

BZ 903

Voltage Monitoring Relay 110VDC

B+Z Art. Nr: 703



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1. Function / Requirements

1.1. Object / Function

The BZ903 Voltage Monitoring Relay monitors two voltage thresholds and forwards the status by its relay contacts. A typical application is to shut-off battery voltage dependent powered devices in case of low battery voltage. The unit comes in a sturdy plastic case and features a front connector.

The minimum voltage relay is monitoring 3 switching thresholds that can be set in a defined area using internal potentiometers . 2 changeover contacts are always activated at the upper switching threshold . The one contact switches at the central switching threshold , the other contact switches at the lower switching threshold . From the factory, the values specified on the device are preset - but can be adjusted individually according to customer requirements.

The two independent relay contacts are used to control e.g. external relays or magnetic contactors. As long as the input voltage criteria are in the preset working range (battery voltage is OK) the relay contacts remain closed.

2. Technical specifications

Standards

The product is produced according to following standards / norms:

ISO 9001:2015 Electronic devices on railway vehicles: EN50155 Electro-magnetic compatibility: EN50121-3-2 Isolation: EN50124-1 Vibration swingles and shocking: EN50155/EN61373 Fire protection after EN 45545

The norm state for this product is dependent on the valid standards at the development time.

Mechanical Data

Measurements

W x H x D: Max. mounting depth : Weight : 22,5 x 85 x 120 mm including connector approx. 160 mm approx. 150 g

Material

Case :

Plastic

Mounting

Fixation :

clipping into place on TS35mm rail as per standard EN50022-35.

Front Panel

Case cover :

labels with function range and connector layout

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Front output connector :

plug in CAGE - CLAMP connector, 6-pins with locking bracket (included in delivery) Type: WAGO

Electrical Data

Power requirements

Supply Voltage Current consumption: 110VDC (+25% -30%) <40mA at 110VDC (relay contacts closed) <10mA (relay contacts open)

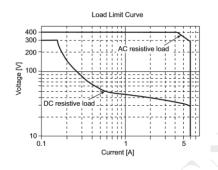
Input

Internal voltage monitoring of the supplied battery voltage

Outputs

Two relay contacts (normally open). Potential free contacts

Max. current per contact:4AMax. voltage per contact:250VDC



Load	type	Voltage	Current	Ambient temperature	No. of ops.
Resistiv	/e load	250V AC	6 A	85°C 185°F	30,000
Inductive lead	AC 15	250V AC	3 A	25°C 77°F	20,000
Inductive load	DC 13	24V DC	2 A	25°C 77°F	6,000

Notes: 1. Switch contacts are all on N.O. side.

2. AC 15 and DC 13 comply with IEC-60947-5-1 testing conditions.

Threshold / switching characteristics

		(Tolerance: $\pm 0.3V$)	% of UBatt	Hysteresis	
Contact 1:	ON	> 98V (110V -11%)	(89%)		
	OFF	< 93V (110V -15%)	(85%)	5V	
Contact 2:	ON	> 98V (110V -11%)	(89%)		
	OFF	< 89V (110V -19%)	(81%)	9V	

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• Electrical protection measures

Transient protection diodes on battery input

General protection measures

protection norm: IP 20

2.3. Environment conditions

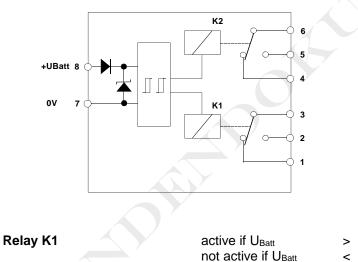
Operating temperature :-40°C to +70°CHumidity:up to 95% rel. at 30°C

Waste disposal

According to local regulations

3. Block diagram

Relay K2



active if U_{Batt} > 98VDC not active if U_{Batt} < 89VDC

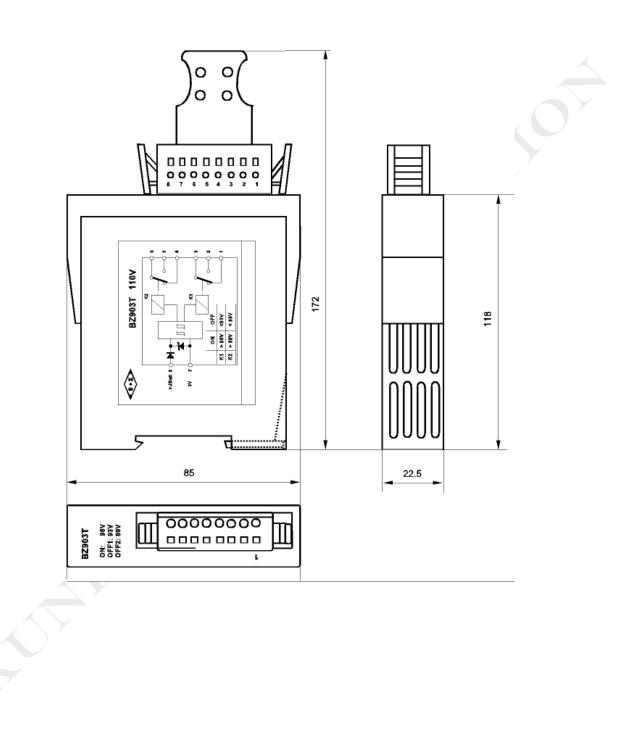
98VDC

93VDC

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4. Measures / mounting



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