

Over/undervoltage monitoring relay HRN-54, HRN-54N

Advantages

- Serves to monitor voltage , phase failure and sequence in switchboards, protection of devices in 3-phase mains
- 1-module, DIN rail mounting
- It is possible to set upper and lower level of monitoring voltage
- Adjustable time delay eliminates short voltage peaks and failures in the mains
- Faulty state is indicated by red LED and by breaking output relay contact
- Output contact: 1x changeover 8 A /250 V AC I
- If the supply voltage falls below 60 % U_n (U_{off} lower level) the relay immediately breaks with no delay
- **HRN-54** - supply from all phases which means that the relay is functional also in case when one phase is faulty
- **HRN-54N** - supply L1-N, means that relay monitors also failure of neutral wire



Over/undervoltage monitoring relay HRN-54, HRN-54N

Type	I_n [A]	Code No.	Weight [g]	Packaging [pcs]
HRN-54	8	002471416	69	1/10
HRN-54N	8	002471412	67	1/10

Level switch HRH-5

Advantages:

- Relay is designated for monitoring levels in wells, reservoirs, pools, tanks....
- In one device you can choose the following configurations:
 - one-level switch of conductive liquids (by connecting H and D)
 - two-level switch of conductive liquids
- One-state device monitors one level, two-state device monitors two levels (switches on one level and switches off on another level).
- Choice of function PUMP UP, PUMP DOWN
- Adjustable time delay on the output (0.5 - 10s)
- Sensitivity adjustable by a potentiometer (5-100k Ω)
- Measuring frequency 10Hz prevents polarization of liquid and raising oxidation of measuring probes
- Galvanically separated supply voltage UNI 24.. 240 VAC/DC
- Output contact 1x changeover 8A/250V AC I
- 1-module type, mounting onto a DIN rail



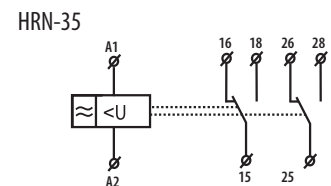
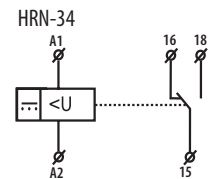
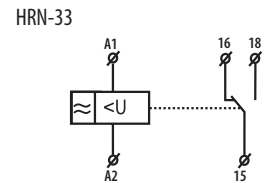
Level switch HRH-5

Type	Code No.	Weight [g]	Packaging [pcs]
HRH-5	002471715	72	1/8

Voltage monitoring relay HRN-33, HRN-34, HRN-35

Technical data			
	HRN-33, HRN-34, HRN-35		
Type	HRN-33	HRN-34	HRN-35
Supply	A1-A2	A1-A2	A1-A2
Universal supply	monitoring voltage range	monitoring voltage range	monitoring voltage range
Consumption	max. 1,2 VA AC / DC	max. 1,2 VA AC / DC	max. 1,2 VA AC / DC
Upper level U _{max}	160-276 V AC	18-30 V DC	160-276 V AC
Bottom level U _{min}	30-99% U _{max}	30-99% U _{max}	30-99% U _{max}
Time delay	0 - 10 s.	0 - 10 s.	0 - 10 s.
Setting accuracy (mechanical)	5 %	5 %	5 %
Repeat accuracy	< 1 %	< 1 %	< 1 %
Temperature coefficient	< 0,1% / °C	< 0,1% / °C	< 0,1% / °C
Hysteresis	2-6 % of adjusted value	2-6 % of adjusted value	2-6 % of adjusted value
Output			
Number of contacts	1 x changeover (AgNi)	1 x changeover (AgNi)	1 x changeover (AgNi) for each voltage level
Rated current	16 A / AC1	16 A / AC1	16 A / AC1
Breaking capacity	4000VA / AC1, 384W / DC	4000VA / AC1, 384W / DC	4000VA / AC1, 384W / DC
Inrush current	30 / < 3s.	30 / < 3s.	30 / < 3s.
Switching voltage	max. 250 V AC1 / 24V DC	max. 250 V AC1 / 24V DC	max. 250 V AC1 / 24V DC
Min. breaking capacity DC	500mW	500mW	500mW
Output indication	green / red LED	green / red LED	green / red LED
Mechanical life	3x10 ⁷	3x10 ⁷	3x10 ⁷
Electrical life	0.7x10 ⁵	0.7x10 ⁵	0.7x10 ⁵
Controlling			
Operating temperature		-20...+55 °C	
Storage temperature		-30...+70 °C	
Electrical strength		4 kV	
Operating position		any	
Mounting		DIN rail EN 60715	
Protection degree		IP 40 from front panel	
Overtoltage category		III.	
Pollution degree		2	
Max. cable size		2.5 mm ²	
Dimensions		90 x 17,6 x 64 mm	
Standards		EN 60255-6, EN 61010-1	

Symbols



Functions

Legend:

 U_{max} - upper adjustable level of voltage

 U_n - measured voltage

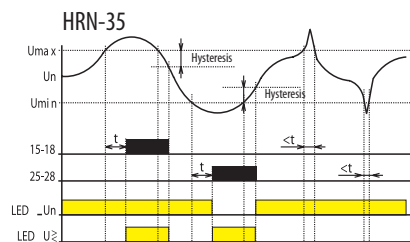
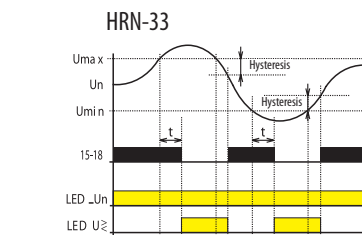
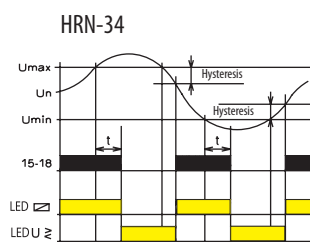
 U_{min} - bottom adjustable level of voltage

