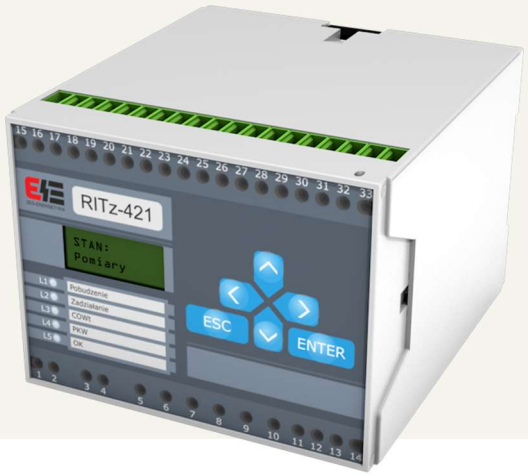
RITz-421

Overcurrent and ground overcurrent protection



GENERAL CHARACTERISTIC

Overcurrent and ground overcurrent protection RITz-421 is intended to be used as a power system protection component to provide protection of lines or transformers. Digital technology provides high accuracy, stability and dependability.

Protection set

50/51	instantaneous or definite-time overcurrent protection, two-phase
50N/51N	instantaneous or definite-time ground overcurrent protection
59N	instantaneous or definite-time ground overvoltage protection
67N/21N	ground fault protection: directional overcurrent or ground admittance-based protection
79	auto-reclose with three cycles and switch onto fault function

Main features

- three or four measuring inputs
- measuring of current electrical values
- real time clock
- event recorder of 33 or 52 unique events witch capability of 300 records
- parameters of last disturbance recorder, sum of tripped currents counter
- binary inputs for external protection with possibility to block particular protection functions or auto-reclose function
- generating of trip signal
- LCD display and buttons set in order to operation of relay
- optical indicating (with LED diodes) of relay operation statuses
- 5 programmable relay outputs (S1-S5)
- Relay output for signalling power supply module failure or lack of auxilliary voltage
- RS-485 port for remote control with MODBUS protocol (optional)
- self test of proper operation of relay
- relay enclosure gives possibility to mount on 35 mm rail, surface mount or flush mount

The energising values of RITz-421 relay are currents (IL1, IL2, IL3, and I_0) and residual voltage U_0 (optional). If any of measured values exceeds setting value (set by user), the relay operates in a manner dependind on configuration. With optional communication interface, the measured currents, binary inputs or outputs, register logs are provided. The PC software provided with relay allows to set the relay, confirm generated signals, graphical display of measured values and browse the register records.

TECHNICAL DATA

Rated current I_n	1A, 5A
Rated current U_{0n}	100V
Rated frequency f_n	50Hz
Nominal auxilliary voltage Up	24V, 48/60V DC 110V, 220V DC 110V, 230V AC
Control voltage U_s	acc. to aux. volt.
Setting range of threshold current	
• 50/51 protection – def.time char.	0,05...5,0 I_n or 0,2...20 I_n
• 51 protection – inv.time char.	0,05...0,5 In or 0,2...2 I_n
• 50N/51N protection if DT char.	5...500mA or 0,05...5A
• 50N/51N protection if inv time char.	5...500mA or 0,05...1A
• 67N protection if inv time char.	5...500mA or 0,05...1A
Setting range of threshold voltage	
• 21N/59N/67N protections	1...99V
Setting range of threshold admittance	
• 21N protection	0,05...50 mS or 0,5...500 mS
Setting range of restrain voltage	
• 51N protection	1...99V
Setting range of characteristic angle	0...90 °
Setting range of timer	
• 0 – 99,9 s for definite-time characteristic	
• according to A, B, C characteristic defined by EN 60255-3 regulation	
Pick-up time	≤40ms
Burden in analog inputs	≤0,5VA /input
Burden in auxilliary voltage supply	≤6W
Continous thermal withstand of current input	2,2 I_n
1 sec thermal withstand of current input	80 I_n
Dynamic withstand of current input	200 I_n
Relay outputs data (S2 – S5)	
Continuous contact carry	5A
Max. breaking capacity – resistive load	0,3A
Max. breaking capacity – L/R ≤ 40 ms	0,12A
Max. breaking capacity – for AC 250 V, 50 Hz	3A
Relay outputs data (S1, watchdog contact)	
Continuous contact carry	5A
Max. breaking capacity – resistive load	6A / 28V DC; 0,16A / 220V DC
Max. breaking capacity – for AC 250 V, 50 Hz	6A
Operating temperature range	-5...40 °C
Relative humidity (with no condensation)	≤ 80%
Ingress Protection degree	IP40
Weight	0,8kg
Dimensions (height x width x depth)	75 x 100 x 120 mm
Electromagnetic compatibility acc. to	EN 50263
Insulation according to	EN 60255-5