ZPrAE Sp.z o.o.

RE line® ENERGETIC STANDARDS

RB-1, RBS-1, RBS-2 BISTABLE

APPLICATION

The bistable relays RB-1, RBS-1 and RBS-2 are meant for multiplying and memorising signals (in case of voltage loss) in the electro-energetic automation circuits.

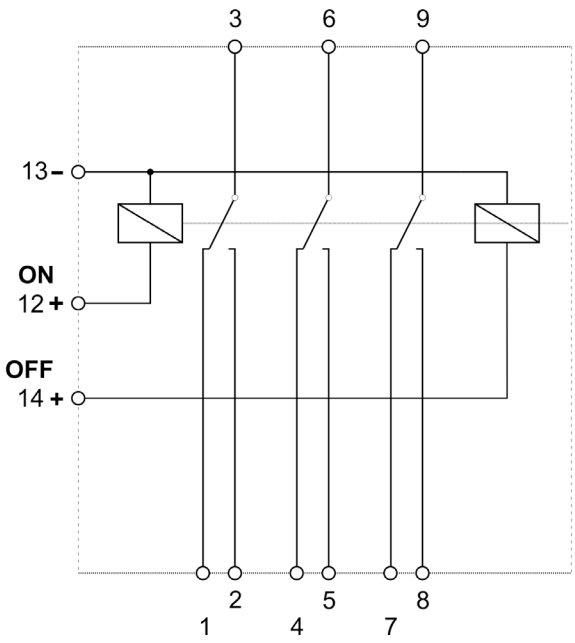
Construction

The relay is equipped with 2 steering inputs: switching ON (ZAŁ) and OFF (WYŁ), with diodes signalling application of the steering voltage, two auxiliary relays and a bistable element:

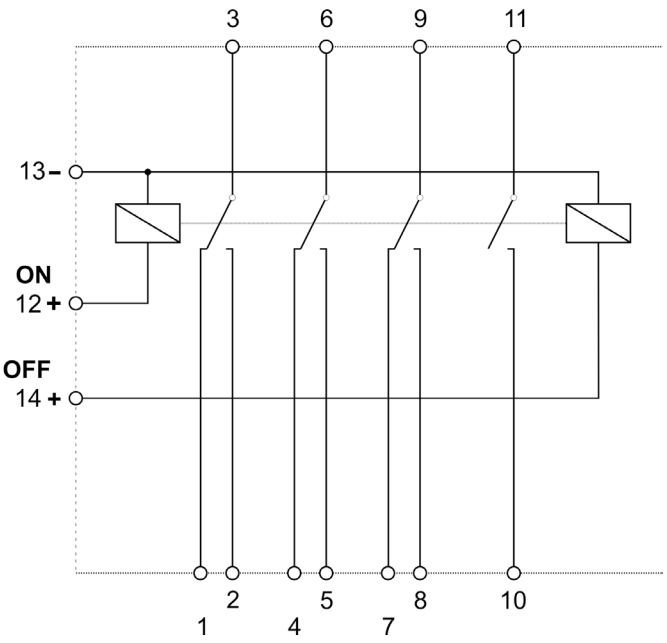
- with three changeover contacts – version RB-1, RBS-1
- with three changeover contacts and one make contact – version RB-1B, RBS-1B,
- with eight changeover contacts – version RBS-2
- with three changeover contacts, three break contacts, and five make contacts – version RBS-2B
- with three changeover contacts and eight break contacts – version RBS-2C
- with three changeover contacts, seven make contacts and one break contact – version RBS-2D

The RBS versions of the bistable relays are additionally equipped with a visual indicator presenting status of the relay.

