VARIMETER
Overvoltage Relay, 3-phase
IK 9170, SK 9170

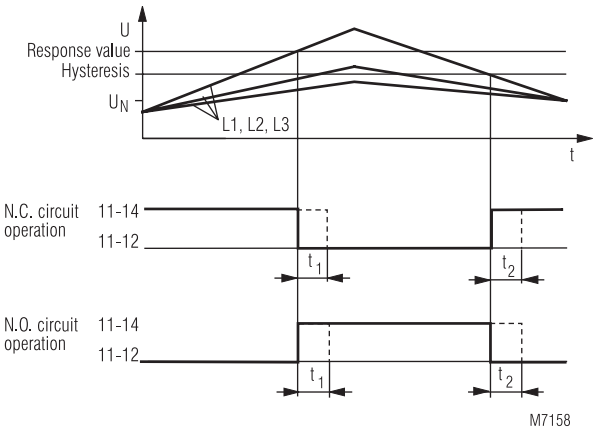
0223314


IK 9170

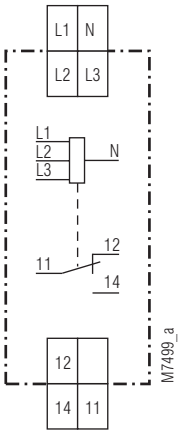

SK 9170

- According to IEC/EN 60 255, DIN VDE 0435-303
- Monitoring of overvoltage in 3-phase systems
- Also for single phase
- Without auxiliary supply
- Settable response value
- N.C. circuit operation (optionally N.O. circuit operation)
- Optionally with or without N
- Optionally with delay t1 on trip
- Optionally with delay t2 on reset
- LED indicator for state of output relay
- Indepenent of phase sequence
- 1 changeover contact
- Devices available in 2 enclosure versions:
  IK 9170: depth 59 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
  SK 9170: depth 98 mm, with terminals at the top for cabinets with mounting plate and cable duct
- Width 17.5 mm

Function Diagram



Circuit Diagram



IK 9170.11, SK 9170.11

Approvals and Markings

CE

Applications

Monitors overvoltage, in 3-phase voltage systems

Notes

The arithmetic mean value of each phase is measured against N. The variants without N measure L1 and L3 against L2.

Indicators

Yellow LED: output contact active (11-14 closed)

Technical Data

Input Circuit

Nominal voltage U_N:	3/N AC 400/230 V (with neutral) 3 AC 400 V (without neutral)
Voltage range:	0.7 ... 1.3 U_N
Max. overload:	1.35 U_N, continuously
Nominal consumption:	approx. 4 VA
Frequency range:	45 ... 65 Hz

Setting Ranges

Response value:	adjustable: 0.9 ... 1.3 U_N
Hysteresis:	approx. 4 % of setting value
Time delay t_1 / t_2:	0.5 ... 20 s

Output

Contacts		
IK 9170.11, SK 9170.11:	1 changeover contact	
Thermal current I_{th}:	4 A	
Switching capacity		
to AC 15		
NO contact:	3 A / AC 230 V	IEC/EN 60 947-5-1
NC contact:	1 A / AC 230 V	IEC/EN 60 947-5-1
Electrical contact life		IEC/EN 60 947-5-1
at AC 230 V, 1 A (cos φ = 0.5):	≥ 3 x 10^5 switching cycles	
Short circuit strength		
max. fuse rating:	4 A gL	IEC/EN 60 947-5-1
Mechanical life:	≥ 30 x 10^6 switching cycles	

Technical Data

General Data

Operating mode:	Continuous operation	
Temperature range:	- 20 ... + 60°C	
Clearance and creepage distances		
rated impulse voltage / pollution degree:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
HF irradiation		
80 MHz ... 1 GHz:	20 V / m	IEC/EN 61 000-4-3
1 GHz ... 2 GHz:	20 V / m	IEC/EN 61 000-4-3
2 GHz ... 2.7 GHz:	1 V / m	IEC/EN 61 000-4-3
Fast transients:	4 kV	IEC/EN 61 000-4-4
Surge voltages between		
wires for power supply:	1 kV	IEC/EN 61 000-4-5
between wire and ground:	2 kV	IEC/EN 61 000-4-5
Interference suppression:	Limit value class B	EN 55 011
Degree of protection		
Housing:	IP 40	IEC/EN 60 529
Terminals:	IP 20	IEC/EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94	
Vibration resistance:	Amplitude 0.35 mm, frequency 10 ... 55 Hz,	IEC/EN 60 068-2-6
Climate resistance:	20 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	2 x 2.5 mm² solid or 2 x 1.5 mm² stranded ferruled DIN 46 228-1/-2/-3/-4	
Wire fixing:	Flat terminals with self-lifting clamping piece	IEC/EN 60 999-1
Mounting:	DIN rail	IEC/EN 60 715
Weight		
IK 9170:	65 g	
SK 9170:	83 g	

Dimensions

Width x height x depth	
IK 9170:	17.5 x 90 x 59 mm
SK 9170:	17.5 x 90 x 98 mm

Standard Types

IK 9170.11 3/N AC 400/230V 50/60 Hz 0.9 ... 1.3 U_N
Article number: 0048645
SK 9170.11 3/N AC 400/230V 50/60Hz 0.9 ... 1.3 U_N
Article number: 0054743

- Adjustable response value: 0.9 ... 1.3 U_N
- Without time delay
- with N
- Closed circuit operation
- Output: 1 changeover contact
- Nominal voltage U_N: 3/N AC 400/230 V
- Width: 17.5 mm

Variants

IK 9170/001

- 0 N.C. circuit operation with N
- 1 N.C. circuit operation without N
- 2 N.O. circuit operation with N
- 3 N.O. circuit operation without N

- 0 without time delay
- 3 settable time delay t_1
- 4 settable time delay t_2

- 0 settable response value

Ordering example for variants

IK 9170 .11 /031 3 AC 400 V 0.9 ... 1.3 U_N 0.5 ... 20 s

- Time delay t_1
- Setting range
- Nominal voltage
- Variant, if required
- Contact
- Type