Voltage monitoring in 3-phase mains

E1PF480Y/277VSY10

Series ENYA

Voltage monitoring in 3-phase mains

Monitoring of phase sequence and phase failure

Monitoring of asymmetry

Supply voltage = measuring voltage

1 change over contact

Width 17.5 mm

Installation design

Read and understand these instructions before installing, operating or maintaining the equipment.

Danger!
Never carry out work on live parts! Danger of fatal injury! The product must not be used in case of obvious damage. To be installed by an authorized person.

Technical data

1. Functions

Voltage monitoring in 3-phase mains. Monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetry and adjustable tripping delay for asymmetry.

2. Time ranges

	Adjustment range
Tripping delay:	0.1 s to 20 s

3. Anzeigen

Green LED U/t ON:	indication of supply voltage
Red LED Failure ON:	indication of failure
Red LED Failure flashes:	indication of tripping delay
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. 1 Nm
Terminal capacity:
- 1 x 0.5 to 2.5 mm² with/without multicore cable end
- 1 x 4 mm² without multicore cable end
- 2 x 0.5 to 1.5 mm² with/without multicore cable end
- 2 x 2.5 mm² flexible without multicore cable end

5. Input circuit

Supply voltage:	(= measured voltage)
Terminals:	L1-L2-L3
Rated voltage U_N:	3~ 208V/120V to 480V/277V
Tolerance:	-10% to +10% of U_N
Rated consumption:	10VA (1W) @ 400V / 50Hz 16VA (1,5W) @ 480V / 60Hz
Rated frequency:	a.c. 48 to 63Hz
Duty cycle:	100%
Reset time:	500 ms
Hold-up time:	-
Drop out voltage:	>20% of the supply voltage
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4 kV

6. Output circuit

1 potential free change over contact

Rated voltage:	250V a.c.
Switching capacity:	1250VA (5A / 250V a.c.)
Fusing:	5A fast acting
Mechanical life:	20 x 10^6 operations
Electrical life:	2 x 10^5 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~, Sinus, 48 to 63 Hz
Measuring input:	(= supply voltage)
Terminals:	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:	4 kV

8. Accuracy

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

9. Ambient conditions

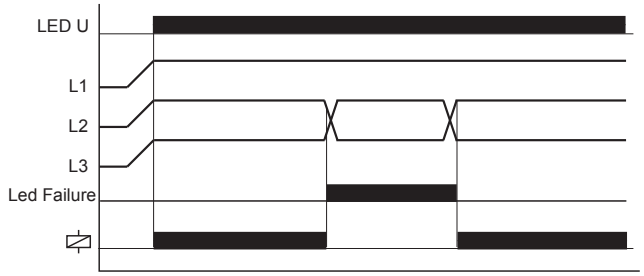
Ambient temperature:	-25 to +55°C at operating frequencies >50Hz and ambient temperatures above 40°C a side distance to other units of 5mm must be observed.
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2 (in accordance with IEC 60664-1)

10. Weight

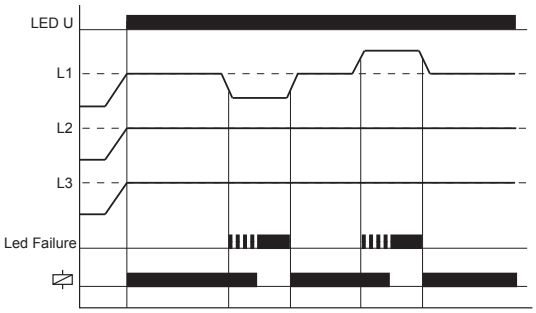
Single packing:	72 g
Packing of 10pcs:	670 g per package

Functions

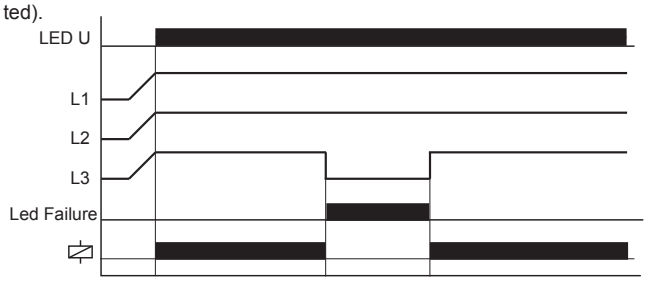
Phase sequence monitoring
When all the phases are connected in the correct sequence and the measured asymmetry is less than the set value, the output relay switches into on-position (yellow LED illuminated).
When the phase sequence changes, the output relay switches into off-position (yellow LED not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



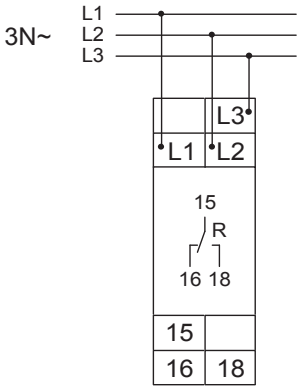
Asymmetry monitoring
As soon as the asymmetry exceeds the value at the ASYM-regulator, the set interval of the tripping delay (DELAY) begins (red LED Failure flashes). After the interval has expired (red LED Failure illuminated) the output relay R switches into off-position (yellow LED not illuminated).
Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.



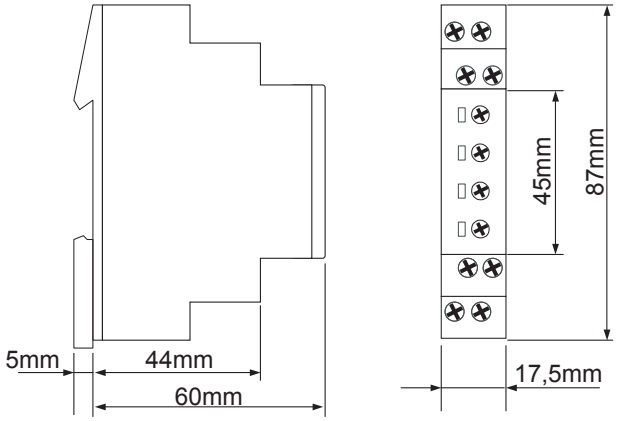
Phase failure monitoring
As soon as one of the three phases fails, the output relay R switches into off-position (red LED Failure illuminated / yellow LED not illuminated).



Connections



Dimensions



Ordering information

Types	Rated voltage U_N	Switching threshold	Part No.
E1PF480Y/277VSY10	3~480/277V	Asymmetry 5%...25%	1340305

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Technik Braucht Kontrolle