The functional schemes of the relays are presented on pictures 1÷4:



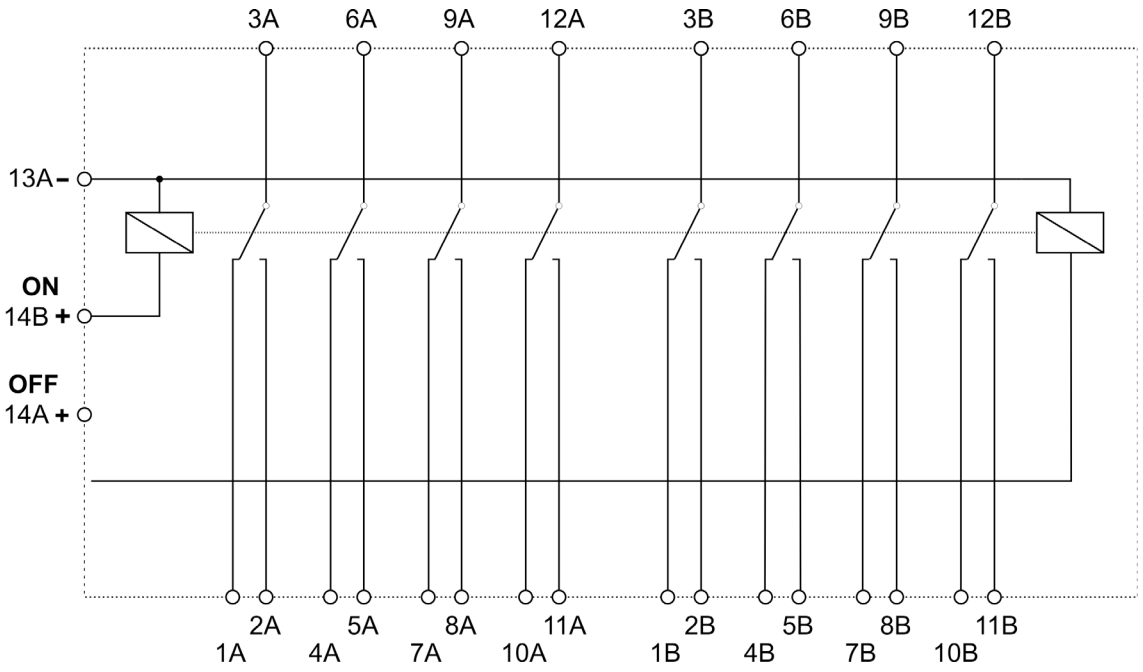
Picture 1. Bistable Relays RB-1 and RBS-1



