



Monitoring relays - ENYA series
 Undervoltage monitoring
 Supply voltage = measured voltage
 1 change over contact
 Width 17.5 mm
 Installation design



Technical data

1. Functions

Undervoltage monitoring in 3-phase mains (each phase against the neutral wire) with fixed or variable threshold voltage U_s and fixed hysteresis.

2. Time range

Tripping delay: Adjustment range
 fixed, approx. 200ms

3. Indicators

Type E1YF400V01 0.70 / 0.85:
 Yellow LED ON/OFF: indication of relay output

Type E1YU400V01, E1YF400VT01 0.85:
 Green LED L1 ON/OFF: indication of supply voltage L1-N
 Green LED L2 ON/OFF: indication of supply voltage L2-N
 Green LED L3 ON/OFF: indication of supply voltage L3-N
 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 60715
 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 U_N : see table ordering information or
 printing on the unit
 Tolerance: -30% to +10% of U_N
 Rated consumption:
 E1YF: 5VA (0,6W)
 E1YU: 8VA (0,8W)
 Rated frequency: a.c. 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: 4kV

6. Output circuit

1 potential free change over contact
 Rated voltage: 250V a.c.
 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: 4kV

7. Measuring circuit

Measuring variable: a.c. 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 U_s : see table ordering information or
 printing on the unit
 approx. 5%
 Hysteresis H:
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV

8. Accuracy

Base accuracy: ≤5% (E1YU) of nominal value
 Adjustment accuracy: -
 Repetition accuracy: ≤2%
 Voltage influence: -
 Temperature influence: ≤0.05% /°C

9. Ambient conditions

Ambient conditions: -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 (in accordance with IEC 60664-1)

10. Weight

Single packing: 72g
 Packing of 10pcs: 670g per Package

Functions

Undervoltage monitoring for 3-phase AC mains with fixed (E1YF) or variable (E1YU) threshold voltage U_s and fixed hysteresis.

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.

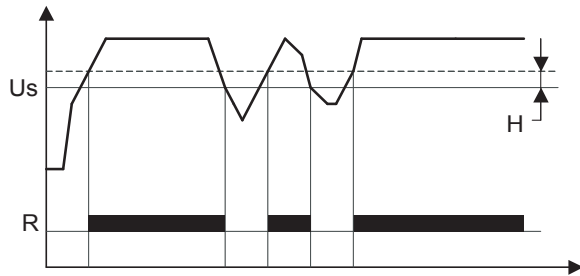
A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold U_s .

Test function (optional)

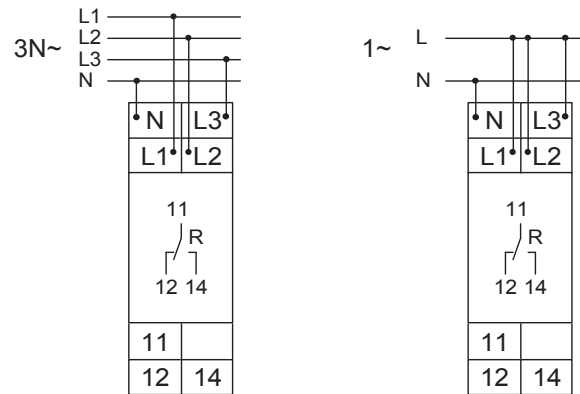
The test function enables a manually disconnection of the output relay.

Undervoltage monitoring

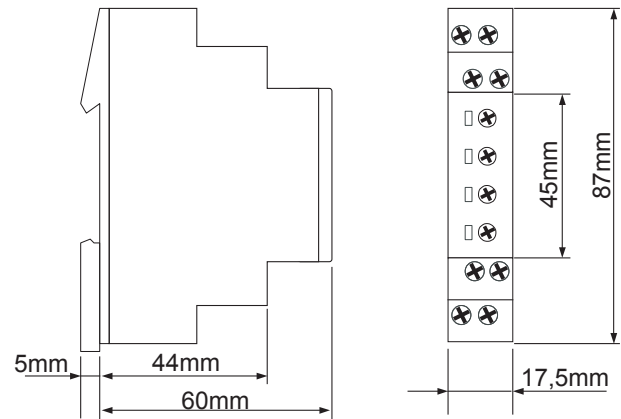
The output relay R switches into on-position (yellow LED illuminated), when the measuring voltage of all connected phases exceeds the fixed threshold U_s by more than the fixed hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output relay R switches into off-position again (yellow LED not illuminated).



Connections



Dimensions



Ordering information

Types	Rated voltage U_N	Switching threshold U_s	Options	LEDs	Part. No. (PQ 1)	Part. No. (PQ 10)
E1YF400V01 0.85	3N~400/230V in accord. with VDE 0108	fixed 195,5V (L-N)	-	Rel.	1340402	1340402A
E1YF400V01 0.70	3(N)~400/230V	fixed 161V (L-N)	-	Rel.	1340410	
E1YU400V01 0.85	3(N)~400/230V	160V-240V (L-N)	-	L1, L2, L3, Rel.	1340403	
E1YF400VT01 0.85	3N~400/230V in accord. with VDE 0108	fixed 195,5V (L-N)	Test function	L1, L2, L3, Rel.	1340406	