

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 2.5mm² 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: 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 10⁶ operations
Electrical life: 2 x 10⁵ 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%
Adjustment accuracy: ≤5%
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)

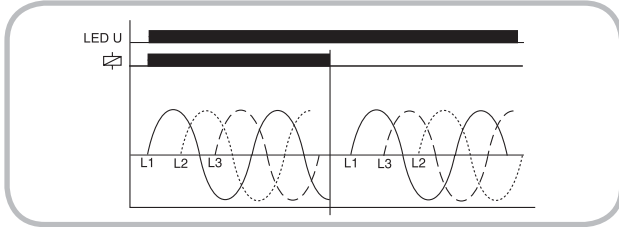
10. Weight

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

Functions

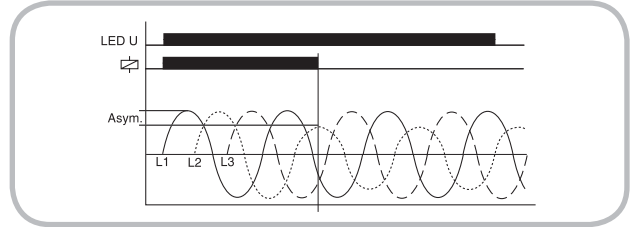
Phase sequence monitoring

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).



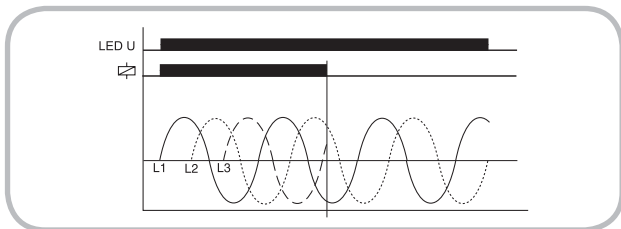
Asymmetry monitoring

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.

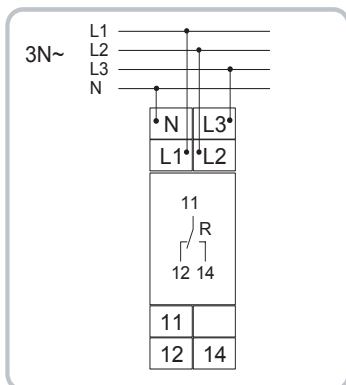


Phase failure monitoring

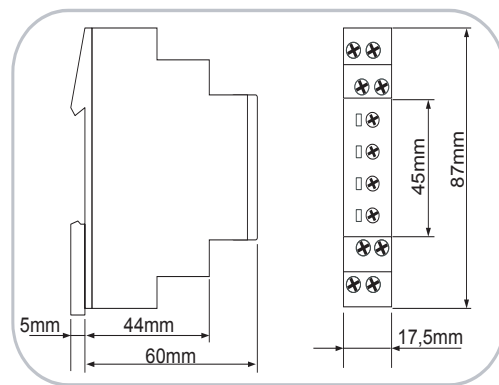
The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.



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