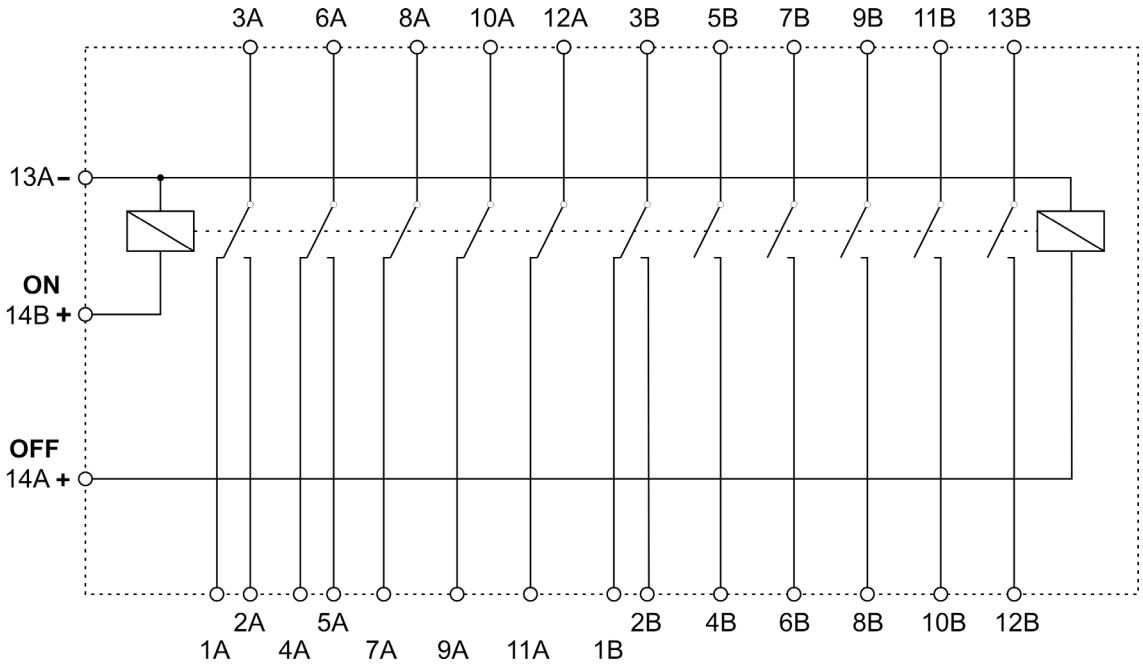
Bistable Relays RB-1B and RBS-1B

The RB-1, RBS-1 relays are mounted in a typical housing sizes 110 × 55 × 77 mm, with 14 terminations in a form of a plug, suitable to be mounted in a GZ-14 socket (plate-mounting), GZ-14U (bus-mounting) or GZ14Z - to be mounted in a relay chassis type R8614Z. Dimensions of the relay are presented on picture 5.

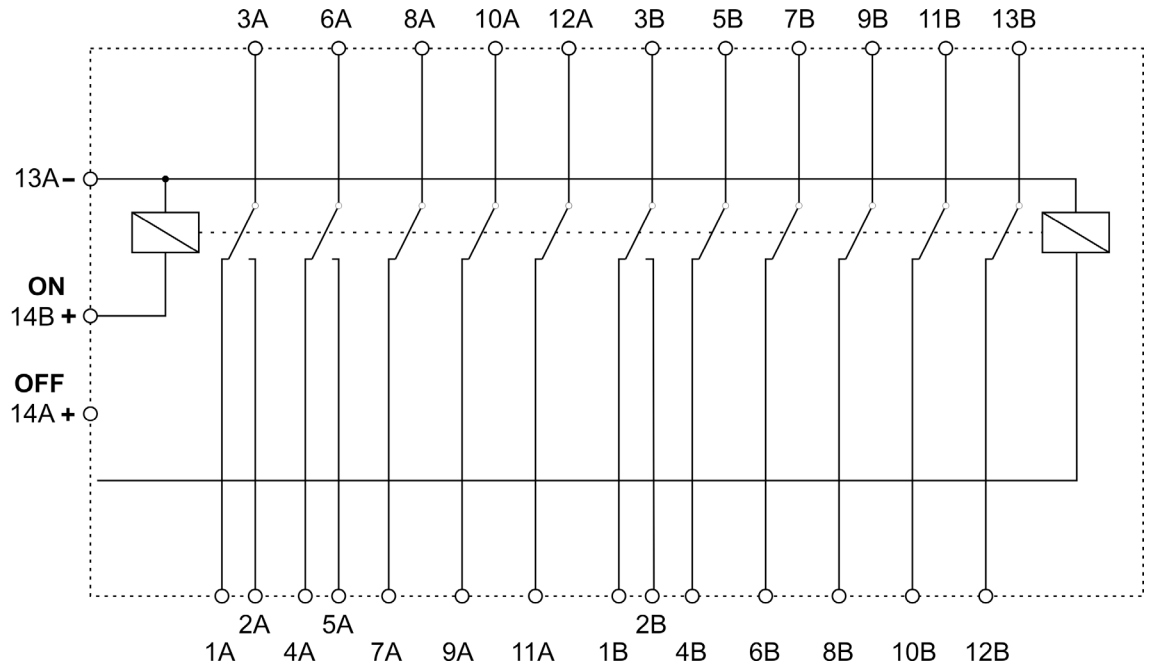
The RBS-2 relays are mounted in a housing sizes 110 × 100 × 77 mm, with 28 terminations in a form of two plugs, suitable to be mounted in two GZ-14 sockets (plate-mounting) or GZ-14U (bus-mounting). Dimensions of the relay are presented on picture 6.



