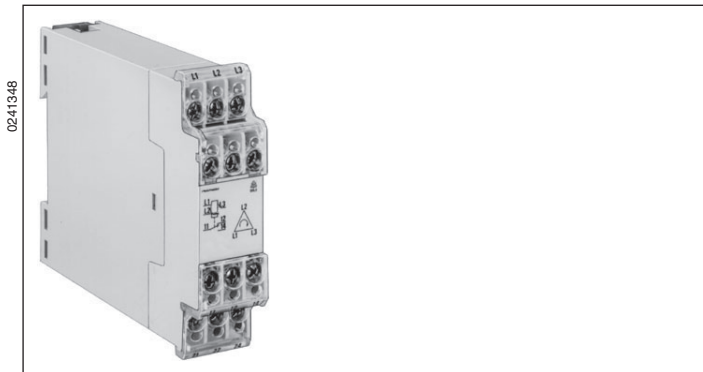


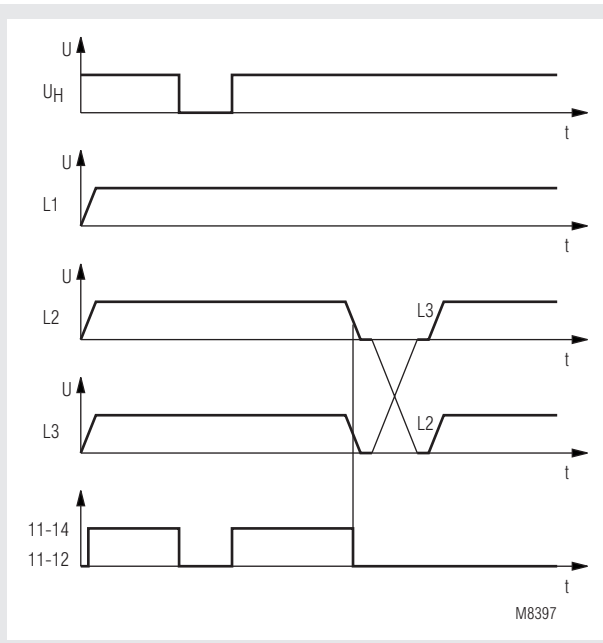
VARIMETER Phase Sequence Relay MK 9059

Translation
of the original instructions

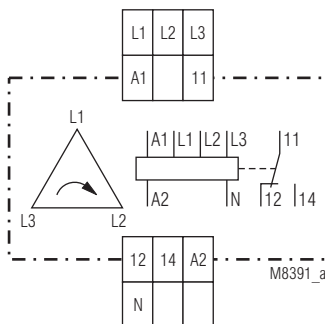


- According to IEC/EN 60255, DIN VDE 0435-303
- Detection of wrong phase sequence
- Detection of phase failure (with N-connection)
- Suitable for voltage systems with:
 - 3 AC 100 ... 750 V
 - 15 ... 150 Hz
- With auxiliary voltage
- With 1 changeover contact
- Width 22.5 mm

Function Diagram



Circuit Diagram



MK 9059.11

Approvals and Markings



Applications

The MK 9059 detects wrong phase sequence in 3-phase systems.

Notes

The unit can be connected with or without neutral. If the neutral is connected, the unit also detects failure (below approx. 50 V_{eff} between phase and neutral).

Technical Data

Input

Nominal voltage U_N: 3 AC 150 ... 750 V
Voltage range: 0.9 ... 1.1 U_N
Nominal frequency of U_N: 15 ... 150 Hz
Nominal consumption: Approx. 2 W

Auxiliary Circuit

Auxiliary voltage U_H: AC/DC 24 V
Voltage range of U_H: 0.9 ... 1.1 U_N
Nominal frequency of U_H: 50 / 60 Hz
Nominal consumption: < 1 VA

Output

Contact

MK 9059.11: 1 changeover contact

Operate / release delay: < 100 / 50 ms

Thermal current I_{th}: 5 A

Switching capacity

To AC 15:

NO contact: 3 A / AC 230 V IEC/EN 60947-5-1

NC contact: 1 A / AC 230 V IEC/EN 60947-5-1

Short circuit strength

Max. fuse rating: 4 A gG / gL IEC/EN 60947-5-1

Mechanical life: > 20 x 10⁶ switching cycles

Technical Data

General Data

Operating mode:	Continuous operation	
Temperature range:	- 20 ... + 60°C	
Clearance and creepage distances		
Rated impulse voltage / pollution degree:	4 kV / 2	IEC 60664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61000-4-2
HF-irradiation:	10 V / m	IEC/EN 61000-4-3
Fast transients:	2 kV	IEC/EN 61000-4-4
Surge voltages		
Between wires for 24 V power supply wire and ground:	1 kV	IEC/EN 61000-4-5
Between wires for power supply:	2 kV	IEC/EN 61000-4-5
Between wire and ground:	4 kV	IEC/EN 61000-4-5
Interference suppression:	Limit value class B	EN 55011
Degree of protection		
Housing:	IP 40	IEC/EN 60529
Terminals:	IP 20	IEC/EN 60529
Housing:	Thermoplastic with V0-behaviour according to UL subject 94	
Vibration resistance:	Amplitude 0.35 mm, frequency 10 ... 55 Hz, IEC/EN 60068-2-6 20 / 060 / 04 IEC/EN 60068-1	
Climate resistance:	EN 50005	
Terminal designation:	EN 50005	
Wire connection:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² stranded wire with sleeve DIN 46228-1/-2/-3/-4	
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60999-1	
Mounting:	DIN rail IEC/EN 60715	
Weight:	140 g	

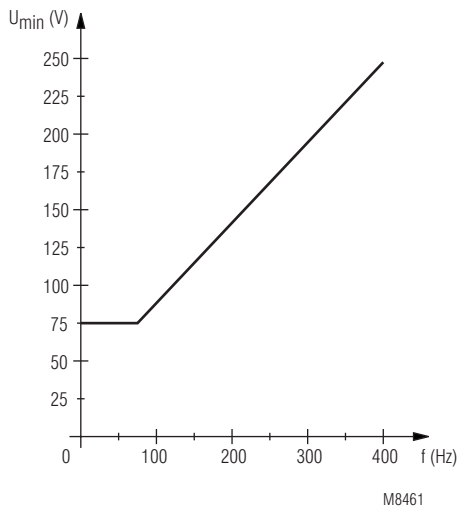
Dimensions

Width x height x depth: 22.5 x 82 x 99 mm

Standard Type

MK 9059.11 AC 150 ... 750 V	AC/DC 24 V
Article number:	0035833
• Output:	1 changeover contact
• Nominal voltage U_N :	AC 150 ... 750 V
• Auxiliary voltage U_H :	AC/DC 24 V
• Width:	22.5 mm

Characteristic



Min. required phase voltage U_{\min} depending on frequency f .