VARIMETER
Phase Monitor
IK 9169, RK 9169, SK 9169

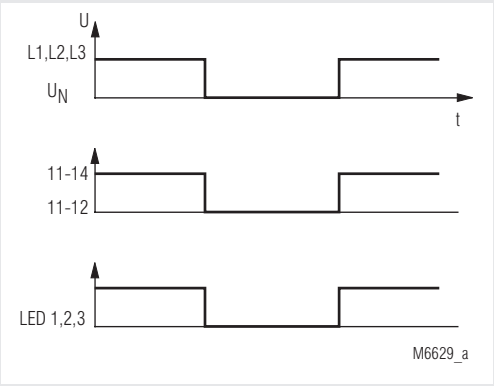
0225117



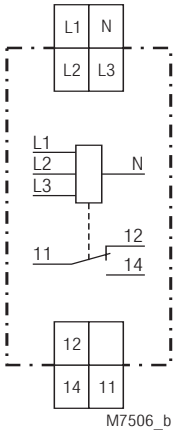
IK 9169 RK 9169 SK 9169

- According to IEC/EN 60 255-1
- 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 terminls 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



Circuit Diagram



IK 9169, RK 9169, SK 9169

Connection Terminals

Terminal designation	Signal designation
L1, L2, L3, N	Measuring input or. supply voltage
11, 12 ,14	Changeover contact

Approvals and Markings

CE

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.

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 ± 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:	≥ 30 x 10^6 switching cycles	

All technical data in this list relate to the state at the moment of edition. We reserve the right for technical improvements and changes at any time.

Technical Data

General Data

Operating mode:	Continuous operation	
Temperature range:		
Operation:	- 20 ... + 60°C	
Storage:	- 25 ... + 60°C	
Altitude:	< 2.000 m	
Clearance and creepage distances		
rated impulse 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		
80 MHz ... 2.7 GHz:	10 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:	2 kV	IEC/EN 61 000-4-5
between wire and ground:	4 kV	IEC/EN 61 000-4-5
HF wire guided:	10 V	IEC/EN 61 000-4-6
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

The 1 MHz slow damped oscillator test according to IEC/EN 60255-1 has not been made.

Climate resistance:	20 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	DIN 46 228-1/-2/-3/-4	
IK 9169, SK 9169		
Cross section:	2 x 0,6 ... 2,5 mm² solid or 2 x 0,28 ... 1,5 mm² stranded wire with and without ferrules	
Stripping length:	10 mm	
Leiterbefestigung:	Plus-Minus-terminal screws M3,5 with self-lifting clamping piece	
RK 9169		
Cross section:	0,5 ... 10 mm² solid or 0,5 ... 6 mm² mm² stranded wire with and without ferrules	
Stripping length:	10 mm	
Wire fixing:	Captive slotted screw / M3,5	
Fixing torque:	0.8 Nm	
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