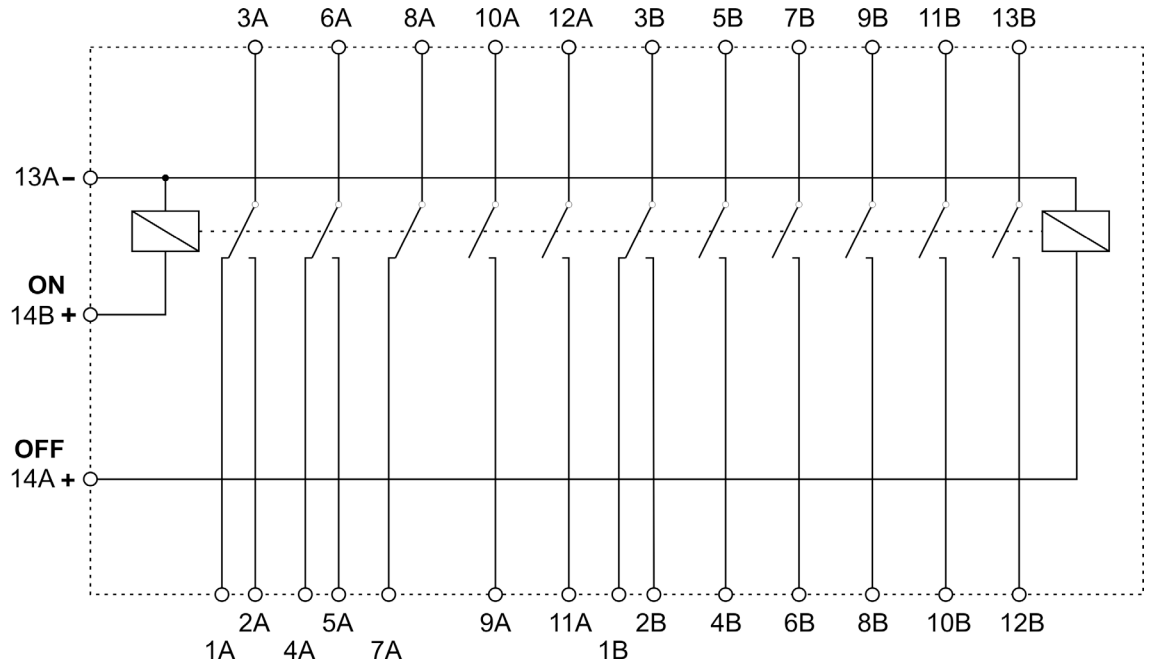
Picture 2. Bistable relay RBS-2



Picture 3. Bistable relay RBS-2B



Picture 4. Bistable relay RBS-2C



Picture 5. Bistable relay RBS-2D

Operation

Upon application of the steering voltage to the terminal 14 (ZAŁ) of the relay, a yellow diode of this terminal lights up and the contacts of the relay change position to “ZAŁ”. Additionally, in the RBS versions of the relay, an optical indicator turns from black to yellow. If the relay has been in position “ON” before application of the steering voltage, the relay does not change its status. After voltage decay on the terminal “ZAŁ” the signalling diode goes off, but the relay and the indicator does not change their status.

When the steering voltage is applied to the input terminal 12 (WYŁ) of the relay, a yellow diode of this terminal lights up and the contacts of the relay changes position to “WYŁ”. Additionally, in the RBS versions of the relay the indicator turns from red to black. If the relay has been in position “OFF” before application of the steering voltage, the relay does not change its status. After voltage loss on the terminal

"WYŁ" the signalling diode of this terminal goes off, but the relay and the indicator does not change their state.

