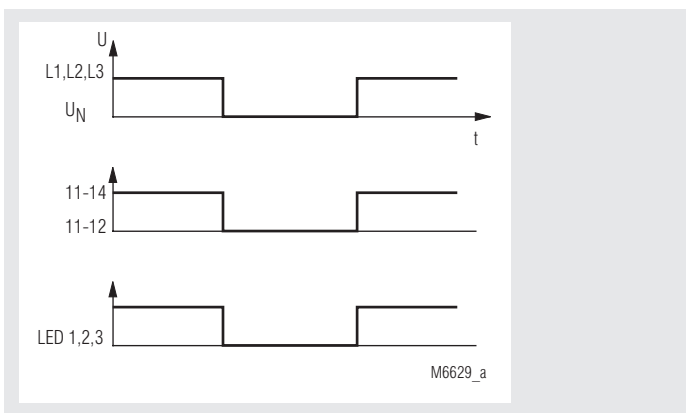


VARIMETER Phase Monitor IK 9169, RK 9169, SK 9169



- According to IEC/EN 60 255, DIN VDE 0435-303
- Detection of phase failure in 3-phase systems
- Single phase connection possible
- Closed circuit operation
- Independent of phase sequence
- LED indicator for each phase
- Output 1 changeover contact
- **Devices available in 2 enclosure versions:**
 - I- and R-versions, e.g. IK 9169 with depth 61 mm or RK 9169 with depth 71 mm with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43880
 - S-version, e.g. SK 9169: depth 100 mm, with terminals at the top for cabinets with mounting plate and cable duct
- Width 17.5 mm

Function Diagram



Approvals and Marking



Applications

Detection of phase failure in 3-phase systems

Indicators

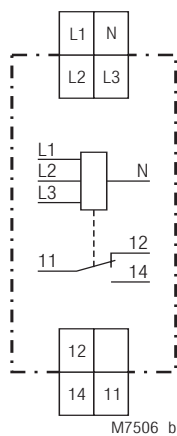
LED L1, L2, L3: on, when phase is present

Notes

On broken or disconnected neutral the LEDs are off although the 3 phases are present.

In this case measurement is necessary to prove that no voltage is present.

Circuit Diagram



IK 9169, RK 9169, SK 9169

Technical Data

Input

Nominal voltage U_N : 3/N AC 380 ... 415 / 220 ... 240 V
Voltage range: 0.8 ... 1.1 U_N
Nominal frequency: 50 / 60 Hz
Frequency range: 45 ... 65 Hz
Response value: 0.7 $U_N \pm 10\%$

Output

Contact

IK 9169, RK 9169, SK 9169: 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 life IEC/EN 60 947-5-1

to AC 15 at 1 A, AC 230 V: typ. 300 000 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

Technical Data

General Data

Operating mode:	Continuous operation	
Temperature range:	- 20 ... + 60°C	
Clearance and creepage distances		
rated impuls voltage / pollution degree		
(between L1-L2-L3-N):	4 kV / 2	IEC 60 664-1
input / output:	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:	2 kV	IEC/EN 61 000-4-5
between wire and ground:	4 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 9169:	60 g	
RK 9169:	75 g	
SK 9169:	80 g	

Dimensions

Width x height x depth

IK 9169:	17.5 x 90 x 59 mm
RK 9169:	17.5 x 90 x 71 mm
SK 9169:	17.5 x 90 x 98 mm

Standard Types

IK 9169.11	3/N AC 380 ... 415 / 220 ... 240 V	50/60 Hz
Article number:	0049177	
RK 9169.11	3/N AC 380 ... 415 / 220 ... 240 V	50/60 Hz
Article number:	0060316	
SK 9169.11	3/N AC 380 ... 415 / 220 ... 240 V	50/60Hz
Article number:	0054713	
• Output:	1 changeover contact	
• Nominal voltage U _N :	3/N AC 380 ... 415 / 220 ... 240 V	
• Width:	17.5 mm	