

# Relay monitoring over-/undervoltage in 3-phase mains HRN-52

## Relais für Über-/Unterspannungsüberwachung von 3-Phasen Netzen HRN-52



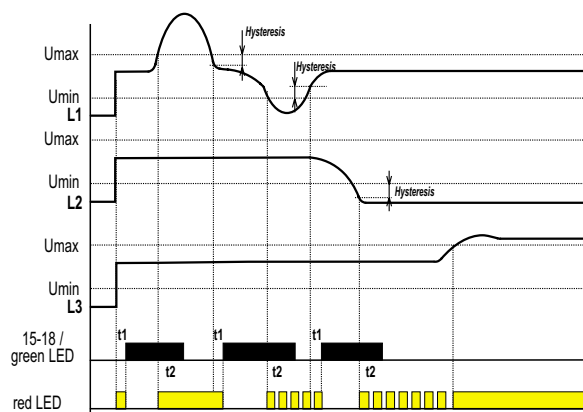
- ▶ Supplied from monitored voltage
  - ▶ Supplied from all 3 phases
  - ▶ Monitors voltage in 3-phase set of voltage
  - ▶ Upper and bottom voltage levels adjustable - output relay breaks
  - ▶ Adjustable time delay
  - ▶ LED indication of fault, output relay breaks
  - ▶ For circuits: 3x400/230 V (incl. neutral) and 3x400 V (without neutral)
  - ▶ Output contact: 1x changeover 16 A/250 V AC1
  - ▶ 1-MODULE, DIN rail mounted
- ▶ Versorgung aus gemessener Spannung
  - ▶ Versorgung aus 3 Phasen, Funktion ist auch beim Ausfall von 2 Phasen behalten
  - ▶ Überwachung von Spannungs im 3-Phasenspannungssystem
  - ▶ einstellbare Oben-/Untengrenzwert der Spannung
  - ▶ einstellbare Zeitverzögerung für Elimination der kurzfristigen Ausfällen und Spitzen
  - ▶ Fehlerzustandsanzeige: LED + Ausschaltung des Ausgangskontakts
  - ▶ Für Kreise: 3x400/230 V (incl. Nullleiter) und 3x400 V (ohne Nullleiter)
  - ▶ Ausgangskontakt: 1x Wechsler 16 A/250 V AC1
  - ▶ Modul-Ausführung (1-MODUL) Befestigung auf DIN-Schiene

### Technical parameters Technische Daten

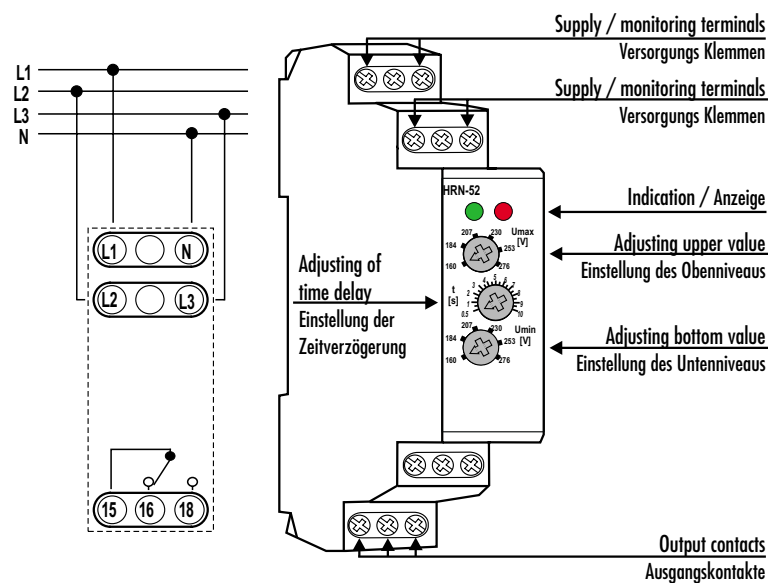
HRN-52

Supply and measuring	Versorgung und Messung	
Terminals:	Versorgungs-, Meßklemmen:	L1, L2, L3, N
Supply/measured voltage:	Versorgungs-, Meßklemmen:	3x400/230 V, 3x400 V
Consumption:	Leistungsaufnahme:	max. 2 VA
Upper level Umax:	Obenbereich Umax:	160 - 276 V
Bottom level Umin:	Untenbereich Umin:	160 - 276 V
Hysteresis:	Hysterese:	5%
Time delay T1:	Zeitverzögerung T1:	20 ms
Time delay T2:	Zeitverzögerung T2:	adjustable, 0.5-10 s
Output	Ausgang	
Number of contacts:	Anzahl der Wechsler:	1x changeover, AgNi
Rated current:	Nennstrom:	16 A / AC1
Breaking capacity:	Schaltleistung:	4000 VA / AC1, 384 W / DC
Inrush current:	Höchststrom:	30 A / < 3 s
Switching voltage:	Schaltspannung:	250 V AC1 / 24 V DC
Min. breaking capacity DC:	Min. Schaltleistung DC:	500 mW
Indication of state:	Standsanzeige:	red / green LED
Mechanical life:	Mechanische Lebensdauer:	3x10 <sup>7</sup>
Electrical life:	Elektrische Lebensdauer:	0.7x10 <sup>5</sup>
Operating temperature:	Umgebungstemperatur:	-20 .. +55 °C
Storage temperature:	Lagertemperatur:	-30 .. +70 °C
Electrical strength:	Elektrische Festigkeit:	2.5 kV (supply - output)
Operating position:	Arbeitsstellung:	any / wahlfrei
Mounting:	Befestigung/DIN-Schiene:	DIN rail EN 60715
Protection degree:	Schutzart/fronseitig:	IP 40
Overvoltage category:	Spannungsbegrenzungsklasse:	III.
Pollution degree:	Verschmutzungsgrad:	2
Max. cable size:	Anschlußquerschnitt:	2.5 mm <sup>2</sup>
Dimensions:	Abmessung:	90x17.6x 64 mm, page 76, 78
Weight:	Gewicht:	60 g
Standards:	Normen:	EN 60255-6, EN 61010-1

### Function / Funktion



### Connection, Description / Schaltung, Beschreibung



The HRN-52 is a 4 wire device with independently adjustable upper and lower voltage threshold levels both 160-276V L-N. On power up with all phases present and in the correct sequence the output relay energises after a fixed time delay of 20mSecs, the green and red LED's also illuminate. On loss of a phase, drop or increase in voltage above or below the adjustable set levels the SPCO output relay will after an adjustable 0.5-10sec time delay drop out. However, on a total supply failure the output relay will drop out instantly. The adjustable time delay is useful should it be desired to avoid unnecessary tripping on momentary blips in the monitored supply. On timing out the red LED also flashes as a beneficial indication that a trip condition is present but the relay has not as yet dropped out, in fact LED indication is maintained even if only two phases are present. Should during a timing out situation the monitored supply corrects itself the remaining set time is immediately cancelled and the red LED stops flashing and returns to a steady status.