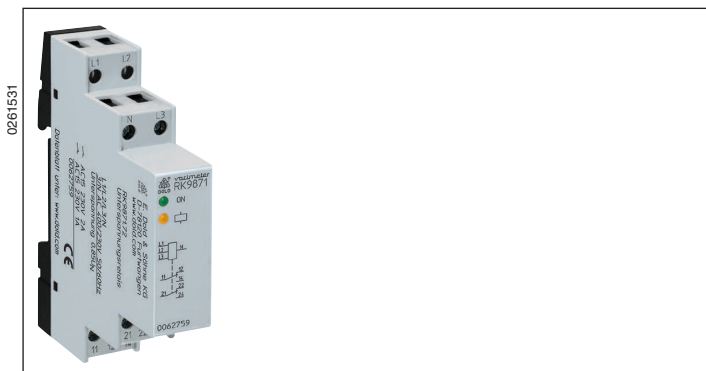


VARIMETER Undervoltage Relay RK 9871



0261531

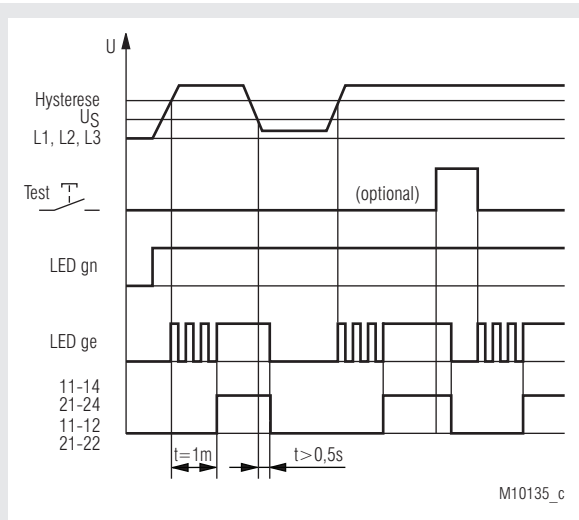
Your Advantages

- Higher safety in buildings

Features

- According to IEC/EN 60255-1
- For installations according to DIN VDE 0100-718 and DIN VDE 0108-100 (replacement of DIN VDE 0108)
- Detection of undervoltage in 3-phase systems
- Without separately auxiliary voltage (internal supply from all 3 phases)
- LED indication for für operation voltage and contact position
- De-energised on trip
- RK 9871.71: 1 changeover contact
- RK 9871.72: 2 changeover contacts
- With fixed time delay of 0.5s for fault indication
- With fixed time delay of 1min for reset
- With fixed response value at AC 195.5V
- As option with test-button for function control
- Width 17,5 mm

Function Diagramm



Approvals and Markings



Application

Monitoring of undervoltage in 3 phase voltage systems and switch over to emergency supply

For installations according to

- DIN VDE 0108-100 (emergency lightings)
- VDE 0100-718 (locations for a larger number of people)

Function

When connecting the measuring voltage to the measuring inputs L1-L2-L3 at healthy voltage the output relay switches on after the voltage is healthy for at least 1 min.

During this time delay of 1 min the yellow led flashes. After detection of an undervoltage on one or several phases for at least 0.5 sec the output relay de-energises.

The undervoltage relay measures the arithmetic mean value of each of the three phases against neutral.

To measure single-phase voltage terminals L1, L2, L3 have to be linked together.

If a feed back voltage is generated by the load, that is higher then the setting value U_s , the unit will not detect phase failure.

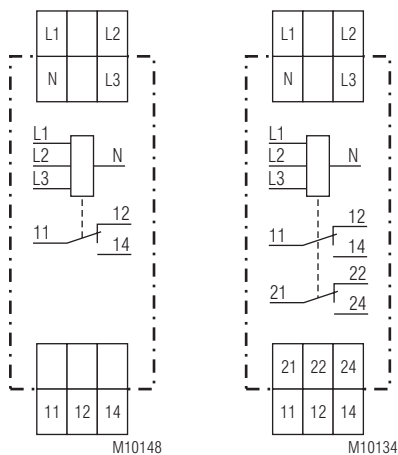
Indication

LED green:	on, when supply connected
LED yellow:	on, when the output relay is energized
LED yellow:	flashes during 1min reset delay time

Safety Notes

- Never clear a fault when the device is switched on.
- The user must ensure that the device and the necessary components are mounted and connected according to the locally applicable regulations and technical standards.
- Adjustments may only be carried out by instructed specialist staff, while the applicable safety rules must be observed.

