

# KFE102/103/300/302

## Monitoring relays

- Voltage and current monitoring, Three-phase asymmetry monitoring
- Phase order, phase failure
- Three-phase voltage monitoring
- 230 VAC, 3 × 400 VAC 50/60 Hz

From left to right: KFE102, KFE300, KFE302



		KFE102	KFE103	KFE300	KFE302
Function	Voltage monitoring	•			
	Current monitoring		•		
	Monitors phase loss, order, asymmetry and under voltage			•	
	Three-phase voltage monitoring (AC)				•
	Memory function	•	•		•
Setting	Parameterizable, LCD display	•	•		
	Analogue			•	•
Output	1 relay (NO contact)				
	1 relay (change-over contact)	•	•	•	•
Operating voltage	230 VAC	•	•		
	3 × 400 VAC			•	•
Function control	LED display	•	•	•	•
Order no.		KFE102NE1N	KFE103NE1N	KFE300NE9N	KFE302NE9N

## Technical data

	KFE102 voltage monitoring	KFE103 current monitoring
Operating voltage (U <sub>N</sub> )	230 VAC, 50/60 Hz	230 VAC, 50/60 Hz
Tolerance	±15 %	±15 %
Duty cycle	100%	100%
Power consumption	4 VA	4 VA
Minimum response time	200 ms	200 ms
Max. Cable length for measuring input signal	50 m	50 m
Immunity against micro loss of operating voltage	Min. 200 ms	Min. 200 ms
Input measuring range	15...700 VDC 15...480 VAC	0.1 to 10 AAC or 0.1 to 600 AAC (through current converter)
Switching level	As programmed in maximum input range	As programmed in maximum input range
Programmable hysteresis	Max. 5 to 50% of the set value	Max. 5 to 50% of the set value
Time delay (t1)	0.1 to 12 s	0.1 to 12 s
Time delay inhibition (t2)	None	0.1 to 20 s
Error storage	With software programming	With software programming
Programming of parameters	Via two buttons	
Visual display of parameters	Via button	
Error display	1 red LED	
Output	1 relay output (change-over contact) 8 A, 250 VAC	
Switching capacity	U = 440 VAC, I <sub>th</sub> = 8 A, P = 200 VA 3 A/250 VAC (AC15), 3 A/440 VAC (AC14) or 1 A/24 VDC (DC13) in accordance with IEC60947-5-1	
EMC	Surge in accordance with IEC61000-4-5: 4 kV Burst in accordance with IEC61000-4-4: 2 kV ESD in accordance with IEC61000-4-2 for contact 8 kV in air 8 kV	
Protection class	Housing IP40, terminals IP20	
Ambient temperature	Operation (included) -20°C to +55°C Storage: -40°C to +70°C	
Mounting	Surface mounting: snap-on mounting on 35 mm rail according to EN60715TH35, or screw mounting by an adaptor and 2 screws (M4). Can be mounted in any position	
Connections	Screw terminals for 2 × 2.5 mm <sup>2</sup> (solid wire) or 2 × 1.5 mm <sup>2</sup> (multistrand with end sleeve). AWG 14...20. M3 screws for Pozidrive or Phillips no. 1 and slotted head no. 1 or no. 2.	

### KFE300 phase monitoring

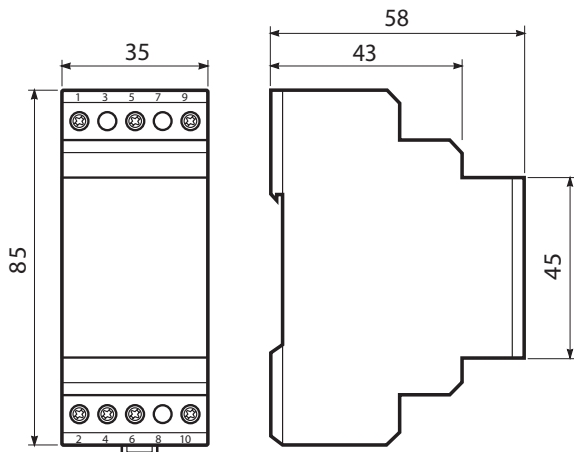
Operating voltage ( $U_N$ )	3 × 400 VAC, 0/60 Hz
Tolerance	+15% –20%
Duty cycle	100%
Power consumption	4 VA
Power supply Indicator	1 green LED
Monitoring level	Asymmetry by potentiometer: 5 to 20%, fixed over voltage $1,11 \times U_N$
Delay of the output signal	Fixed, T = 200 ms (idle state); fixed, T = 300 ms (operating state)
Error Indicator for phase	1 red LED
Error Indicator for asymmetry	1 orange LED
Output	1 relay output (change-over contact) 8 A, 250 VAC
Switching capacity	U = 440 VAC, I <sub>th</sub> = 8 A 3 A/250 VAC (AC15), 3 A/440 VAC (AC14) or 1 A/24 VDC (DC13) in accordance with IEC60947-5-1
EMC	Surge in accordance with IEC61000-4-5: 4 kV Burst in accordance with IEC61000-4-4: 2 kV ESD in accordance with IEC61000-4-2: for contact 8 kV in air 8 kV
Protection class	Housing IP40, terminals IP20
Ambient temperature	Operation –20°C to +55°C Storage: –40°C to +70°C
Mounting	Surface mounting: snap-on mounting on 35 mm rail according to EN60715TH35, or screw mounting by an adaptor and 2 screws (M4). Can be mounted in any position
Connections	Screw terminals for 2 × 2.5 mm <sup>2</sup> (solid wire) or 2 × 1.5 mm <sup>2</sup> (multistrand with end sleeve). AWG 14...20. M3 screws for Pozidrive or Phillips no. 1 and slotted head no. 1 or no. 2.

