

## GROUNDING CONTROL DEVICE EKX-4 SAFE DISCHARGE OF ELECTROSTATIC CHARGES

During loading and unloading of **tank trucks, silo trucks** and **railway wagons** with **flammable liquids** or **bulk solids**, an **explosive gas and dust atmosphere** may arise – a single spark can be sufficient to initiate an explosion. To prevent this, the occurring **electrostatic charges must be discharged safely**.

### FUNCTIONAL PRINCIPLE

Before each loading or unloading, the Grounding Control Device EKX-4 gets connected to the transport vehicle using the grounding cable and clamp. EKX-4 **ensures static electricity is discharged safely to Earth and continuously monitors the grounding connection**. Only if the connected object is **detected** and grounded properly, the electronic control outputs will switch to permissive and **filling release** will be signalled by green, widely visible LEDs. If there is an interruption of the grounding connection, this will be shown by red LEDs and the filling process will be stopped immediately.

### APPLICATION AREAS

EKX-4 provides **monitored electrostatic grounding** at loading/unloading stations and gets installed directly in **gas and dust hazardous areas of zone 1, 2 and 21, 22**. Its control outputs allow connection to the loading control system. Typical applications are **top loading** of fuel tank trucks, **gas carrying trucks** (compressed, cryogenic, high pressure tubes), tank vehicles for **petrochemical/chemical products** or when handling **flammable bulk materials**, such as coal dust, starch, sugar or flour.

### PRODUCT BENEFITS

- **Protection against electrostatic discharges** in hazardous areas
- Designed to purpose **intelligent explosion protection (IEPC)**
- **Prevents manipulation** by object detection (measuring impedance)
- **Simple application configuration** (e.g. "tank truck", "rail way wagon")
- **Automatic diagnosis and continuously self-monitoring** of device functions
- **Opening the housing** for quick change of cables or configuration is permissible under power
- Possibility to **connect longer grounding cables** due to cable compensation



**HIGHEST LEVEL OF SAFETY**  
in hazardous areas

**LEADING TECHNOLOGY**  
in monitoring, diagnostics, and configuration

**EASY TO OPERATE**  
by ability to open housing in hazardous areas





## TECHNICAL SPECIFICATIONS

### Type of protection:

according to ATEX 2014/34/EU:

⊕ II 2 G – Ex eb q [ib] IIC T4 Gb

⊕ II 2 D – Ex tb [ib] IIC T80°C Db

### Power supply:

230 V AC  $\pm 10\%$ , 50 Hz, approx. 10 VA

### Control outputs:

2 potential-free closing contacts

1 change-over contact | 1 NAMUR-output

**Operating temperature:** - 30 °C up to + 60 °C

**Approvals:** ATEX, EAC Ex, CQST, PESO, SIL 2

## ACCESSORIES\*

### CABLES AND CABLE REEL



Coiled grounding cable  
up to 15 m



Straight grounding cable  
up to 30 m



Cable reel  
up to 10 m

### CLAMPS



Grounding clamp

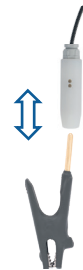


Clamp hanger



Rubber insulating  
sheath

### BREAKAWAY COUPLING



Grounding  
socket

Grounding clamp  
with brass pin

### OBJECT SELECTOR



Push button



Key Switch

### TESTING EQUIPMENT



\*For further information and additional accessories, visit us at [www.timm-technology.com](http://www.timm-technology.com) or contact us in person.



**H. Timm Elektronik GmbH**

Senefelder-Ring 45  
21465 Reinbek  
Germany

Tel. +49 40 248 35 63 - 0  
[info@timm-technology.de](mailto:info@timm-technology.de)  
[www.timm-technology.com](http://www.timm-technology.com)