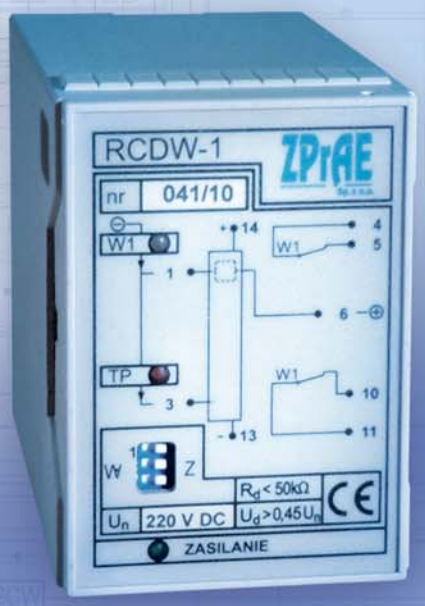
ZPrAE Sp.z o.o.

RE line®
ENERGETIC STANDARDS



RCDW-1

MONITORING CONTINUITY OF THE TRIPPING CIRCUIT

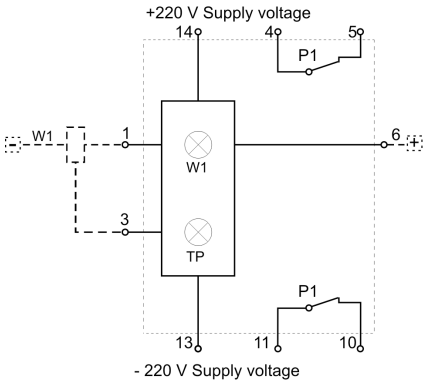
APPLICATION

The RCDW-1 relay is meant for monitoring the tripping circuit continuity, and signalling of its lack. The relay may monitor continuity in one breaking circuit regardless the power breaker is closed or open. The special version of the RCDW-1A high sensitivity relay is designed to control the continuity of auxiliary relay circuits such as RSH-3.

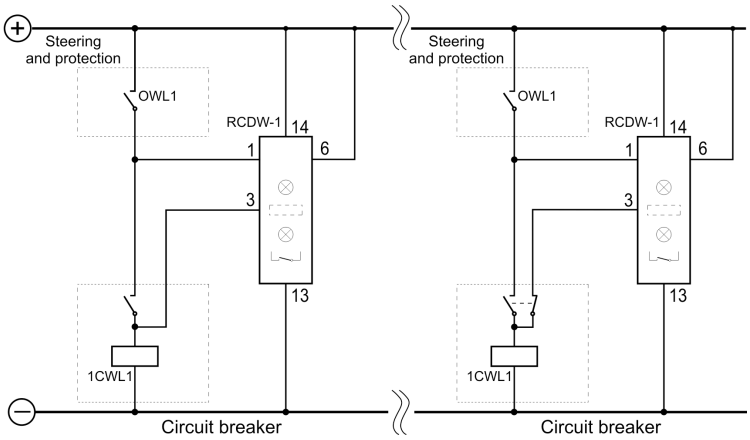
CONSTRUCTION

The RCDW-1 relay has one input element and one internal resistor shunting the power breaker. The input element is equipped with: LED indicating the state of the controlled circuit, two contacts – made in case of lack of circuit continuity or decay of the supply voltage, and a W/Z switch – turning on or off the input element. The relay is also equipped with a LED signalling power supply, and another LED indicating application of permanent switch-off impulse.

The scheme of connections (terminations) of the relay is presented on picture 1.



Picture 1. Relay type RCDW – functional scheme



Picture 2. Connection scheme of RCDW-1 to the power breaker circuit.

The RCDW-1 relay is mounted in a typical housing sizes 110 × 55 × 77 mm, with 14 terminations in a form of an plug, suitable to be mounted in a GZ-14 socket (plate-mounting), GZ-14U (35 mm bus-mounting), or GZ14Z - to be mounted in a relay chassis type R8614Z. The dimensions of the relay are presented on picture 3.

