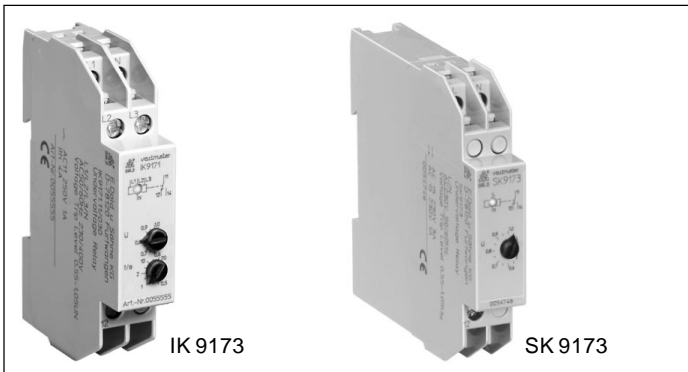


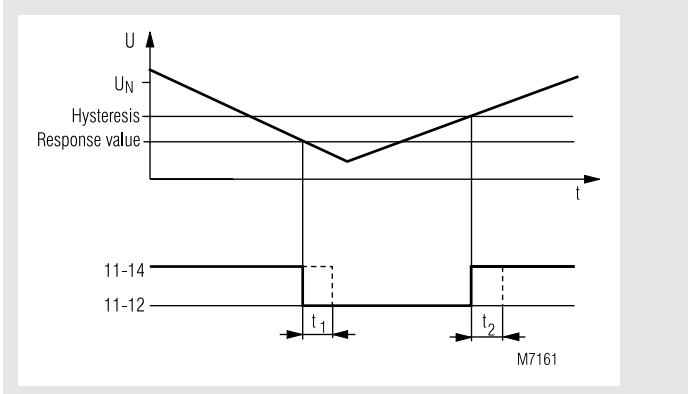
Undervoltage relay IK 9173, SK 9173 varimeter

0223316

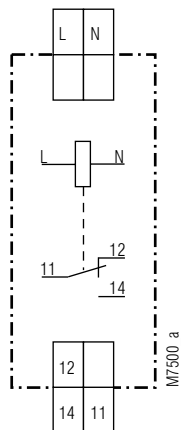


- According to IEC 255, EN 60 255, VDE 0435 part 303
- **Devices available in 2 enclosure versions:**
 - IK 9173:** depth 59 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
 - SK 9173:** depth 98 mm, with terminals at the top for cabinets with mounting plate and cable duct
- Monitoring of undervoltage
- Without auxiliary supply
- Optionally fixed or settable response value
- N.C. circuit operation
- Optionally with off-delay t_1
- Optionally with on-delay t_2
- LED indicator for state of output relay
- 1 changeover contact
- Width 17,5 mm

Function diagram

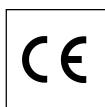


Circuit diagram



IK 9173.11, SK 9173.11

Approvals and marking



Applications

Monitoring of voltage systems on undervoltage. Automatic switching to emergency supply or of emergency light in the case of phase loss.

Variants with t_2 is used in unstable voltage systems, where after phase failure detection the consumers should be energized one after the other. This is done by setting the operate delay of the different relays to different values.

This variant is also used where a consumer after only short phase failure should not be started immediately (e.g. compressors).

Function

The arithmetic mean value of the voltage L-N is measured.

Indication

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

Notes

The time delay for the models with delay t_1 is only active as long as the phase voltage L-N is above $0,5 U_N$.

Technical data

Input circuit

Nominal voltage U_N : AC 24, 42, 110, 230 V
DC 24 V
Max. overload: $1,15 U_N$ continuously
Nominal consumption: approx. 6 VA
Frequency range: 45 ... 65 Hz

Setting ranges

Response value: fixed: 0,7 or $0,85 U_N$
adjustable: $0,55 \dots 1,05 U_N$
($0,7 \dots 1,0 U_N$ at DC 24 V)
approx. 4 % of setting value
Hysteresis: approx. 4 % of setting value
Time delay t_1 / t_2 : 0,5 ... 20 s
Reaction time of the measuring input at phase failure: approx. 100 ms

Technical data

Output

Contacts

IK 9173.11, SK 9173.11: 1 changeover contact

Thermal current I_{th} : 4 A

Switching capacity

to AC 15:

NO contact: 3 A / AC 230 V EN 60 947-5-1

NC contact: 1 A / AC 230 V EN 60 947-5-1

Electrical life EN 60 947-5-1

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 EN 60 947-5-1

Mechanical life: $\geq 30 \times 10^6$ switching cycles

General data

Operating mode: Continuous operation

Temperature range: - 20 ... + 60 °C

Clearance and creepage distances

overvoltage category/
contamination level: 4 kV / 2 IEC 60 664-1

EMC

Electrostatic discharge: 8 kV (air) EN 61 000-4-2

HF irradiation: 10 V / m EN 61 000-4-3

Fast transients: 2 kV EN 61 000-4-4

Surge voltages

between

wires for power supply: 1 kV EN 61 000-4-5

between wire and ground: 2 kV EN 61 000-4-5

Interference suppression: Limit value class B EN 55 011

Degree of protection: Housing: IP 40 EN 60 529

Terminals: IP 20 EN 60 529

Housing: Thermoplastic with V0 behaviour according to UL subject 94

Vibration resistance: Amplitude 0,35 mm, frequency 10 ... 55 Hz, EN 60 068-2-6

20 / 060 / 04 EN 60 068-1

Climate resistance: EN 50 005

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

Wire fixing: Flat terminals with self-lifting clamping piece EN 60 999

Mounting: DIN rail EN 50 022

Weight

IK 9173: 65 g

SK 9173: 83 g

Dimensions

Width x height x depth

IK 9173: 17,5 x 90 x 59 mm

SK 9173: 17,5 x 90 x 98 mm

Standard type

IK 9173.11/200, AC 230 V, 0,7 U_N

Article number: 0049812

SK 9173.11/200, AC 230 V, 0,7 U_N

Article number: 0054746

• Detection of undervoltage at $< 0,7 U_N$

• Fixed response value

• Without time delay

• Output: 1 changeover contact

• Nominal voltage U_N : AC 230 V

• Width: 17,5 mm

Variants

IK 9173/000

0 NC circuit operation

0 without time delay

3 settable time delay t_1

4 settable time delay t_2

0 settable response value

2 fixed response value

Ordering example for Variants

IK 9173 .11 / - - - AC 230 V 50/60 Hz 0,55 ... 1,05 U_N 0,5 ... 20 s

Time delay t_2
Response value
Nominal frequency
Nominal voltage
Variant, if required
Contacts
Type