



Monitoring relays - ENYA series

Voltage monitoring in 3- & 1-phase mains

(VDE 0108-100 and VDE 0100-718)

Undervoltage monitoring

Supply voltage = measured voltage

1 change over contact

Width 17.5 mm

Installation design



Technical data

1. Functions

Undervoltage monitoring in 3- & 1-phase mains (in accordance with VDE 0108-100 and VDE 0100-718) (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

Hysteresis H: approx. 5%

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.

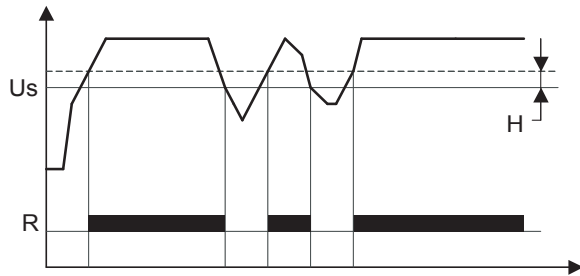
A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold U_s .

Test function (optional)

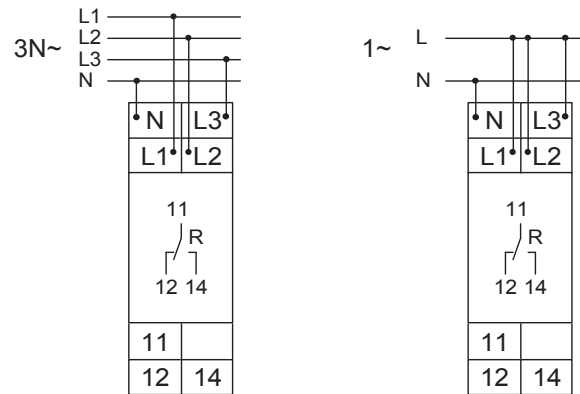
The test function enables a manually disconnection of the output relay.

Undervoltage monitoring

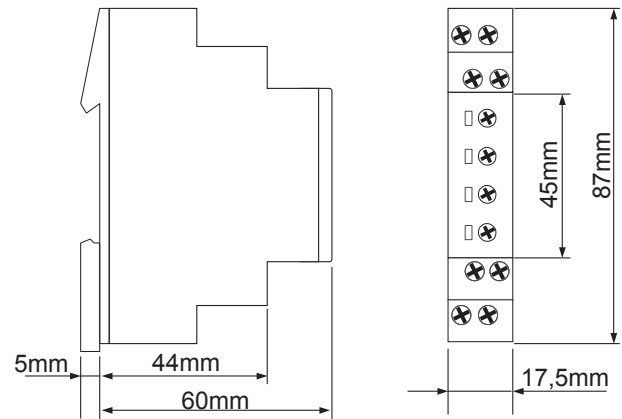
The output relay R switches into on-position (yellow LED illuminated), when the measuring voltage of all connected phases exceeds the fixed threshold U_s by more than the fixed hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output relay 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 | 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 | |