



EAN code
 HRN3-80: 8595188137218
 HRN3-81: 8595188137201

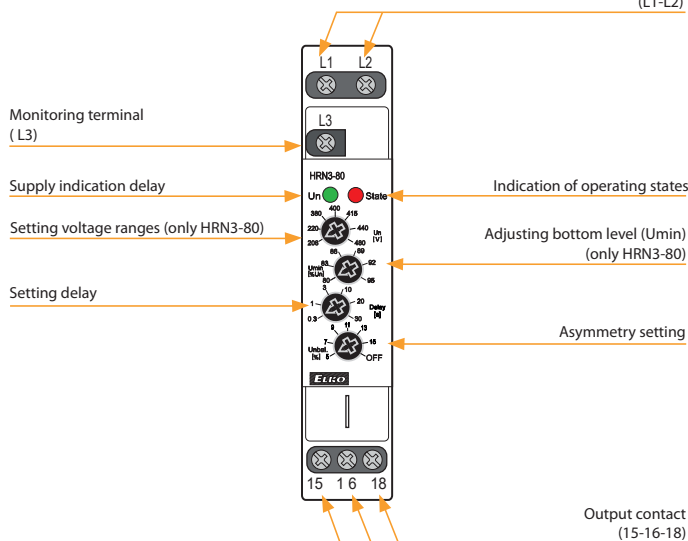
Technical parameters	HRN3-80	HRN3-81
Measured terminals / pins:	L1-L2-L3	
Supply/measured voltage:	AC 3× 190 – 500 V (50-60 Hz)	
Consumption (max.):	2 VA/1 W	
Level U _{max} :	110 % U _n	
Level U _{min} :	80 – 95 % U _n	
Hysteresis:	5 %	
Asymmetry:	adjustable, 2-10 % U _n + OFF	
Max. permanent overload:	AC 3× 550 V	
Peak overload <1ms:	NA	
Time delay t ₀ :	2 s	
Time delay:	adjustable 0.3-30 s	
Output		
Number of contacts:	1x changeover/SPDT (AgNi/Silver Alloy)	
Current rating:	16 A/AC1	
Breaking capacity:	4000 A/AC1, 384 W/DC1	
Switching voltage:	250 V AC/24 V DC	
Power dissipation (max.):	1.2 W	
Mechanical life:	10.000.000 ops.	
Electrical life (AC1):	100.000 ops.	
Other information		
Operating temperature:	–20 °C .. 55 °C (–4 °F .. 131 °F)	
Storage temperature:	–30 °C .. 70 °C (–22 °F .. 158 °F)	
Dielectric strength:	4 kV (supply - output)	
Operating position:	any	
Mounting:	DIN rail EN 60715	
Protection degree:	IP40 from front panel/IP10 terminals	
Overvoltage category:	III.	
Pollution degree:	2	
Cross-wire section – solid/ stranded with ferrule (mm ²):	max. 1× 2.5, 2× 1.5/ max. 1× 2.5 (AWG 12)	
Dimensions:	90 × 52 × 66 mm	
Weight:	NA g	100 g (3.53 oz)
Standards:	EN 60255-1, EN 60255-26, EN 60255-27	

- It is used for monitoring of voltage, power failure, sequence and asymmetry of phases in a 3-phase voltage system.
- Wide range of the monitored voltage .
- It measures actual voltage effective value - TRUE RMS.
- Fixed overvoltage level (U_{max}), adjustable undervoltage level (U_{min}).
- Adjustable time delay DELAY for elimination of short-time voltage peaks.
- Adjustable asymmetry level with optional switching off.