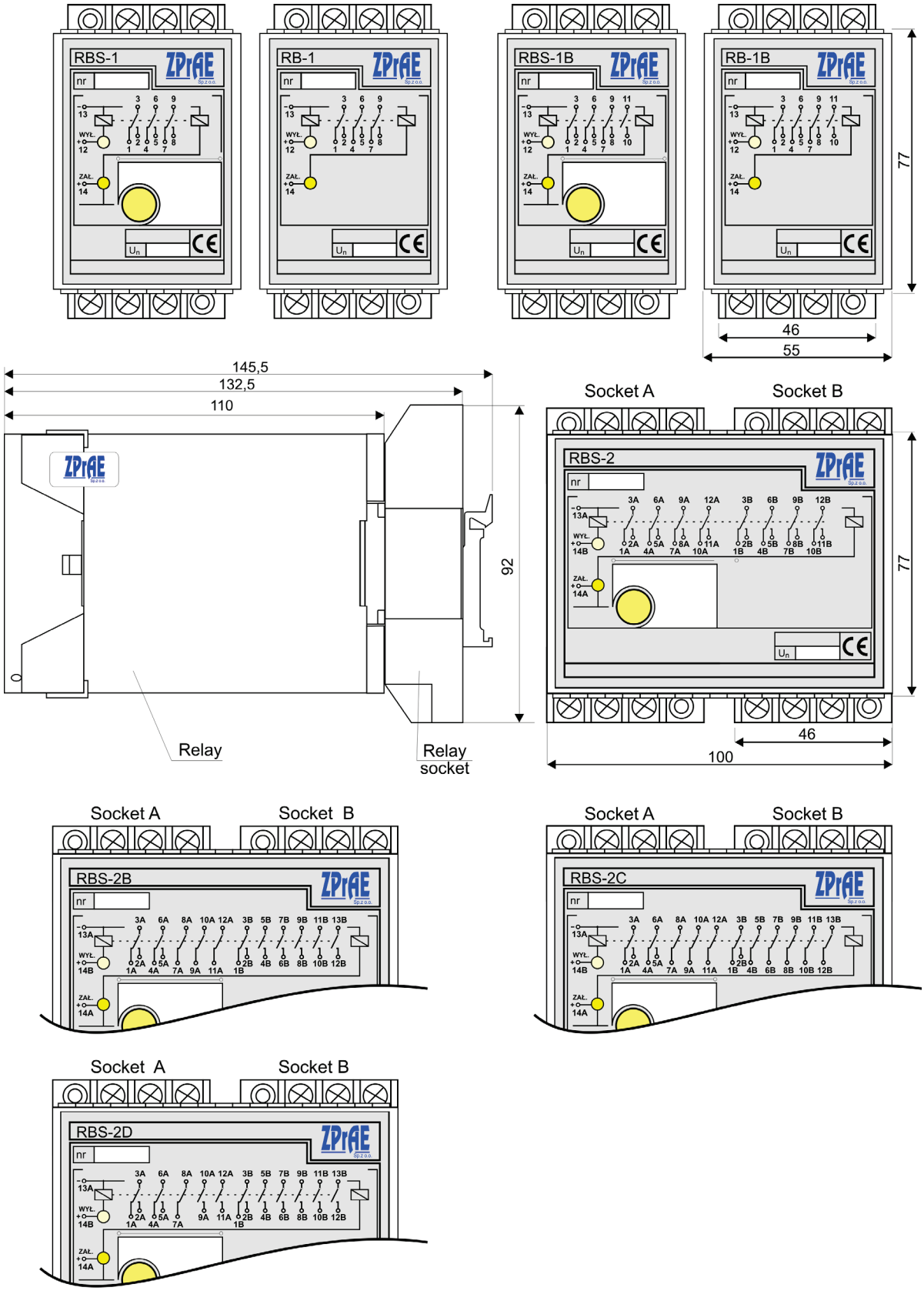
Each change of status of the relay takes place only when one terminal (12 or 14) is energised. If both terminals are energised at the same time, or the second terminal is energised while the first one has already been energised, the relay does not change its status.

