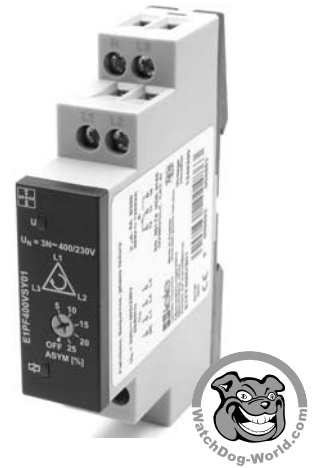


# Monitoring relays - ENYA series

# E1PF

- ▶ Voltage monitoring in 3-phase mains
- ▶ Monitoring of phase sequence and phase failure
- ▶ Monitoring of asymmetry
- ▶ Connection of neutral wire optional
- ▶ Supply voltage = measuring voltage
- ▶ 1 change over contact
- ▶ Width 17.5 mm
- ▶ Installation design



## Technical data

### 1. Functions

Monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetry, connection of neutral wire optional.

### 2. Time ranges

Tripping delay: Adjustment range fixed, approx. 100ms

### 3. Indicators

Green LED ON: 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 2.5mm<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 Un: see table ordering information or printing on the unit  
Tolerance: -30% to +30% of Un  
Rated consumption: 8VA (0,8W)  
Rated frequency: AC 48 to 63Hz  
Duty cycle: 100%  
Reset time: 500ms  
Hold-up time: -  
Drop out voltage: >20% of the supply voltage  
Overvoltage category: III (according to 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 AC)  
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. 60/min at 100VA resistive load  
max. 6/min at 1000VA resistive load (according to IEC 947-5-1)  
Overvoltage category: III. (according to IEC 60664-1)  
Rated surge voltage: 4kV

### 7. Measuring circuit

Measuring variable: 3(N)~, sinus, 48 to 63Hz  
Measuring input: (=supply voltage)  
Terminals: (N)-L1-L2-L3  
Overload capacity: determined by tolerance specified for supply voltage  
Input resistance: -  
Asymmetry: see table ordering information  
Overvoltage category: III (according to IEC 60664-1)  
Rated surge voltage: 4kV

### 8. Accuracy

Base accuracy: ±5% of maximum scale value  
Adjustment accuracy: ≤5% of maximum scale value  
Repetition accuracy: ±2%  
Voltage influence: -  
Temperature influence: ≤0.05% / °C

### 9. Ambient conditions

Ambient temperature: -25 to +55°C (according to IEC 68-1)  
Storage temperature: -25 to +70°C  
Transport temperature: -25 to +70°C  
Relative humidity: 15% to 85% (according to IEC 721-3-3 class 3K3)  
Pollution degree: 2, if built in 3 (according to IEC 664-1)  
Vibration resistance: 10 to 55 Hz 0.35mm (according to IEC 68-2-6)  
Shock resistance: 15g 11ms (according to IEC 68-2-27)

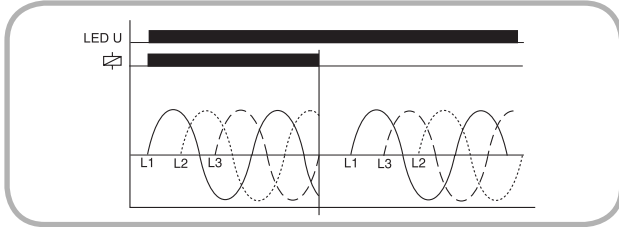
### 10. Weight

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

## Functions

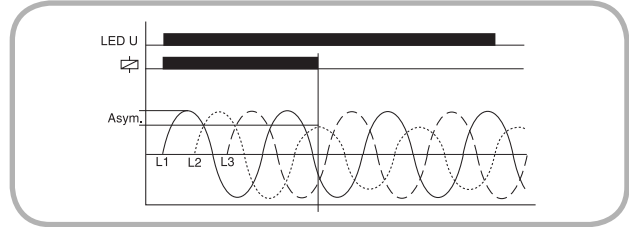
### Phase sequence monitoring

When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not illuminated).



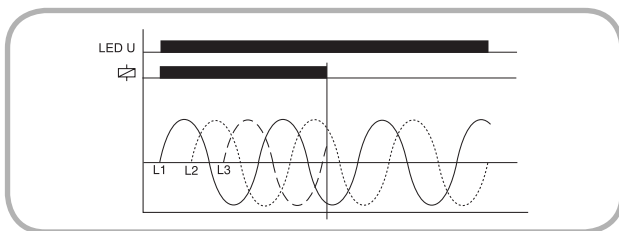
### Asymmetry monitoring

The output relay R switches into off-position (yellow LED not illuminated) when the asymmetry exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.

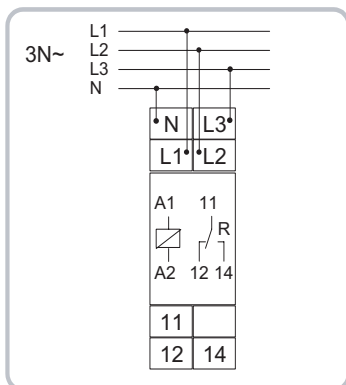


### Phase failure monitoring

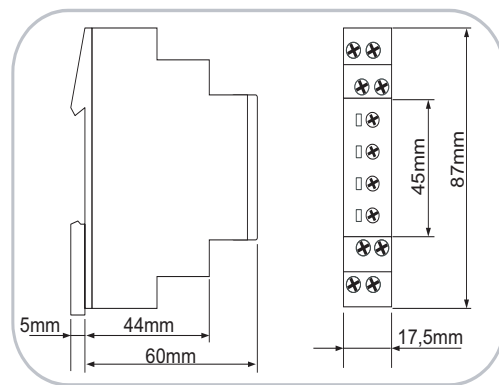
The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.



## Connections



## Dimensions



## Ordering informations

Types	Nominal voltage Un	Threshold voltage Us	LEDs	Part. Nr. (PQ 1)
E1PF400VSY01	3(N)-400/230V	Asymmetrie 5%...25%	U, Rel.	1340300