Voltage monitoring in 3-phase mains

K3PF400VSY02

Monitoring relays - KAPPA series

Monitoring of phase sequence and phase failure

Monitoring of asymmetry

Optional connection of neutral wire

Supply voltage = measuring voltage

2 change over contacts

Plug-in housing

Width 38mm

Technical data

1. Functions
Voltage monitoring in 3-phase mains, monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetry and optional connection of neutral wire.

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 screw terminal socket 11-pols in accordance with IEC 60067-1-18a
Mounting position: any
Sockproof 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:	(= measuring voltage)
Pins:	(S10)-S5-S6-S7 / (N)-L1-L2-L3
Rated voltage UN:	see table ordering information or printing on the unit
Tolerance:	-30% to +30% of UN
Rated consumption:	9VA (2W)
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
2 potential free change over contacts

Rated voltage:	250V AC
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:	4kV

7. Measuring circuit

Measuring variable:	3(N)~, Sinus, 48 to 63Hz
Measuring input:	(= supply voltage)
Pins:	(S10)-S5-S6-S7 / (N)-L1-L2-L3
Overload capacity:	determined by tolerance specified for supply voltage
Input resistance:	-
Asymmetry:	5% ... 30%
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

8. Accuracy

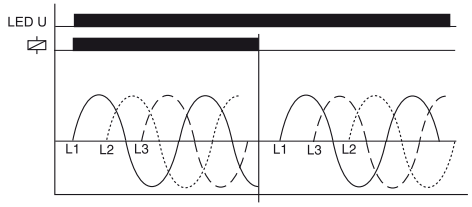
Base accuracy:	±5%
Adjustment accuracy:	≤5%
Repetition accuracy:	±2%
Voltage influence:	-
Temperature influence:	≤0.05% / °C

9. Ambient conditions

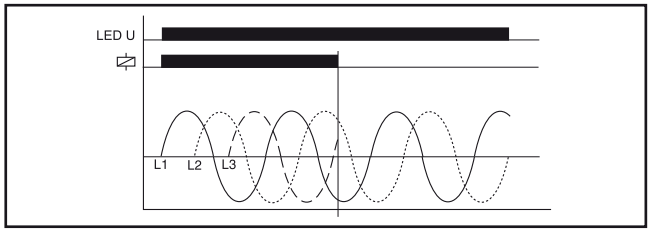
Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2, if built in 3 (in accordance with IEC 60664-1)

Functions

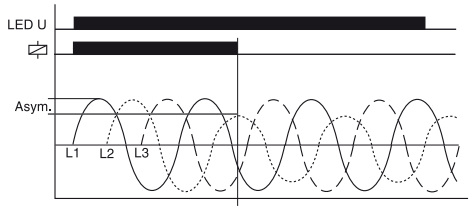
Phase sequence monitoring
When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not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



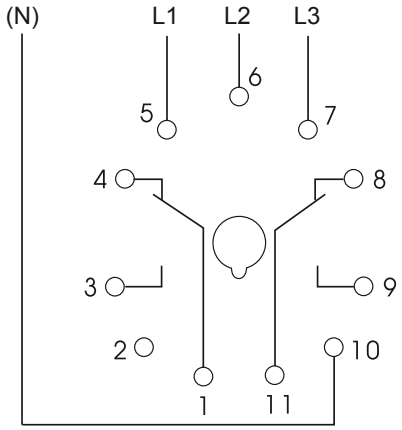
Phase failure monitoring
The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.



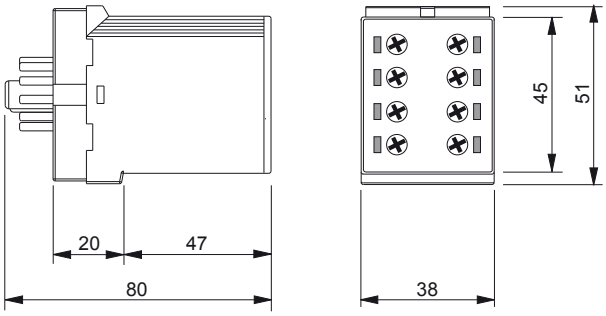
Asymmetry monitoring
The output relay R switches into off-position (yellow LED not illuminated) when the asymmetrie exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.



Connections



Dimensions



Ordering Informations

Types	Rated voltage U_N	Switching thresholds I_s	Part. No.
K3PF400VSY02	3(N)-400/230V	Asymmetrie: 5% ... 30%	1380301