



BZ895 T

Safety Relay 110VDC

B+Z Art.Nr. 681

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Application / Function

1.1 Application / Function

Safety relay according to standard EN61810 type B with forcibly guided contacts and integrated circuit protection.

Contacts: 3 closing contacts / 3 opening contacts.

100% compatible with preceding safety relay BVW243.2.

Used as a relay in safety-related circuits and railway applications according to norm EN 50155

Protective separation between control and load circuits

Double and reinforced insulation between the contacts

The green LED at the front panel lights up when the operating voltage is active between pins 1 (+) and pin 10 (-).

1.2 Function

Connection concept :	4 main contacts	(2 closing / 2 opening) :	inner side
	2 auxiliary contacts	(1 closing / 1 opening) :	outer side

Technical data

• Standards

The product is manufactured in accordance with the following standards:

ISO 9001:2015

Electronic equipment used on rolling stock: EN50155

Isolation: EN50124-1

Shock and vibration: EN50155/EN61373

Fire protection according to EN 45545

The standards applicable to this product are dependent on the version available at the time of development.

Mechanical data

• Measures

Width x Depth x Height:	22.5 x 72 x 85 mm
Maximum length :	with connector ca. 125 mm
Weight :	ca. 95 g (without connector)

• Materials

Housing:	Plastic, glass fiber reinforced
Front:	Plastic
PCB:	Epoxy resin

• Mounting

Fasting:	on T rail 35mm, EN-50022-35
Positioning:	any



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- **Screwless front connector**

14-pin front connector: WAGO (codable)

- **Counter connector (optional)**

14-pin female connector: WAGO Spring pins with strain relief plate
single row or double row available

2.2. Electrical data

- **Operating voltage**

Nominal Voltage: 110VDC +25% / -30% (other operating voltages are available)
Nominal current: ca. 11mA at 110VDC

- **Contact loads**

Relay type: B, according to EN61810
Load limit DC: max 1A at 100V each contact
Minimal current: ca. 10mA at 10 V

- **Relay data**

Mechanical lifetime > 10 x 10 ⁷ S switching movements	Contact material	AgSnO ₂ , +0,2-0,4µm Au
Switching frequency mechanical without load max 10Hz	Contact type	single contact
Response time (all contacts closed) typical 18.5ms		
Fall time (all contacts closed) typical 7.5ms	Switching voltage max.	400V
	Rated switching capacity	6A 250V / 3A 24V
Shock resistance (11ms) NO/NC *2 30g		
Vibrating resistance 10 – 200 Hz (10 – 55 Hz, amplitude 2 mm) *2 10g	Switching voltage range	5 to 400VDC/VAC
Test voltage Coil to contacts 2'500Veff 1min	Switching current range typical	10mA to 6A
Test voltage Contact to contact 2'500Veff 1min	Switching power range typical	100mW to 1'500W (VA)
	Contact resistance (New) < 30mΩ / 6V / 1A	
Isolations resistance at Up 500V 10 ⁹ Ω		
Coil resistance ca. 10200 Ohm at 20 Grad		
Protection type RT III		
Coil temperature limit 100°C		
Overtoltage category III / 4 KV		
	*2 Contact interruption <10µs	



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- **Electrical lifetime**

Voltage	Current	Load type	Frequency	Duty cycle	No. of contacts	No. of ops.
230V AC	8A	AC 1	0.25Hz	25%	4 ^{*2}	85,000 ^{*5}
250V AC	6A	AC 1	0.33Hz	50%	4 ^{*2} / 8 ^{*3}	100,000 ^{*5}
230V AC	6A	AC 1	0.33Hz	10%	2 ^{*3}	200,000 ^{*4,*5}
230V AC	30 / 3A	AC 15 ^{*1}	0.33Hz	10%	1 ^{*3}	200,000 ^{*4,*5}
24V DC	8A	DC 1	0.33Hz	10%	2 ^{*3}	200,000 ^{*4,*5}
24V DC	3A	DC 13 ^{*1}	0.33Hz	10%	1 ^{*3}	50,000 ^{*4,*5}
24V DC	3A	L/R = 40ms	0.33Hz	10%	1 ^{*3}	100,000 ^{*4,*5}

