Earthing Pro GE Static Earthing System

General

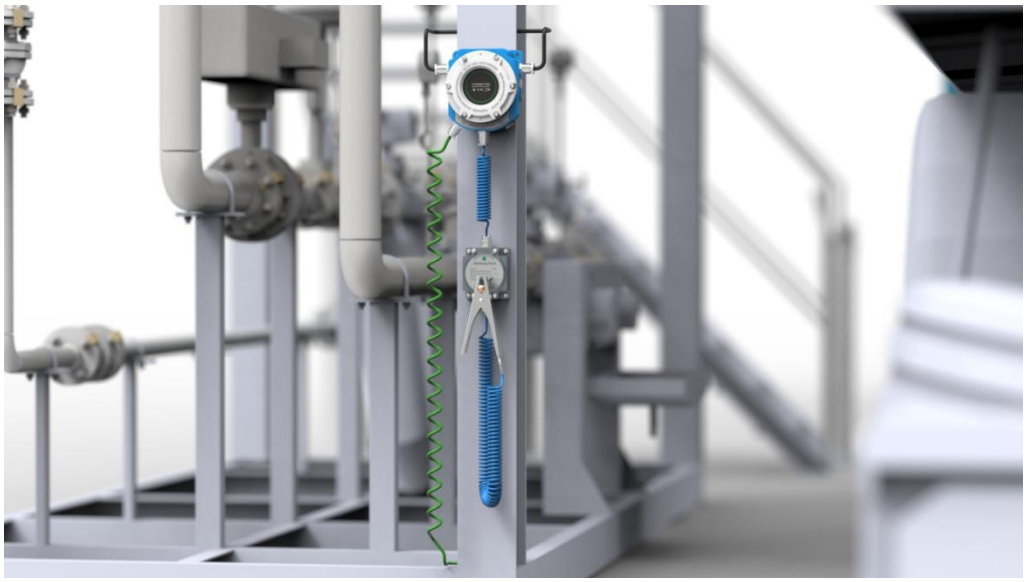
Earthing Pro GE is a flexible static grounding monitoring and elimination system specifically designed for explosive gas and dust atmospheres with risks of electrostatic ignition.

Designed for hazardous area material handling, it ensures equipotential bonding of conductive objects during loading/unloading to prevent electrostatic discharge (ESD) hazards.

Applications include, but are not limited to:

- Metal Drums
- Metal totes
- Tanker Trucks
- Railcars
- Metering Skid
- Metal frames of EX IBCs

Earthing Pro GE provides the ideal solution for grounding equipment in explosive gas and dust atmospheres.



Principle of Operation

After the user removes the grounding clamp, follow the instructions displayed on the LCD screen. When the clamp is connected to the conductive object requiring loading/unloading (e.g., road

tankers, Intermediate Bulk Containers (IBCs), drums, or rail tank cars), the unit sends an intrinsically safe test signal through the clamp contact. It then automatically verifies whether the connection resistance between the clamp and the object is less than or equal to 10 ohms.

Once the resistance threshold is met, the system status indicator changes from a steady red (Prohibited) state to a steady green (Permitted) state. In addition to monitoring the connection status between the clamp and the object, the device continuously supervises the integrity of the entire grounding circuit back to the facility's designated grounding point. If the circuit resistance exceeds the threshold, the system interlocks with external pumps, valves, or Programmable Logic Controllers (PLCs) via passive relay contacts, outputting an alarm signal to halt the loading/unloading operation, thereby ensuring on-site safety.

The Earthing Pro GE static grounding system continuously monitors the loop resistance between the grounded object and the designated grounding point. This function is field-proven and adheres to industry standards, complying with the recommendations for bonding and grounding found in IEC TS 60079-32-1, NFPA 77, and API RP 2003.

- ## Performance Features:

1. Highly Visible Audio-Visual Alarms
Under normal operating conditions (grounded), the ring indicator on the controller and the status lights on the junction box remain a steady green, clearly indicating that the object requiring electrostatic protection is safely grounded. If the system is in standby mode or detects a grounding loop resistance exceeding 10 Ω, the lights switch to a steady red, and the buzzer on the junction box activates to sound an alarm.