15-18 - switching contact of output relay No.1

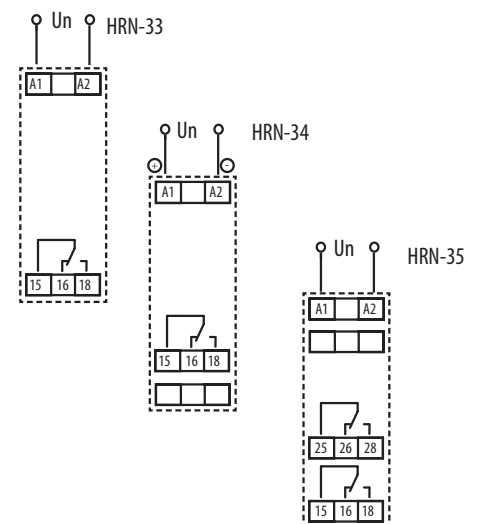
25-28 - switching contact of output relay No. 2

 LED ≥ U_n - indication green

LED U ≤ - indication red



Connection

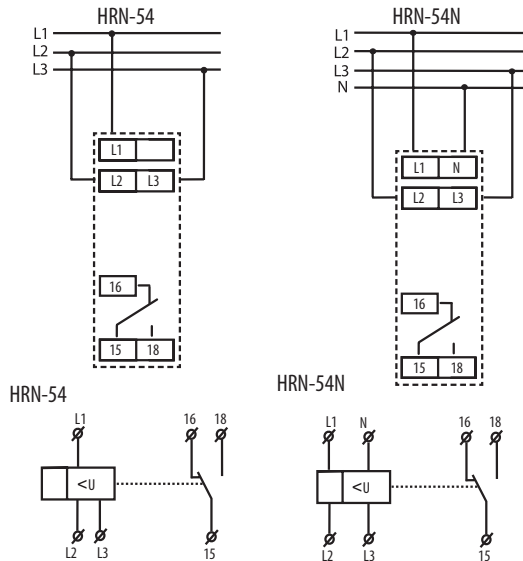


Technical data

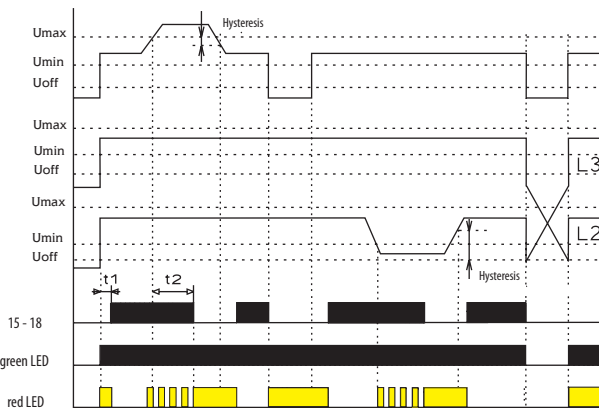
Over/undervoltage monitoring relay HRN-54, HRN-54N

Technical data		
	HRN-54	HRN-54N
Supply and measuring	L1,L2,L3	L1,L2,L3,N
Supply	L1,L2,L3	L1,N
Supply/measured voltage	3 x 400 V	3 x 400 V/ 230 V
Level U_{min}	75 - 95% U_n	
Level U_{max}	105 - 125% U_n	
Consumption	max. 2 VA	
Hysteresis	5 %	
Max. permanent overload	3 x 460V AC	3 x 265V AC
Peak overvoltage <1ms.	3 x 500V AC	3 x 288V AC
Time delay T1	max. 500 ms.	
Time delay T2	0.1 - 10 s.	
Output		
Number of contacts	1 x changeover (AgNi)	
Rated current	8 A / AC1	
Breaking capacity	2500 VA / AC1, 240W / DC	
Inrush current	10 A	
Switching voltage	max. 250 V AC1 / 24 V DC	
Min. breaking capacity DC	500mW	
Output indication	red LED	
Mechanical life	1x10 ⁷	
Electrical life	1x10 ⁵	
Reset time	max. 150 ms.	
Controlling		
Operating temperature	-20...+55 °C	
Storage temperature	-30...+70 °C	
Electrical strength	4 kV	
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	
Dimensions	90 x 17,6 x 64 mm	
Standards	EN 60255-6, EN 61010-1	

Connection



Functions



Function description

Relay in 3-phase main monitors size of phase voltage. It is possible to set two independent voltage levels and thus it is possible to set two independent voltage levels and monitor e.g. undervoltage and overvoltage independent. In normal state when voltage is within set levels, output relay is closed and red LED shines. In case voltage exceeds or falls below the set levels, output relay breaks and red LED shines (LED indicates faulty state – flashes when timing). In case of In case supply voltage falls below 60 % U_{off} (lower level) relay immediately breaks without delay and faulty state is indicated by red LED. In case timing is in progress and faulty state is indicated, timing is immediately stopped.

Description