OPERATION

When supply voltage is not applied all diodes are turned off, the output relay is not energised (all contacts are made).

Upon application of voltage on terminations (13/14) the output relay has power supply and a green LED “ZASILANIE” lights up.

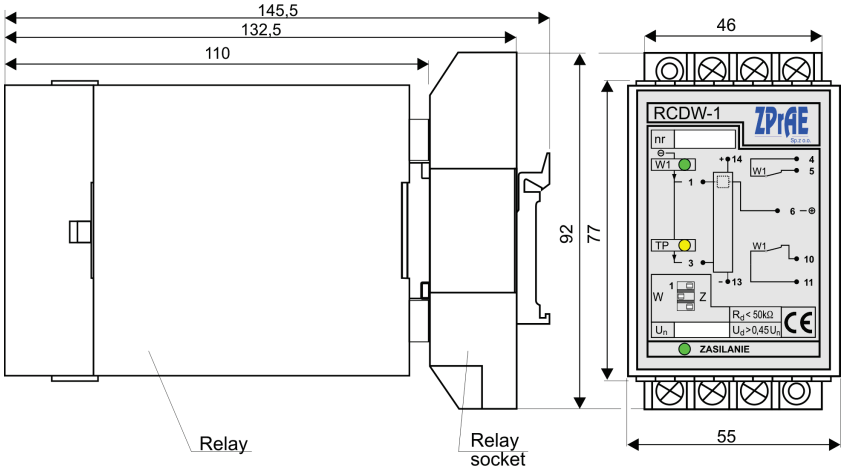
When the input element is turned off, the W1 diode is off and the relay is permanently activated. When the input element is on, the LED light lights up with red and the relay is not activated (all contacts are made). After a specified time t_z, the relay confirms continuity of the breaking circuit (when the input resistance between the input contact and the negative pole is lower than R_d or the input voltage between the input contact and the positive pole is greater than U_d) the relay operates (contacts break) and the LED changes colour to green. In case, the resistor identifies lack of continuity (when the input resistance is greater than R_d or the input voltage is lower than U_d) after a specified time t_p the relay drops off (contacts are made) and the colour of the LED diode changes into red.

The W/Z 1 switch turns on (pos. right) or turns off (pos. left) the input element. In case the input element is on, the status of the relay and colour of the LED diode depend on the controlled circuit. When the input element is off the LED diode is off and the relay is energised.

Application of the RCDW-1 relay ensures proper monitoring of continuity of the breaking circuits also when the breaker is open. However, if the “turn off” impulse is permanent, the RCDW-1 will signal loss of continuity of the circuit. In such case the LED diode TP turns on, indicating permanent turn off impulse. The method of connection of the RCDW-1 to the steering circuits is presented on picture 2.

TECHNICAL DATA

Power Supply	
Rated voltage	U_N = 220 V DC, or other as ordered
Operate range of the input voltage	0,8 ... 1,1 U_N
Power consumption	P < 2 W
Monitored circuit	
No. of controlled circuits	1
Tripping voltage (default setting)	U_d >0,45 U_N, or other as ordered
	U_d > 0,55 U_N version RCDW-1A
Maximal resistance of the monitored circuit (default setting)	R_d < 50 kΩ (default setting) (or other as ordered)
	R_d < 130 kΩ version RCDW-1A
Operate (pick-up) time (default setting)	t_z = 1s, or other as ordered (0,1…15 s)
Release (drop-out) time (default setting)	t_p = 3s, or other as ordered (0,1…15 s)
Contacts of the relay	
Maximal continuous current	5 A
Maximal breaking capacity	0,1 A; L/R = 40 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
General Data	
Enclosure protection degree	IP40
Ambient temperature	From -5 °C to +40 °C
Terminations (socket / plug)	As for R15 4P
Signalisation of operation	LED and contacts
Dimensions	77 × 55 × 110 mm (H×W×D)
Mounting	As R15 4p into mounting socket



Picture 3. Dimensions of the housing

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

RCDW-1

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
NARODOWA STRATEGIA SPÓJNOŚCI

Śląskie.
Pozytywna energia

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