

- ▶ Industrial design
- ▶ Width 45mm
- ▶ Voltage monitoring in 3-phase mains
- ▶ 1 change over contact



Technical data

1. Functions

Monitoring of phase sequence, phase failure and asymmetry with fixed asymmetry, connection of the neutral wire not required

2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	-

3. Indicators

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

Initial 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:		
3~ 115V	terminals L1-L2-L3 (= measuring voltage)	(TPF115VS4X)
3~ 230V	terminals L1-L2-L3 (= measuring voltage)	(TPF230VS4X)
3~ 400V	terminals L1-L2-L3 (= measuring voltage)	(TPF400VS4X)

Tolerance:		
3~ 115V	±15%	(TPF115VS4X)
3~ 230V	±15%	(TPF230VS4X)
3~ 400V	±15%	(TPF400VS4X)

Rated frequency: 48 to 63Hz

Rated consumption:		
3~ 115V	4VA (3W)	(TPF115VS4X)
3~ 230V	4VA (3W)	(TPF230VS4X)
3~ 400V	4VA (3W)	(TPF400VS4X)

Duration of operation: 100%

Reset time: 500ms

Residual ripple for DC: -

Drop-out voltage: >30% of the supply voltage

6. Output circuit

1 potential free change over contact
Switching capacity: 1250VA (5A / 250V AC)
Fusing: 5A fast acting
Mechanical life: 20 x 10⁶ operations
Electrical life: 1 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)

Insulation voltage: 250V AC (according to IEC 664-1)
Surge voltage: 4kV, overvoltage category III
(according to IEC 664-1)

7. Measuring circuit

Input: 3~ 115V	terminals L1-L2-L3 (= supply voltage)	(TPF115VS4X)
3~ 230V	terminals L1-L2-L3 (= supply voltage)	(TPF230VS4X)
3~ 400V	terminals L1-L2-L3 (= supply voltage)	(TPF400VS4X)

Overload capacity:		
3~ 115V	3~ 132V	(TPF115VS4X)
3~ 230V	3~ 264V	(TPF230VS4X)
3~ 400V	3~ 460V	(TPF400VS4X)

Input resistance: -
Asymmetry: fixed, appr. 10%

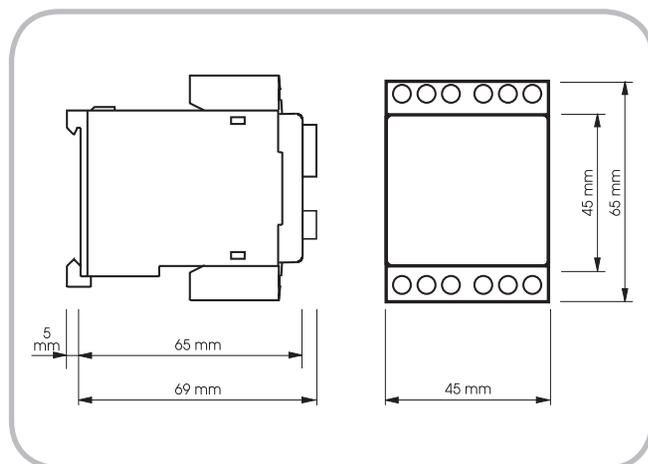
8. Accuracy

Base accuracy:	-
Adjustment accuracy:	-
Repeat accuracy:	-
Voltage influence:	-
Temperature influence:	-

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:	3 (according to IEC 664-1)

10. Dimensions



Functions

Monitoring of phase sequence, phase failure and asymmetry with fixed asymmetry, connection of the neutral wire not required

Phase sequence monitoring

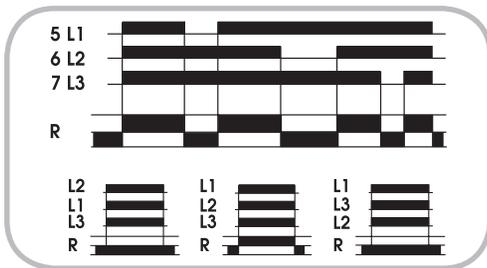
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not illuminated)

Phase failure monitoring

The output relay R switches into off-position (yellow LED not illuminated), when one of the three phases fails. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.

Asymmetry monitoring

The output relay R switches into off-position (yellow LED not illuminated) when one of the phase voltages deviates from the mean value of all the three phase voltages more than the fixed value for the asymmetry.



Connections

