

- ▶ 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 17.5mm
- ▶ 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 U_N : see table ordering information or printing on the unit
Tolerance: -30% to +30% of U_N
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 (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 AC)
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: 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: 5% ... 25%
Overvoltage category: III (in accordance with 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
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)

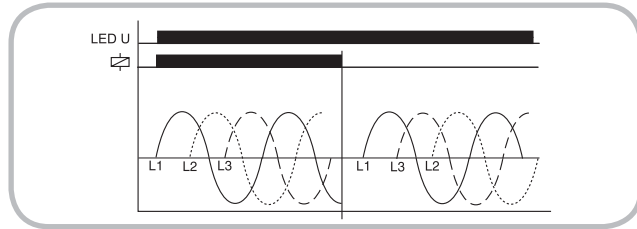
10. Weight

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

Functions

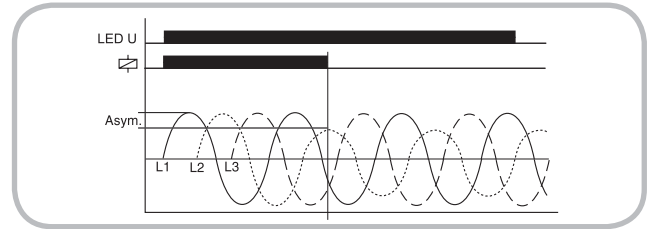
Phase sequence monitoring

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).



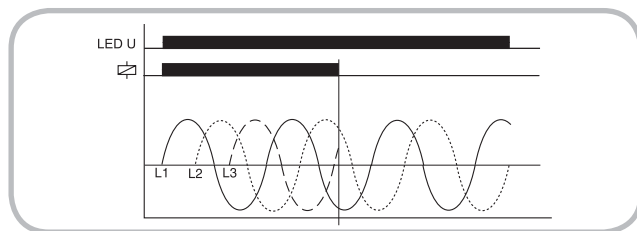
Asymmetry monitoring

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.

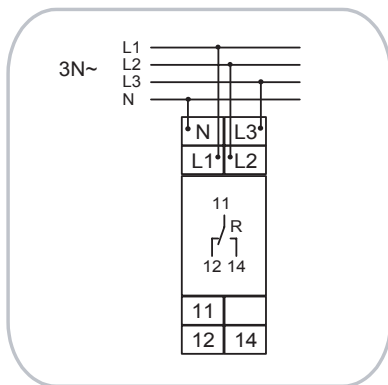


Phase failure monitoring

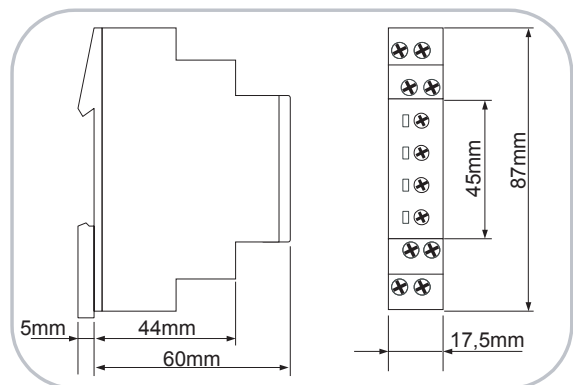
The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.



Connections



Dimensions



Ordering informations

Type	Rated voltage U_N	Switching threshold	Part Nr. (PQ 1)	Part Nr. (PQ 10)
E1PF400VSY01	3(N)~400/230V	Asymmetry 5%...25%	1340300	1340300A