TECHNICAL INFORMATION (for U_n = 220 V DC)

Data of the coil		
Rated voltage of the coil	UN = 220 V DC, or other as ordered	
Operating range of the input voltage	0,8 ... 1,15 UN	
Power consumption from the steering voltage	P < 1,5 W for DC	
Minimal time of the steering impulse	ts = 30 ms	
Contacts of the relay		
Number of contacts	RB-1B RBS-1B	3 changeover + 1 make
	RBS-2	8 changeover
	RBS-2B	3 changeover + 5 make + 3 break
	RBS-2C	3 changeover + 8 break
	RBS-2D	3 changeover + 7 make + 1 break
Maximal making capacity for U = 220 V DC; L/R = 40 ms	0,2 A	
Maximal breaking capacity for U = 220 V; L/R = 40 ms	0,1 A	
Maximal continuous current	6 A	
Switching time	≤ 30 ms	
Insulation		
Rated insulation voltage	250 V	
Rated impulse voltage (1,2/50 μs) between the coil and the contacts	4000 V	
Overvoltage category	III	
Proof voltage between the coil and the contacts	2 kV; 50 Hz; 1 min	
Proof voltage of the contact gap	1 kV 50 Hz 1 min	
General Data		
Enclosure protection degree	IP40	
Ambient temperature range for storage	248 K ÷ 343 K (from -25 °C to +70 °C)	
Ambient temperature range for storage	263 K ÷ 328 K (from -10 °C to +55 °C)	
Mechanical strength	Class 1 acc. PN-EN 60255-21-(1,2)	
Environmental protection class	RT II	
Signalisation of operation	yellow LED diodes	
Signalisation of status (RBS only)	Indicator with magnetic memory	
Terminations (socket / plug)	As for R15 4P	
Dimensions	RB-1, RBS-1	77 × 55 × 110 mm (H×W×D)
	RBS-2	77 × 100 × 110 mm (H×W×D)
Mounting	As for R15 4p into mounting socket	

Attention:

We have prepared a vast offer of auxiliary equipment in order to support mounting of our relays (cases, sockets, plugs). The auxiliary equipment is designed based on our clients suggestions and many years of our own experience. More information can be found in catalogue: "GZ-14/GZ-14Z, R-8614/R8614Z, ZAS-55, ZAS-70, plugs, sockets and relay-chassis" available at www.zprae.pl



Picture. 6. Dimensions of the housing of RBS & RB relays.

RB-1
RBS-1
RBS-2

OFFER

RE line® ENERGETIC STANDARDS

- RSH-3, RSH-3S - tripping
- RS-6, RPD-2, RPP-4, RPP-6 - interposing
- RMS-2 - signalling
- RCW-3, RCDW-1 - circuit continuity monitoring
- RKO-3 - power supply circuit continuity monitoring
- RB-1, RBS-1, RBS-2 - bistable
- RT-22 - time
- RUT-2, RUT-3 - time-voltage
- RJT-1, RJT-3 - time-current
- RKU-1, RKS-1 - final controlling
- LZ-1, LZ-2 - operation counters
- RPZ-1 - supply source switching
- GPS-1 - time synchronisation
- MDD-6, MDS-12 - Diode modules
- PH-XX, PS-XX - Modules of switches, pushbuttons and control lamps
- Relay racks

- Busbar protections and breaker failure protections type TSL-9r, TSL-11
- Auxiliary and signalization relays
- Reserve Central Signalling System type MSA-9, MSA-12, MSA-24
- Protection relays type AZT-9, APP-9
- Disturbance recorder RZS-9
- Energy measurement system and event recorder ZRZ-28
- Load Resistors for measuring transformers
- DC and AC auxiliary power supply switchgears
- Cubicle-contained sets of control and supervision protections
- Modular power supplies, measuring suitcases, measuring and registering system RFQ-8
- PROFIL-L cubicles
- Periodical and post-failure tests, as well as repairs and overhauls of busbar protections TSL
- Servicing, strting-up and post assembly tests

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PROGRAM REGIONALNY
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