Circuit Diagrams



RK 9871.71

RK 9871.72

Technical Data

Input

Measuring voltage =
supply voltage

Nominal voltage U_N :	3/N AC 400/230V
Max. overload:	$1.15U_N$ continuous
Nominal consumption:	ca. 6 VA
Nominal frequency:	50 / 60Hz
Measuring frequency range:	45 ... 65 Hz
Response value:	195.5V fixed
Hysteresis:	approx. 5%
Overvoltage category:	III (according to IEC 60664-1)
Accuracy:	$\pm 5\%$
Repeat accuracy:	$< 2\%$
Temperature influence:	$< 1\%$

Output

Contacts

RK 9871.71:	1 changeover contact
RK 9871.72:	2 changeover contacts
Thermal current I_{th} :	4 A
Switching capacity to AC 15:	
NO contact:	2 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 to AC 15 at 1 A, AC 230 V:	1 x 10^6 switching cycles IEC/EN 60 947-5-1
Short circuit strength max. fuse rating:	4 A gL IEC/EN 60 947-5-1
Mechanical life:	1 x 20^6 switching cycles

General Data

Nominal operating mode:	continuous operation
Temperature range:	
operation:	- 25 ... + 55°C
storage:	- 25 ... + 70°C
Clearance and creepage distance	
rated impulse voltage / pollution degree:	4 kV / 2 IEC 60 664-1
EMC	
Electrostatic discharge (ESD):	8 kV (air) IEC/EN 61 000-4-2
Fast transients:	2 kV IEC/EN 61 000-4-4
Surge voltage 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
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 acc. to UL subject 94
Vibration resistance:	Amplitude 0.35 mm, Frequency 10 ... 55 Hz, IEC/EN 60 068-2-6 25 / 060 / 04 IEC/EN 60 068-1
Climate resistance:	
Terminal designation:	EN 50 005
Wire connection:	1 x 4 mm ² solid or 1 x 2,5 mm ² stranded wire with sleeve DIN 46 228-1/-2/-3/-4
Wire fixing:	Plus-minus terminal screws M3,5 box terminals with wire protection
Mounting:	DIN-rail IEC/EN 60 715
Weight:	approx. 70 g

Dimensions

Width x height x depth:	17.5 x 90 x 66 mm
-------------------------	-------------------

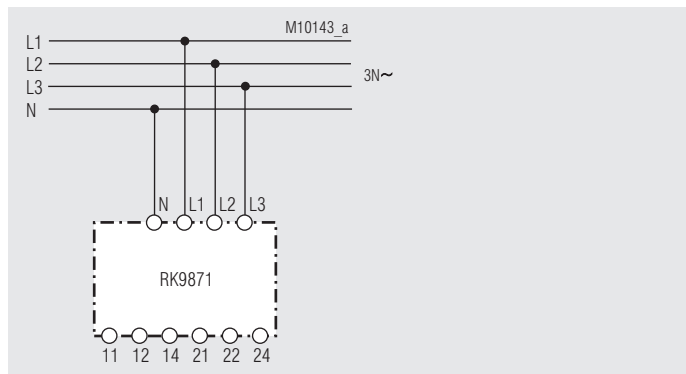
Standard Type

RK 9871.72 3/N AC 400/230V 50 / 60 Hz	
Article number:	0062759
• Output:	2 changeover contact
• Nominal voltage U_N :	3/N AC 400/230V
• Width:	17.5 mm

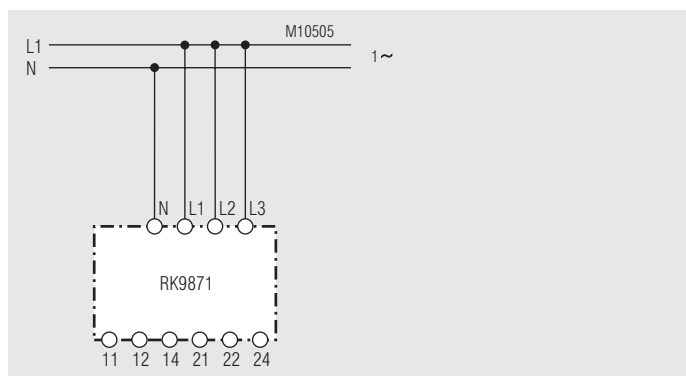
Variant

RK 9871.72/100:	with test-button for simulation of undervoltage
-----------------	--

Connection Examples



3-phase



1-phase