

Unbalance protection current relay NUR-36

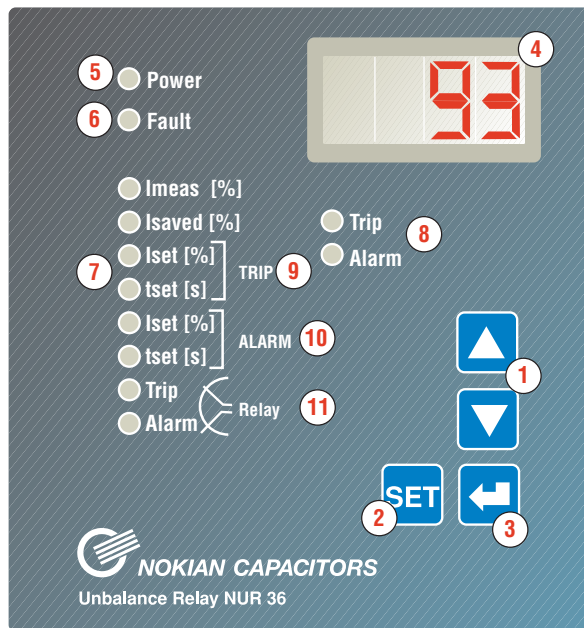


Protective relay NUR-36 is a single phase, sensitive, over-current relay. It features two stages of over-current protection, both having their own parameters and output relays. The NUR-36 is designed for unbalance current protection of double-star (Y-Y) connected capacitor banks in high voltage applications. It has solid state construction and is suitable for panel installation (DIN 43700). The relay has filters for harmonic currents and operate at fundamental frequency only. Protection is tested according to IEC 255-5c, 255-22-2 class III, 801-4 class III and the product fulfils the CE requirements. Information about measurements and relay functions is given by digital display and LED's.

- Separate setting for alarm and trip. The normal alarm setting is 50-60% of the trip setting.
- Separate delay settings for alarm and trip, 1 s to 100 s for alarm and 0.10 s to 1.00 s for trip.
- Relay 3 can be factory-set to work simultaneously with the trip or alarm relay.
- A memory place for measured current for calibration purposes.
- Versatile front panel with variety of LED's and digital display.

In the list below all the numbers refer to the picture nearby.

1. Push-buttons for the menu selections and parameter scrolling.
2. SET push-button for parameter settings.
3. ENTER push-button for confirming new setting.
4. Display.
5. POWER indicator, indicates that all the supply voltages of the system are in order.
6. FAULT indicator, indicates that an internal fault has been detected in the unit.
7. Mode indicators.
8. Trip and Alarm indicators.
9. Start current and operate time of trip stage.
10. Start current and operate time of alarm stage.
11. Indicates routed Signal to Relay 3.



TECHNICAL SPECIFICATIONS

INPUT CURRENT

Rated current I_N	5 A and 1 A	50/60 Hz
Input filter	$f^{3dB}=100$ Hz	
Slope	-12 dB/oct	
Thermal current withstand		
- continuously	15 A	IEC 255-6-4.2
- for one second	300 A	IEC 255-6-4.3
Rated burden	0.5 VA	

OUTPUT CONTACT RATINGS

TRIP RELAY		
Rated voltage	250 Vac	
Continuous current	5 A	
DC breaking capacity when the trip circuit constant $L/R \leq 40$ ms		
- at 220 V _{DC}	1 A	
- at 110 V _{DC}	3 A	
- at 48 V _{DC}	5 A	

ALARM RELAY, RELAY 3 AND INTERNAL FAULT RELAY

Rated voltage	250 Vac	
Continuous current	5 A	
DC breaking capacity when the trip circuit constant $L/R \leq 40$ ms		
- at 220 V _{DC}	0.15 A	
- at 110 V _{DC}	0.25 A	
- at 48 V _{DC}	1.0 A	

AUXILIARY SUPPLY

Rated voltage (standard)	40...265 Vac/dc	
(optional)	18...80 Vdc	
Power consumption	3 W	

TEST VOLTAGES

INSULATION TESTS		
- Insulation test voltages	IEC 255-5 C	2 kV 50 Hz, 1 min
INTERFERENCE TESTS		
- Electrostatic discharge contact/air discharge 6/8 kV	IEC 255-22-2 class III	
- Fast transient test	IEC 801-4 class III	2kV, 1 min

The device fulfils the CE requirements according to:

EN 61010-1
EN 61000-3-2
EN 61000-3-3

ENVIRONMENTAL CONDITIONS

Degree of protection by enclosure when flush mounted IP 54
Ambient temperature -10°C...+55°C

FUNCTIONS

Alarm Stage $I >$
Stage $I >$ 5%...100% x I_N
Operating time $t_{I >}$ 1 s...100 s

Latch-mode can be configured for the output relay

Trip stage $I >>$
Stage $I >>$ 5%...100% x I_N
Operating time $t_{I >>}$ 0.1 s...1 s

Latch-mode can be configured for the output relay

Drop-off/Pick-up ratio 0.90
Reset time 100 ms
Power-up start time (Including self test procedures) 4.5 s
Operation inaccuracy for current ± 5 % of set value
Operation inaccuracy for time ± 1 % of set value

SELF DIAGNOSTIC

Hardware is supervised by software functions. Memories (RAM and ROM), A/D-converter and output circuits up to the output relay coils are checked by a continuous background process.

Software is supervised by in-built watchdog hardware. The watchdog will restart the device if there is a major malfunction in the software.

Panel cut out (h x w) 140 x 83 mm
Total depth 225 mm
Weight 2.2 kg

In line with our policy of on-going product development we reserve the right to alter specifications.