



RSH-3

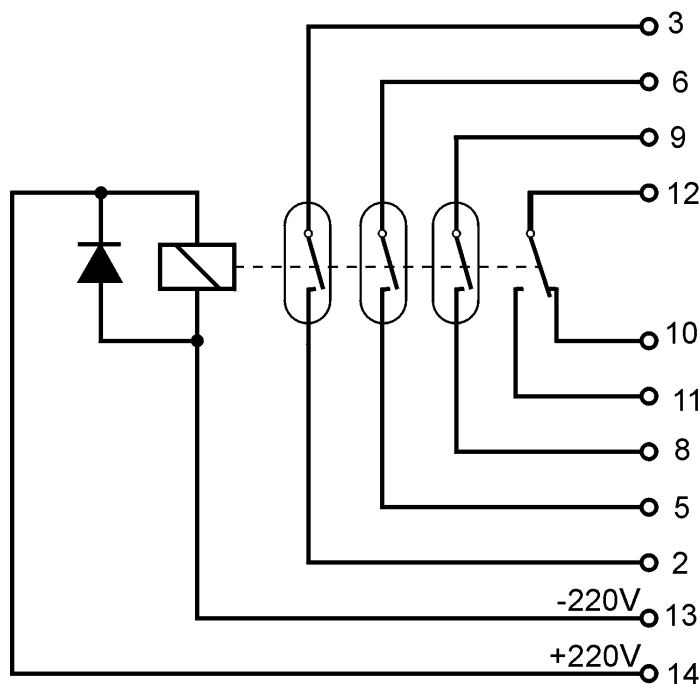
**HIGH SPEED
TRIPPING**

APPLICATION

The RSH-3 relay is a high speed ($t \leq 3\text{ms}$) interposing relay intended mainly for controlling the power breaker coil. The relay has a high switching capability and therefore it can frequently interrupt current in the power breaker coil operating in a 220V DC circuit. For instance number of operations for current of 3,2 A exceeds 5 000 times, and for current of 1,2 A exceeds 25 000 times. The RSH-3 relay is suitable to control typical power breakers used in 110 ÷ 400 kV substations.

CONSTRUCTION

The relay has 3 main reed contacts meant for controlling the power breaker coil. They are reed make contacts. Additionally the relay is equipped with an auxiliary signalling change-over contact and a light emitting diode signalling application of voltage on the relay's coil. The scheme of connections (terminals) is presented on picture 1.



Picture 1. RSH-3 breaking relay. Functional scheme of terminals.

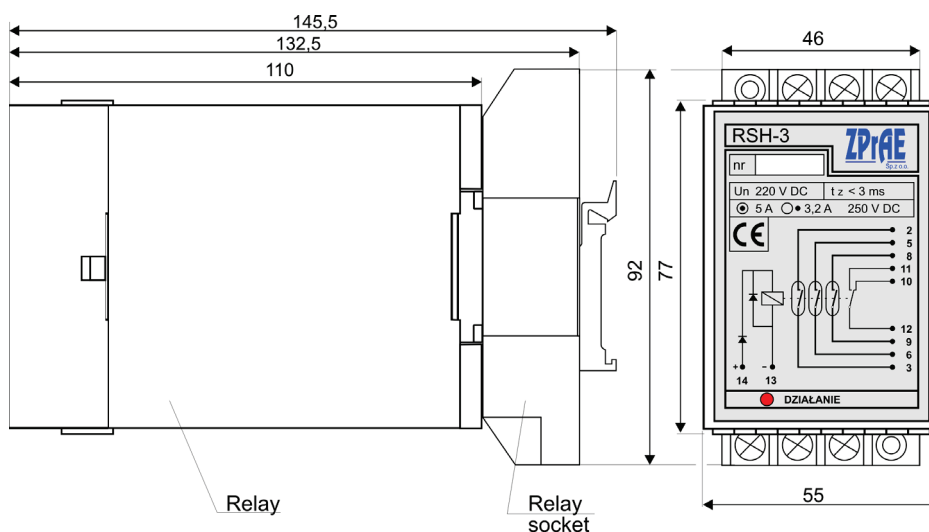
The relay is mounted in a typical housing sizes 110 × 55 × 77 mm, with 14 terminations in a form of a plug, suitable to be mounted in a GZ-14 socket (plate-mounting), GZ-14U (bus-mounting) or GZ14Z – to be mounted in a relay chassis type R8614Z. Dimensions of the relay are presented on Picture 2.

OPERATION

When voltage is applied to the input terminal (13-14) the reed make contacts are engaged (operating time $\leq 3\text{ms}$) and a LED diode turns on. At the same time an internal auxiliary relays become energized, and after few milliseconds an auxiliary contact switches over. When the input voltage is removed the LED diode goes off, and all contacts return to their initial position.

TECHNICAL INFORMATION (for $U_n = 220 \text{ V DC}$)

Data of the coil	
Rated voltage of the coil	$U_N = 220 \text{ V DC}$, 110 V DC , or other as ordered
Operate range of the input voltage	$0,8 \dots 1,1 U_N$
Power consumption	$< 5 \text{ W}$
Contacts of the relay	
Contact of the main breaking circuits (2/3, 5/6, 8/9)	
Operate time (pick up)	$t_o \leq 3 \text{ ms}$
Release time (drop off)	$t_r \leq 20 \text{ ms}$
Maximal breaking capacity	$I = 3,2 \text{ A}$ for $U = 220 \text{ V}$; $L/R = 40 \text{ ms}$
Maximal continuous current	$I = 5 \text{ A}$
Auxiliary contact, changeover (10,11,12)	
Operate (pick-up) time	$t_o \leq 20 \text{ ms}$
Release (drop-out) time	$t_r \leq 15 \text{ ms}$
Maximal breaking capacity	$I = 0,1 \text{ A}$ for $U = 220 \text{ V}$; $L/R = 40 \text{ ms}$
Maximal continuous current	$I = 5 \text{ A}$
Insulation	
Rated insulation voltage	250 V
Rated impulse voltage ($1,2/50 \mu\text{s}$) 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	From $-10 \text{ }^\circ\text{C}$ to $+55 \text{ }^\circ\text{C}$
Ambient protection	RT II
Signalisation of Operation	LED diode
Terminations (socket / plug)	As for R15 4P
Dimensions	$77 \times 55 \times 110 \text{ mm}$ (H×W×D)
Mounting	Mounting socket as R15 4p



Picture 2. Dimensions of the RSH-3 relay.

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

RSH-3

Operating time **3 ms**

Max breaking capacity **3,2 A** 220 V DC
L/R = 40 ms



OFFER

REline
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

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