2. Real-Time Ground Loop Monitoring
The system continuously monitors the resistance of the grounding loop, displaying the real-time value directly on the LED screen for full visibility.

3. Intuitive Human-Machine Interface (HMI)
The system features a user-friendly interface with graphical step-by-step instructions, guiding operators through the correct usage procedures and ensuring ease of operation, even for first-time users.

4. Interlock Signal Output
The controller provides up to three interlock outputs, configurable as either Normally Open (NO) or Normally Closed (NC) to match the input logic of various PLCs/DCS. This flexibility simplifies system integration and retrofit projects.

5. Flexible Power and Signal Input
Supporting a wide input voltage range of 85–250 VAC or 24–48 VDC, the system offers flexible power options to accommodate diverse field requirements.

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6. Reliable Grounding Clamps
The clamp features a serrated jaw design that penetrates paint and rust layers, ensuring reliable contact with the base metal and significantly reducing the risk of false "permit" signals.

7. Clamp Holster Function
The junction box is equipped with a dedicated holster point. After use, the grounding clamp must be returned to this holster; otherwise, the junction box will trigger an audio-visual alarm. This feature provides a secondary layer of safety protection.

Technical Specifications:

Controller

Power Supply	85～250VAC/24～48VDC
Current	<90mA
Monitoring Resistance	≤10Ω (Normal State)
Operating Temperature	-40℃～60℃
Output Signal	Passive Digital Switch
Relay Contact Rating	5A 30VDC/10A 250VDC
Protection Rating	IP66
Electrical Connection	7-M20x1.5
Material	Cast Aluminum (Copper-free)
Display	LED
Weight	5.0kg

Junction Box

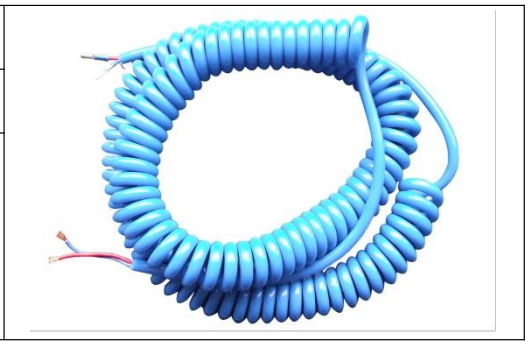
Material	Aluminum Alloy
Electrical Connection	2-M20*1.5
Weight	1.8kg

Grounding Clamp

Clamp	High-strength alloy contacts at both poles
Clamp Body	SS 304
Option 1: SC-08	Body: 304 stainless steel
Weight:0.38 kg	Paint-piercing pins: 3×tungsten carbide
Max. Opening: 26 mm	Dimensions (L×W×H): 205×100×43 mm
Option 2: SC-10	Body: 304 stainless steel
Weight: 0.32 kg	Paint-piercing pins: 3×tungsten carbide
Max. Opening: 20 mm	Dimensions (L×W×H): 170×82×38 mm

Spiral Cable

Jacket	Blue Polyether TPU
Conductor	2 x 1.5 mm² Copper
Length	5m,7m,10m, 13m ,15m (Custom lengths available upon request)



Certification

ATEX

II 2(1) G Ex db ia [ia Ga] IIC T6 Gb

II 2(1) D Ex ia tb [ia Ga] IIIC T80°C Db

IECEx

CE 0035

Ex db ia [ia Ga] IIC T6 Gb

Ex ia tb [ia Ga] IIIC T80°C Db

- Installation Kit

This component is required for equipment installation; the user needs to select one of the two types of components when placing an order.

