

Potential Protection Device

Type 8900 for floating grounds with voltage monitoring

8900



Description

Special problems are encountered in DC-operated railways when it comes to contact and corrosion protection. On the one hand, electrical DC should be kept out of contact with the ground as far as possible to avoid corrosion, on the other hand strict electrical separation means that dangerous voltage potentials can arise between the two areas.

When these areas are close together, dangerous contact voltages can arise. This problem is solved by open earthing.

Low-voltage limiters, such as voltage-limiting devices, connect the various networks together by exceeding the trigger value.

This ensures that no dangerous contact voltages occur, and that short circuits can be triggered on joining the various networks (for further details, see DIN EN 50122-1 and DIN EN 50123-5 – VDE 0115 part 3 and part 300-5).

The following text describes a complete solution with voltage-limiting device. The voltage-limiting-device is monitored by means of the differential voltage occurring at the voltage-limiting device (complete solution with monitoring of the voltage-limiting device via the current flow through the voltage-limiting device see leaflet type 8901).

The unit consists of 2 core elements

1. the voltage-limiting device type 8961
2. the monitoring unit type 8538

The voltage-limiting de-

vice works on the principle of a spark gap (see leaflet type 8961). The voltage-limiting device is set to a value which is adequately below the permissible contact voltage: DC 120 V +/- 20% (as per DIN EN 50122-1, section 7.3.3 – VDE 0115 part 3).

Monitoring the voltage-limiting device via the voltage is always recommended when the inner resistances are too high-ohm or the capacity of the various voltage points is too low, so that no current greater than 15 A arises through the voltage-limiting device.

In contrast to current monitoring, the voltage monitoring is triggered after a delay. The trigger delay is to be set longer than possible operating interruptions.

The mobile test unit type 8204 is available to test the voltage-limiting device when it comes to the triggering values (see data sheet type 8204). Remove the voltage-limiting-device from housing before measuring.

For further details of this system please consult the „Technical data“ and details in the individual leaflets for the voltage-limiting device type 8961 and the monitoring unit type 8538

Complete solutions are available in many different designs (please inquire).



Technical Data

Dimensions	W / H / D see drawing
Housing	Polyester / Makrolon
Attachment	Wall attachment straps
Protection	IP 55
Ambient temp.	-20°C to +70°C
Voltage-limiting device	type 8961
Trigger value	120 V + 20% (bi-directional)
Transient load	see Data sheet part no. 250150
Short-circuit-load	see Data sheet part no. 250150
Monitoring unit Type	type 853800
Power supply	AC 230 V
Power consumption	approx. 3 VA
Measuring input	approx. 1 MΩ
Adjustment	programming
Output contact	1 change-over contact (potential-free) trigger-delayed approx. 1 min to 108 h voltage current AC 250 V 4.0 A (cosφ > 0.7) DC 110 V 1.0 A (ohmic)
Displays	by LED
Connections	
Power supply	≤ 4 mm ²
Message contact	≤ 4 mm ²
Earth potential	threaded bolt M16

Ordering Information

Type	Order No.
8900	240100

Special designs available on request.

Details stated without guarantee, subject to errors and alterations

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