Voltage monitoring in 3-phase mains

E3PF400VSY02

Monitoring relays - ENYA series

Monitoring of phase sequence and phase failure

Monitoring of asymmetry

Connection of neutral wire optional

Supply voltage = measuring voltage

2 change over contacts

Width 35 mm

Installation design



Technical data

1. Functions
Monitoring of phase sequence and phase failure, connection of neutral wire optional.

2. Time ranges

	Adjustment range
Tripping delay:	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 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 2.5mm2 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:	11VA (1,2W)
Rated frequency:	a.c. 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:	6kV

6. Output circuit
2 potential free change over contacts

Rated voltage:	250V a.c.
Switching capacity:	1250VA (5A / 250V AC)
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:	6kV

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:	-
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

8. Accuracy

Base accuracy:	≤5% (of nominal value)
Adjustment accuracy:	≤5%
Repetition accuracy:	≤2%
Voltage influence:	-
Temperature influence:	≤0.05% / °C

9. Ambient conditions

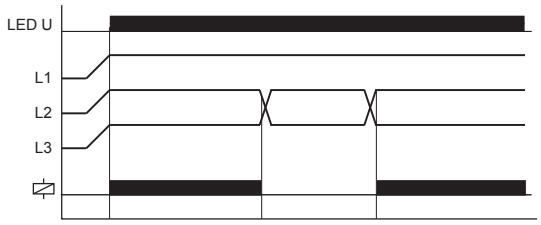
Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in accordance with IEC 60664-1)

10. Weight

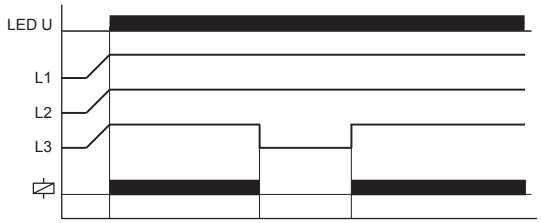
Single packing:	110g

Functions

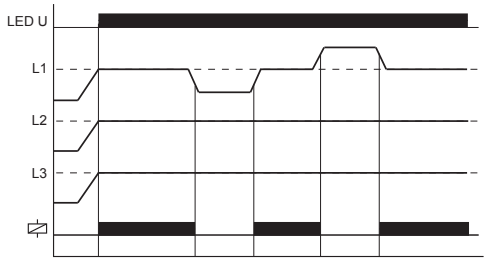
Phase sequence monitoring
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not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



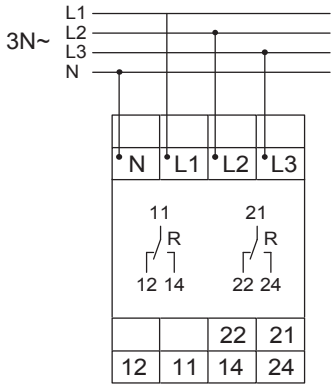
Phase failure monitoring
As soon as one of the three phases fails, the output relay R switches into off-position (yellow LED not illuminated).



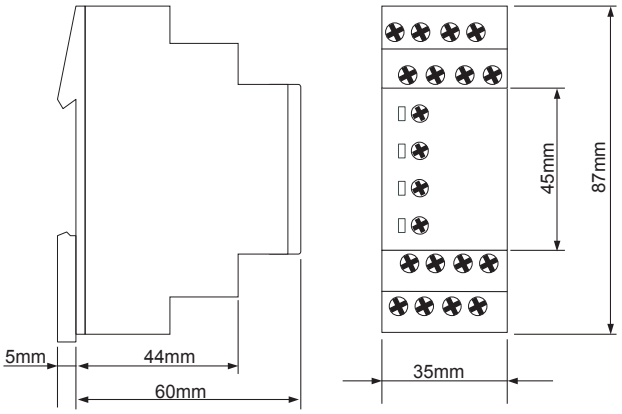
Asymmetry monitoring
The output relay R switches into off-position (yellow LED not illuminated) when the asymmetrie exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.



Connections



Dimensions



Ordering information

Type	Rated voltage U_N	Switching thresholds	Part. No.
E3PF400VSY02	3(N)~ 400/230V	Asymmetrie 5%...25%	1341300

RELEASE 2012/03

Subject to alterations and errors

Technik Braucht Kontrolle