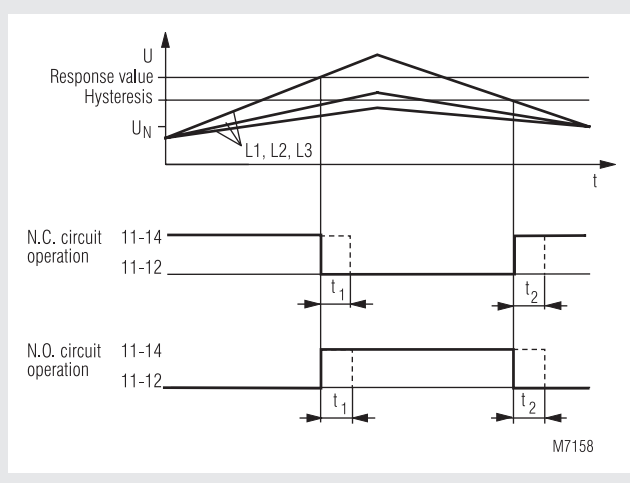


VARIMETER Overvoltage Relay IK 9170, SK 9170



- 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
- Independent 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



Approvals and Markings



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

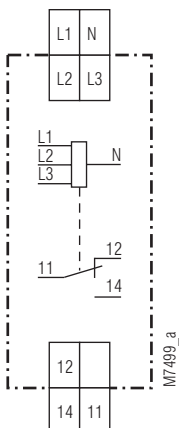
Response value: adjustable: 0.9 ... 1.3 U_N
Hysteresis: approx. 4 % of setting value
Time delay t_1 / t_2 : 0.5 ... 20 s

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
at AC 230 V, 1 A ($\cos \varphi = 0.5$): $\geq 3 \times 10^5$ switching cycles
Short circuit strength
max. fuse rating: 4 A gL IEC/EN 60 947-5-1
Mechanical life: $\geq 30 \times 10^6$ switching cycles

Circuit Diagram



IK 9170.11, SK 9170.11

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:	10 V / m	IEC/EN 61 000-4-3
Fast transients:	2 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 mm ² solid or 2 x 1.5 mm ² 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