purpose earth clamp.**



Stainless steel earthing clamp designed to provide an effective, low-resistance connection between moving objects and earth, safely dissipating any static electricity. Suitable for a wider range of applications than truck clamps, including chemical or saline environments.

- Non-deformable, robust and ergonomic design
- Sharp, hardened teeth with optimum grip
- Integrated strain relief
- Suitable for use in all weather conditions
- Suitable for use in chemical or saline environments
- Suitable for use in ATEX environments
- In accordance with standard IEC/TS 60079-32-1



> **Connection cables.**

Cables for connecting the TES-01 V2 control unit to the lorry. Available in two configurations to suit the installation requirements, with ATEX certification for Zones 1 and 21.

	Spiral cable SP1/10	Cable coil CR1/65
		
<b>Length</b>	10 m	15 m
<b>Section</b>	3 x 0,75 mm <sup>2</sup>	2 x 1,5 + 1,5 mm <sup>2</sup>
<b>Diameter</b>	Ø 8 mm	-
<b>Automatic retractor</b>	No	Yes
<b>Housing</b>	-	Aluminium IP65

## Accessories

> **Uncovered conservation hook.**

304 stainless steel hook with a plastic clamp bracket. Uncovered version for installations where no additional protection is required.

- Material: 304 stainless steel, plastic clamp bracket
- Weight: 0.200 kg



> **Retention hook with cover.**

304 stainless steel hook with a plastic cover to protect the clamp. Includes a cover, ideal for keeping the equipment in good condition during storage.

- Material: 304 stainless steel, plastic clamp bracket
- Weight: 0.200 kg



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