

Relay monitoring over/undervoltage in 3-phase mains HRN-54N



- ▶ it is designated to monitor voltage in switchboards, to protect devices
- ▶ it monitors voltage in 3-phase mains, phase sequence and failure
- ▶ designated for circuits 3x400 V/ 230 V
- ▶ clamp terminals
- ▶ adjustable time delay eliminates short peaks and drops in the main
- ▶ in case supply voltage drops under 70 % U_n (U_{off} lower level) relay immediately breaks without a delay
- ▶ supply from monitors voltage
- ▶ supply L1 - N. It means that relay monitors also failure of neutral wire

Technical parameters

Supply and measuring

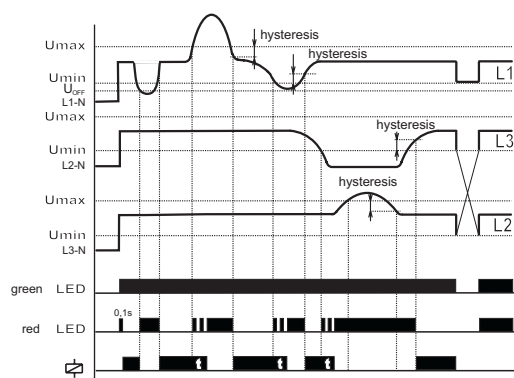
Monitoring terminals:	L1, N
Supply terminals:	L1, L2, L3, N
Bottom level U_{min} :	173-219 V 5 %
Upper level U_{max} :	242-288 V 5 %
Supply/measured voltage:	3x230/400 V
Consumption:	max. 2 VA
Hysteresis	5 %
Max. permanent current:	AC 3x265 V
Inrush current < 1s:	AC 3x288 V
Time delay t:	adjustable 0,5 - 10 s

Output	
Number of contacts:	1x changeover, (AgNi)
Rated current:	8 A / AC1
Breaking capacity:	2000 VA/AC1, 240 W/DC
Switching voltage:	250 V AC/ 24 V DC

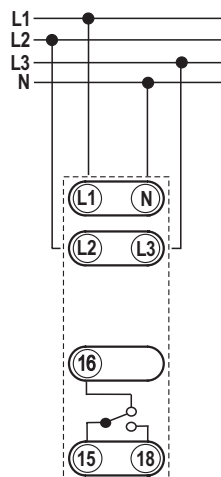
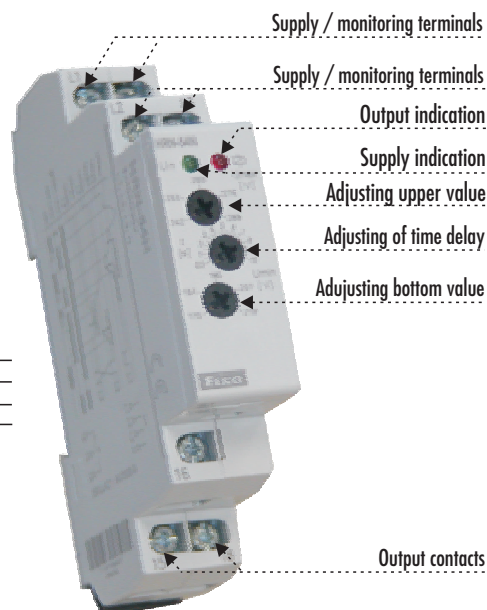
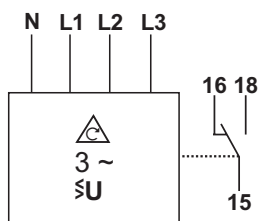
Indication of state:	red LED
Mechanical life:	1×10^7
Electrical life (AC1):	1×10^5

Other information	
Operating temperature:	-20 .. +55 °C
Storage temperature:	-30 .. +70 °C
Electrical strength:	3 kV (supply - output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP 40 from front panel
Overvoltage category:	III.
Pollution degree:	2
Max. cable size:	2.5 mm ² / with cavern 1.5 mm ²
Dimensions:	90x17.6x 64 mm
Weight:	69 g
Standards:	ČSN EN 60255-6, EN 61010-1

Functions



Connection, Description, Symbol



Functions

Relay monitors in between-phases voltage size in 3-phase mains. It is possible to adjust two independent voltage levels and control e.g. overvoltage or undervoltage separately. In normal state, when voltage moves between adjusted levels, output relay is closed and red LED diode is off. By overpassing or voltage decrease output relay is opened and red LED diode is on. By phase switching red LED is on (relay contact is opened). Due to supply from all three phases the relay can work even by one phase failure (HRN-54). In case supply voltage drops under 70% U_n (U_{off} lower level) relay immediately breaks without a delay, and failure state is indicated by red LED. In case timing is in process when failure occurs, timing is immediately stopped.