

## Technical Description

### Outdoor Railway Voltage Transformer GSEFB 15...25 A, GSEFB 50

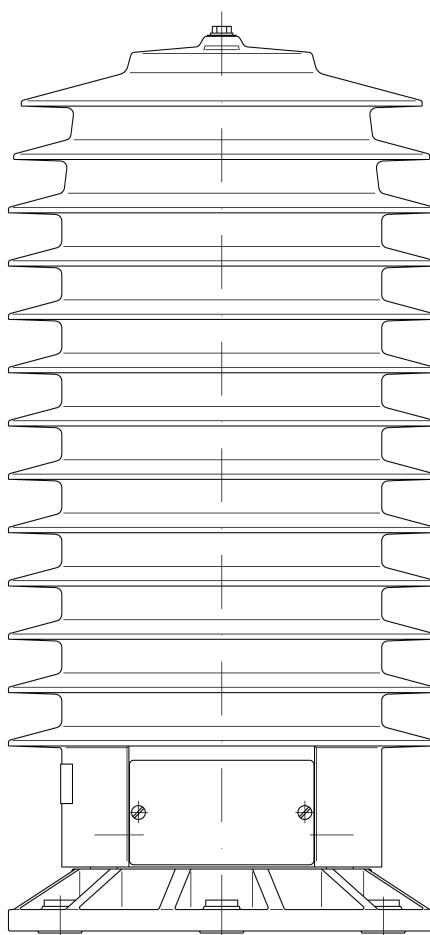
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Outdoor post type voltage transformer for installation on locomotives  
GSEFB 50

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Instrument Transformers

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### 1 Design

Post type voltage transformer for outdoor use on a locomotive, dry type. The high voltage transformer is arranged on the roof of the locomotive to measure the trolley wire voltage.

Insulation by cycloaliphatic epoxy resin having excellent mechanical and electrical properties. The VT is single-pole insulated and complies with VDE- and all international standards. For electrical data see the rating plate.

The core with primary and secondary winding is cast in one single operation. The flange of the VT consists of weatherproofed aluminium alloy. All outdoor parts made of non-corrosive material. For dimensions see outline drawing.

#### 1.1 Primary terminal

The primary terminal is a screw M10 x 25 (metric size) made of non-corrosive material. Other material or different design of the primary terminal on request.

#### 1.2 Secondary Terminal box

The terminal box is part of the whole cast resin body and is ventilated by an opening in the lower part of the cover. The cover is fixed in the correct assembly position by a snap-in device. The terminal box fulfils the weather proof requirements for IP44 (optional IP55).

The cable plugs are made of glass fibre reinforced polyester (size Pg 16). In areas of high pollution it is recommended to use polyester cable pipes to avoid leakage current paths. The inside of the pipe can be metal screened.

Other size of cable plugs or different design of the opening of the secondary terminal box on request.

The terminals are nickel plated and of metric size M6.

#### 1.3 Outer insulation

Type of sheds, flashover distance and creepage distance are specified on the outline drawing.

#### 1.4 Nameplate and information plates

Weather-proof Al-Seofoto



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## 2 Connections

### 2.1 Primary terminal

The primary terminal is on the top of the transformer. Only non-corrosive material should be connected to the primary terminal.

**Make sure that the primary connection  
can not be affected  
by forces at the primary terminal,  
e. g. switch impulses or thermal expansion.**

Use elastic connections, like bows or taps.

Primary connection by screw M10 (metric size), tightening torque max. 30 Nm.

### 2.2 Secondary terminals

Secondary connection by screw M6 (metric size), tightening torque max. 5 Nm.

### 2.3 Grounding of secondary terminals

Each secondary terminal can be grounded on the grounding bar by an enclosed screwed link. There is a connection to the transformer flange.

### 2.4 Grounding of the VT

The Voltage transformer is grounded by screwing the flange on the roof of the locomotive. Furthermore it is important to have a clean potential connection.

We additionally recommend connecting an earth strap with the ground connection on the base plate of the VT (see outline drawing)

## 3 Operation

The VT is ready for operation after correct mounting and connection.



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## 4 Warning

**DO NOT SHORT-CIRCUIT SECONDARY WINDINGS!  
THE NEUTRAL PRIMARY TERMINAL HAS TO BE GROUNDED!**

The neutral primary terminal is located inside the secondary terminal box and grounded to the grounding bar by a screw. Before commissioning, checks should be made to avoid short-circuits due to wrong connections to the ground. It is recommended, to fit provisionally 3-Amps-fuses directly behind the secondary terminals.

## 5 Additional manuals

Transport Manual: EKM Tm-0001e  
Installation Manual: EKM 20080023  
Maintenance Manual: EKM 20080022