Kit 1

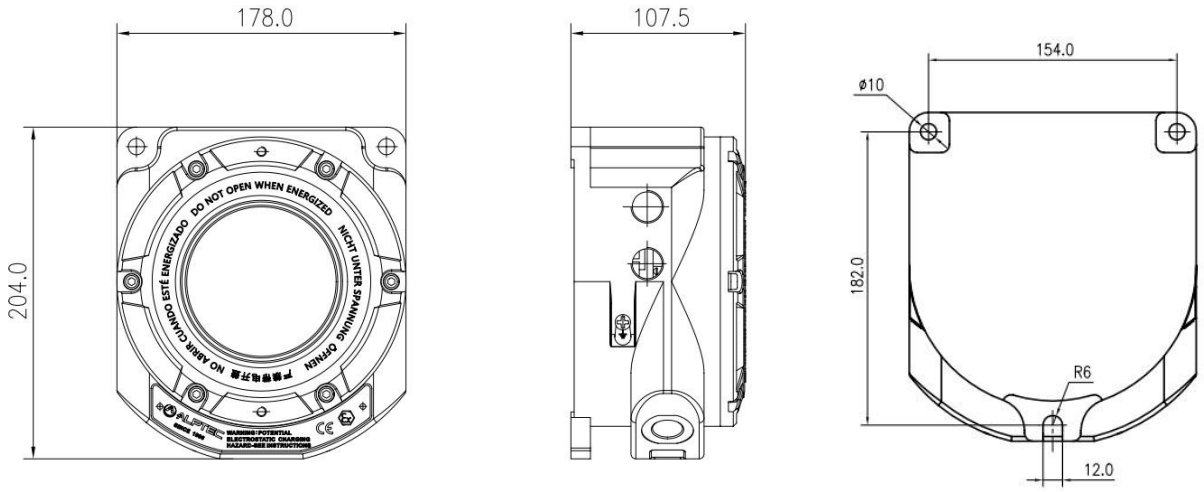
Explosion-Proof Cable Gland	Explosion-proof cable glands for non-armoured cables 7.5 mm - 12 mm Ø (x2)	
	Explosion-proof cable glands for non-armoured cables 8.7 mm - 14 mm Ø (x2).	
Grounding Wire	2x1.5 mm^2 Conductor,3 m Length	
Ex Seal Connector	4-M20*1.5;SS304	

Kit 2

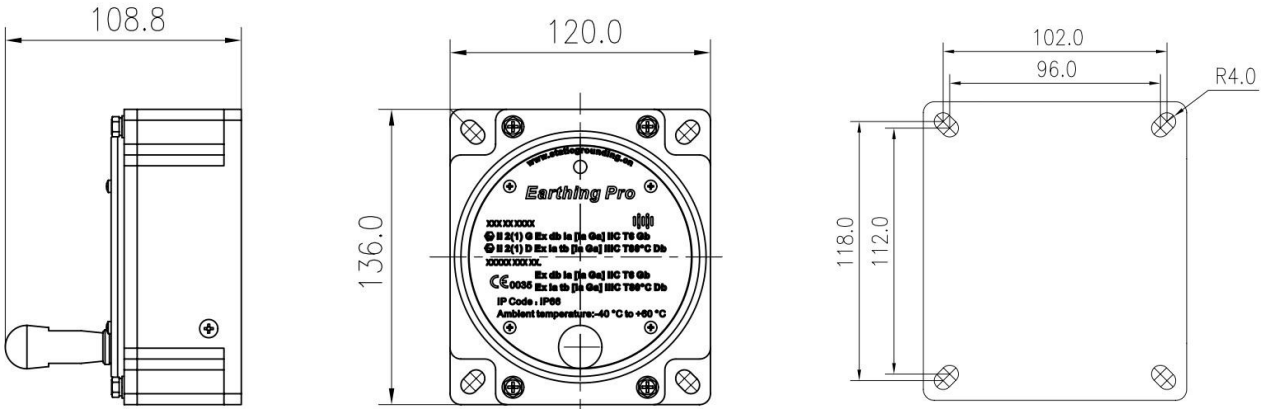
Explosion-Proof Cable Gland	Explosion-proof cable glands for non-armoured cables 7.5 mm - 12 mm Ø (x2)	
	Explosion-proof cable glands for armoured cables 9.5 mm - 16 mm Ø (x2).	
Grounding Wire	2x1.5 mm^2 Conductor,3 m Length	
Ex Seal Connector	4-M20*1.5;SS304	

- Dimensions and Mounting

Controller Dimensions



Junction Box Dimensions



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