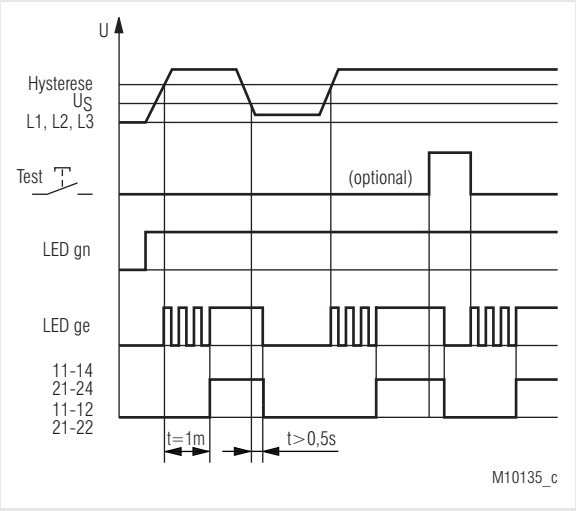
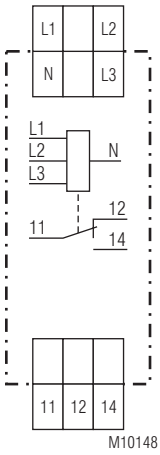
VARIMETER
Undervoltage Relay
RK 9871

0261531

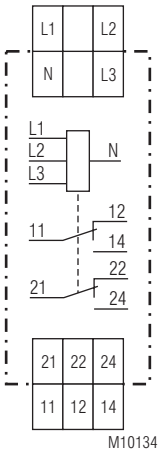
Function Diagramm



Circuit Diagrams



RK 9871.71



RK 9871.72

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

Approvals and Markings

CE

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.

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:	± 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 10^5 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
Climate resistance:	25 / 060 /04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	1 x 4 mm² solid or 1 x 2,5 mm² 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

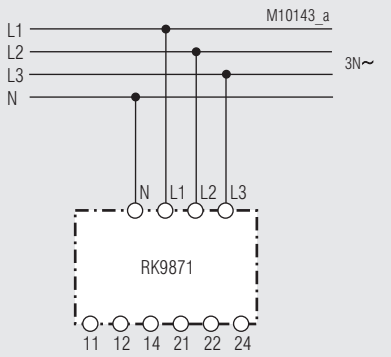
RK 9871.72 3/N AC 400/230V 50 / 60 Hz

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

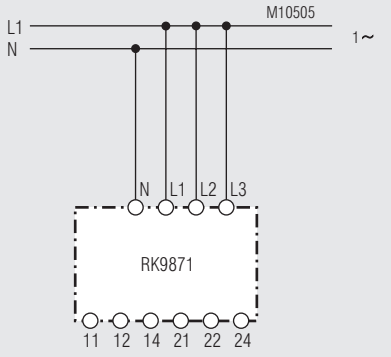
Variant

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

Connection Examples



3-phase



1-phase