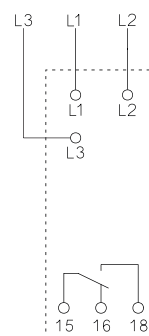
Description

HRN3-80

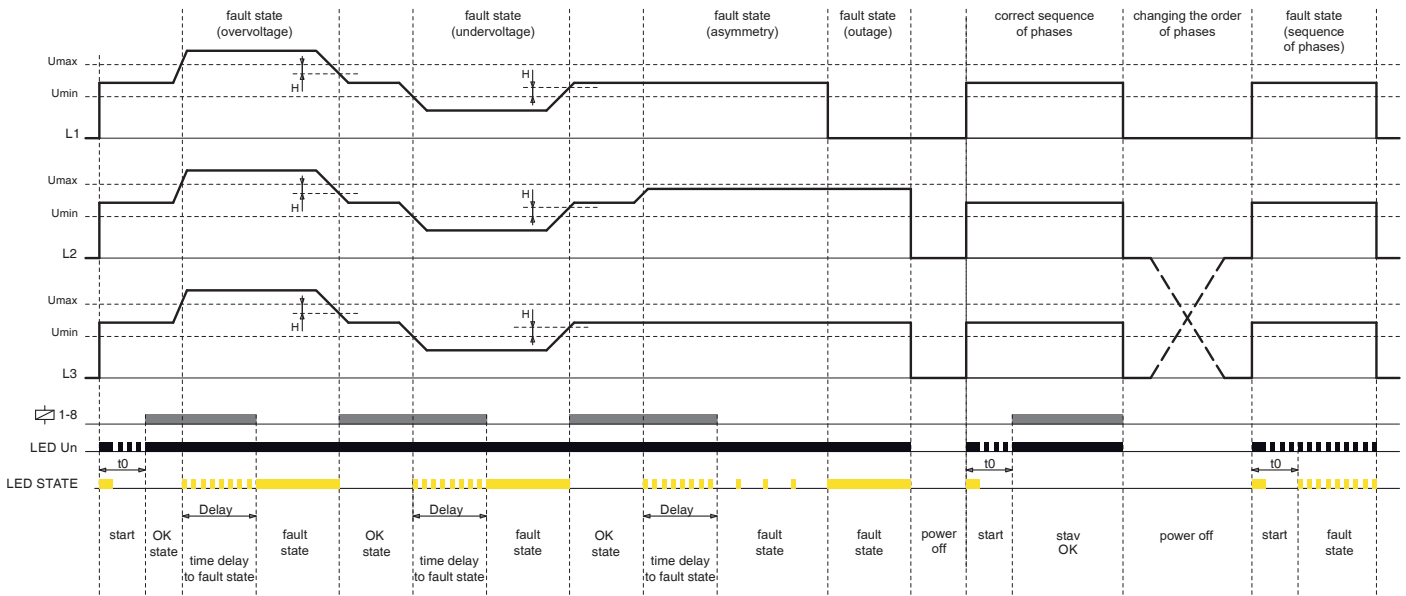
Monitoring terminals
(L1-L2)



Connection



Function



Description of the function

Both LEDs flash shortly always after connecting the instrument to the supply voltage.

In case a 3-phase voltage is connected to the monitoring relay and all conditions (voltage value within the U_{min} ... U_{max} range, correct sequence of the phases and asymmetry of the phases lower than the preset value) are complied, the output relay closes after the time delay t_0 is elapsed. The green LED Un flashes during this timing and it is permanently on after the delay is elapsed.

In case the sequence of phases is found to be incorrect after the power supply is switched on, the green LED is on and the red LED flashes shortly after the time delay t_0 is elapsed. The output relay opens and the green LED Un flashes during the timing.

When the voltage exceeds U_{max} or drops under U_{min} (HRN3-80 only), the instrument changes over to the faulty state (after the Delay is elapsed). The red LED flashes during this timing and after the delay is elapsed, the relay opens and the red LED is permanently on.

When the preset asymmetry of phases is exceeded (after the preset Delay is elapsed), the red LED flashes shortly and the relay opens.

In case of a phase failure, the faulty state is activated without any delay – the relay opens and the red LED is permanently on.

Return from the faulty state to the OK state is without any time delay.