Voltage monitoring in 3-phase mains

E3YF400VE20

Monitoring relays - ENYA series

Voltage monitoring in 3-phase mains in accordance with

VDE 0108-100 and VDE 0100-718

Undervoltage monitoring

Supply voltage = measured voltage

2 change over contacts

Width 35mm

Installation design

Technical data

1. Functions
Undervoltage monitoring in 3-phase mains in accordance with VDE 0108-100 and VDE 0100-718 (each phase against the neutral wire N) with fixed adjustable threshold, fixed adjustable hysteresis and fixed adjustable ON-Delay of one minute.

2. Time ranges

	Adjustment range
ON-Delay:	fixed, 1 minute

3. Indicators

Green LED ON/OFF:	indication of supply voltage
Yellow LED ON/OFF:	indication of relay output

4. Mechanical design
Self-extinguishing plastic housing, IP rating IP40
Mounted on DIN-rail TS 35 according to EN 50022
Mounting position: any
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
Tightening torque: max. 1Nm
Terminal capacity:
- 1 x 0.5 to 2.5mm² with/without multicore cable end
- 1 x 4mm² without multicore cable end
- 2 x 0.5 to 1.5mm² with/without multicore cable end
- 2 x 2.5mm² flexible without multicore cable end

5. Input circuit

Supply voltage:	(= measured voltage)
Terminals:	N-L1-L2-L3
Rated voltage UN:	see table ordering information or printing on the unit
Tolerance:	-30% to +30% of UN
Rated consumption:	11VA (1,2W)
Rated frequency:	AC 48 to 63Hz
Duty cycle:	100%
Reset time:	500ms
Hold-up time:	-
Drop out voltage:	determined by undervoltage detection (see measured circuit)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

6. Output circuit
2 potential free change over contacts

Rated voltage:	250V AC
Switching capacity:	1250VA (5A / 250V)
Fusing:	5A fast acting
Mechanical life:	20 x 106 operations
Electrical life:	2 x 105 operations at 1000VA resistive load
Switching frequency:	max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

7. Measuring circuit

Measuring variable:	AC sinus, 48 to 63Hz
Measuring input:	(= supply voltage)
Terminals:	N-L1-L2-L3
Overload capacity:	determined by tolerance specified for supply voltage
Input resistance:	-
Switching threshold US:	fixed 195,5V
Hysteresis H:	approx. 5%
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

8. Accuracy

Base accuracy:	≤5% (of nominal value)
Adjustment accuracy:	-
Repetition accuracy:	≤2%
Voltage influence:	-
Temperature influence:	≤0,05% /°C

9. Ambient conditions

Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in accordance with IEC 60664-1)

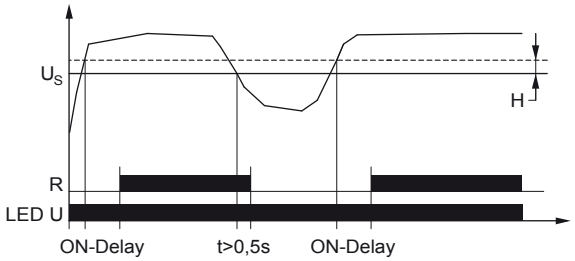
10. Weigth

Single packing:	109g

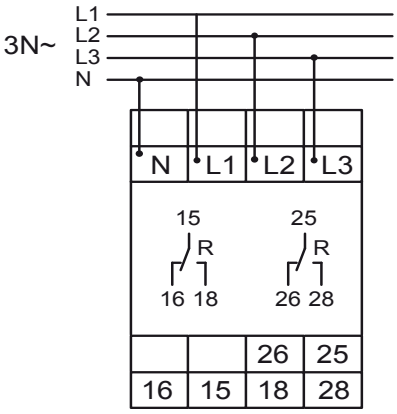
Functions

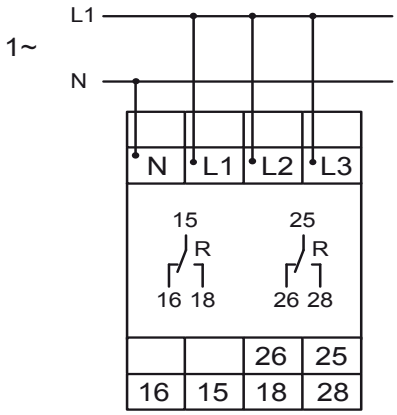
Undervoltage monitoring for 3-phase AC mains in accordance with VDE 0108-100 and VDE 0100-718 with fixed adjustable threshold, fixed adjustable hysteresis and fixed adjustable ON-Delay of one minute.
All measuring inputs (L1, L2 and L3) must be connected to phase voltage. If single or 2-phase monitoring is required, unused input terminals (L) must be connected to mains voltage to have proper L-N voltage on the terminals L1, L2 and L3. A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold U_S.

Undervoltage monitoring
When the supply voltage U is applied, the output relay R switches into on-position after the set interval of the tripping delay (ON-Delay) has expired and if the measured voltage off all connected phases (L1, L2 and L3) exceeds the fixed threshold U_S by more than the hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output relay R switches into off-position. As soon as the measured voltage exceeds the threshold U_S by more than the hysteresis H, the output relay R switches into on-positon after the set interval of the tripping delay (ON-Delay) has expired.

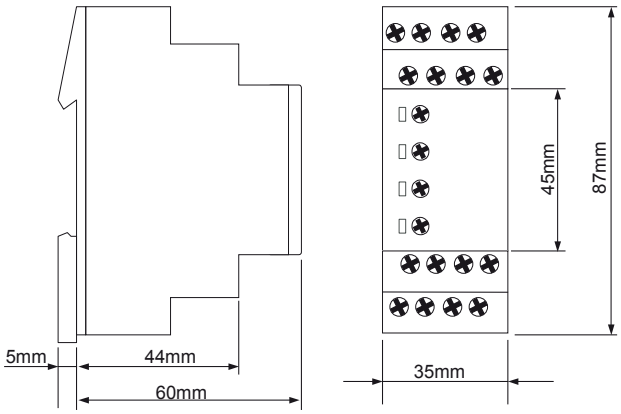


Connections





Dimensions



Ordering Informations

Types	Rated voltage U_N	Switching thresholds U_S	LEDs	Part. No.
E3YF400VE20 0.85	3(N)-400/230V in accordence with VDE 0108-100 and VDE 0100-718	fixed 195,5V (L-N)	U, Rel.	1341404

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