*1 EN 60947-5-1: 1997; table C.1

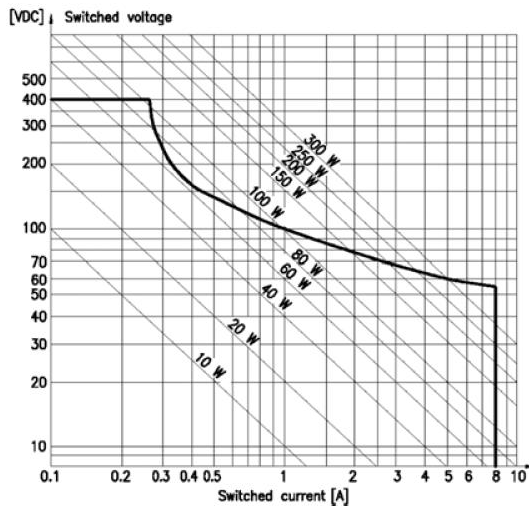
*2 Breathing hole closed

*3 Breathing hole open

*4 Ambient temperature +70°C

*5 Dielectric strength according to EN61810-1:2004.

- **Load limit curve**



2.2.3. Protective measures

- **Electrical protective measures**

Reverse polarity protection diode and protective circuit for relay coil

- **Mechanical protective measure**

Protection type: IP30

2.3. Other conditions

- **Climatic conditions**

Environment temperature: -20°C bis +70°C

Humidity : max 96% rF, at30°C, non condensing.

- **Disposal**

According to local regulations



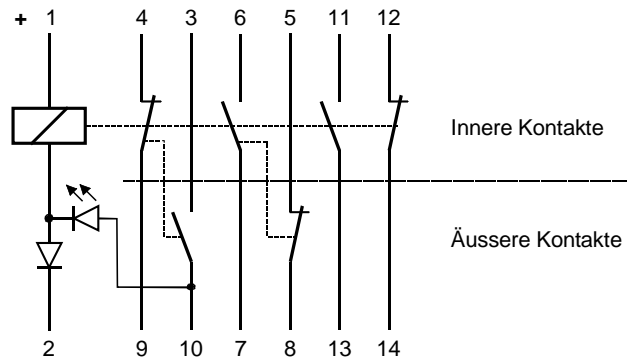
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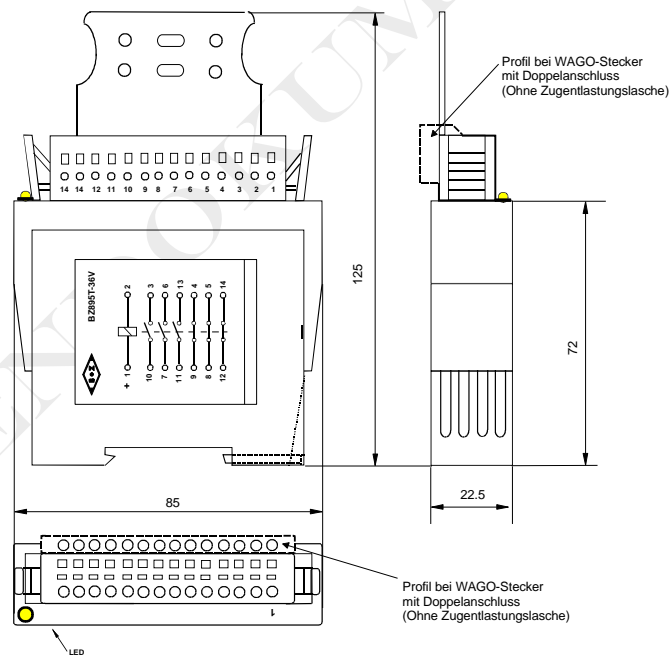
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Block diagram



Measures / Mounting



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