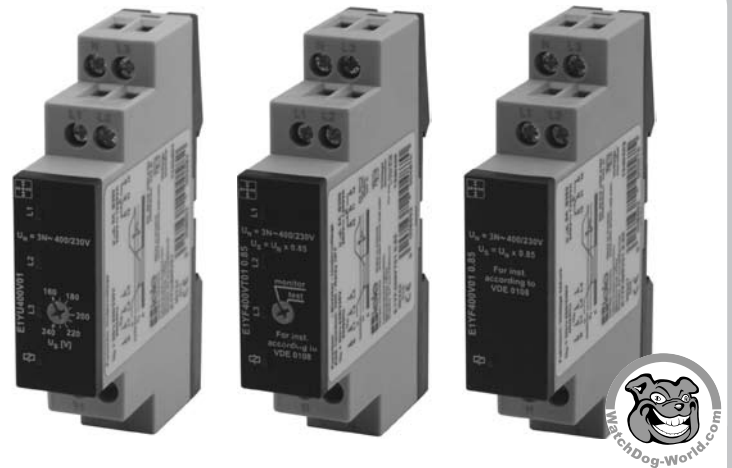


# Monitoring relays - ENYA series

# E1YF, E1YU

- ▶ Voltage monitoring in 3-phase mains
- ▶ 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 2.5mm<sup>2</sup> with/without multicore cable end  
1 x 4mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
2 x 2.5mm<sup>2</sup> 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: 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: 4kV

### 6. Output circuit

1 potential free change over contact  
Rated voltage: 250V AC  
Switching capacity: 1250VA (5A / 250V)  
Fusing: 5A fast acting  
Mechanical life: 20 x 10<sup>6</sup> operations  
Electrical life: 2 x 10<sup>5</sup> 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: 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  $U_S$ : 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 rated voltage  
Adjustment accuracy: -  
Repetition accuracy: ≤2%  
Voltage influence: -  
Temperature influence: ≤1%

### 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, if built-in 3 (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.

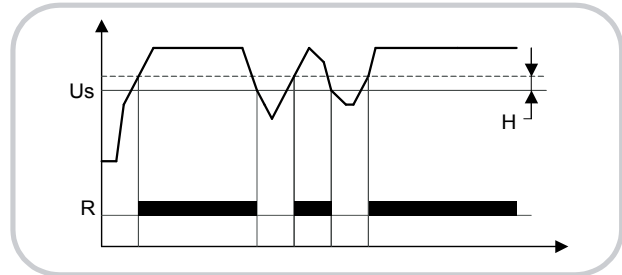
A phase failure can not be detected, if the reverse voltage coming from the load exceeds the threshold  $U_S$ .

### Test function (optional)

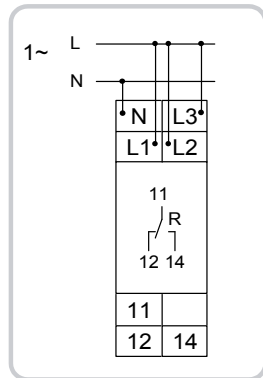
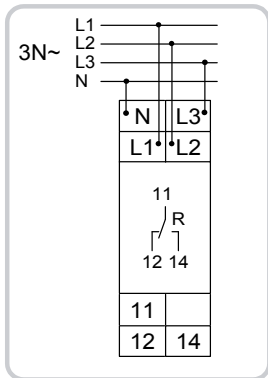
The test function enables a manually disconnection of the output relay.

### Undervoltage monitoring

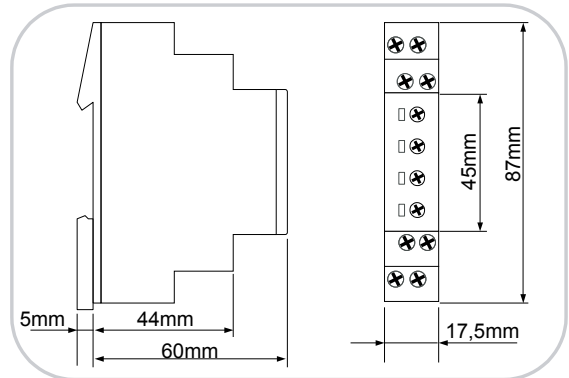
The output relay R switches into on-position (yellow LED illuminated), when the measuring voltage of all connected phases exceeds the fixed threshold  $U_S$  by more than the fixed hysteresis H. When the voltage of one of the connected phases (L1, L2 or L3) falls below the fixed threshold, the output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



## Connections



## Dimensions



## Ordering information

Type	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.	1340403	
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	