### KFE302 Three-phase energy monitoring

Operating voltage ( $U_N$ )	3 × 400 VAC, 50/60 Hz
AC setting range	+15% –20%
Duty cycle	100%
Power consumption	4 VA
Power supply Indicator	1 green LED
Monitoring level voltage	Adjustable by potentiometer, for under voltage 5% up to 20% $U_N$ for over voltage permanent $1.15 \times U_N$
Time range delay	Adjustable by potentiometer 0.1 s to 12 s
Error Indicator	1 red LED
Error storage	Can be selected by switch
Output	1 relay output (change-over contact) 8 A, 250 VAC
Switching capacity	U = 440 VAC, I <sub>th</sub> = 8 A 3 A/250 VAC (AC15), 3 A/440 VAC (AC14) or 1 A/24 VDC (DC13) in accordance with IEC60947-5-1
EMC	Surge in accordance with IEC61000-4-5: 4 kV Burst in accordance with IEC61000-4-4: 2 kV ESD in accordance with IEC61000-4-2: for contact 8 kV in air 8 kV
Protection class	Housing IP40, terminals IP20
Ambient temperature	Operation (included) –20°C to +55°C Storage: –40°C to +70°C
Mounting	Surface mounting: snap-on mounting on 35 mm rail according to EN60715TH35, or screw mounting by an adaptor and 2 screws (M4). Can be mounted in any position
Connections	Screw terminals for 2 × 2.5 mm <sup>2</sup> (solid wire) or 2 × 1.5 mm <sup>2</sup> (multistrand with end sleeve). AWG 14...20. M3 screws for Pozidrive or Phillips no. 1 and slotted head no. 1 or no. 2.

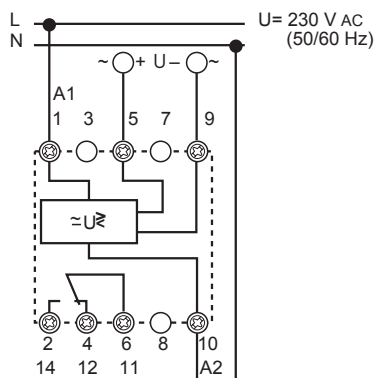
## Dimension diagrams

KFE102/103/300/302

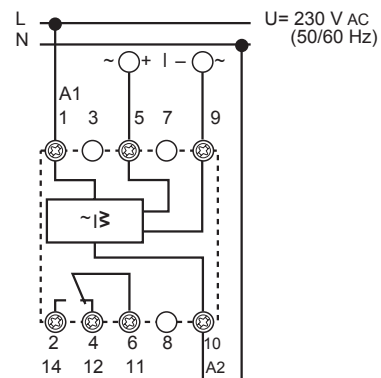


## Connection diagram

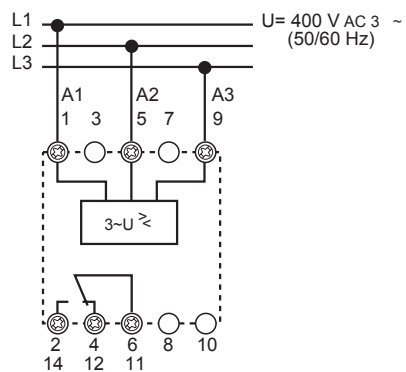
KFE102



KFE103



KFE300/302



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