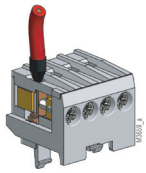


VARIMETER Phase Sequence Relay MK 9056, MK 9056N

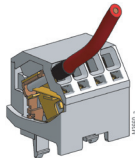


- According to IEC/EN 60 255, DIN VDE 0435-303
- Detection of wrong phase sequence
- 2 changeover contacts
- Wire connection: also 2 x 1.5 mm² stranded ferruled, or 2 x 2.5 mm² solid DIN 46 228-1/-2/-3/-4
- MK 9056N as option with pluggable terminal blocks for easy exchange of devices
 - with screw terminals
 - or with cage clamp terminals
- Width 22.5 mm

Options with Pluggable Terminal Blocks



Screw terminal
(PS/plugin screw)



Cage clamp
(PC/plugin cage clamp)

Approvals and Marking



* see variants; ¹⁾ only MK 9056N

Applications

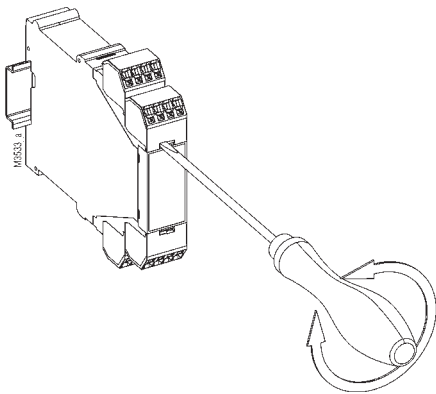
The MK 9056 and the MK 9056N detects wrong phase sequence in 3-phase systems.

To monitor phase failure it is more suitable to use an Asymmetry relay e.g. MK 9040N.

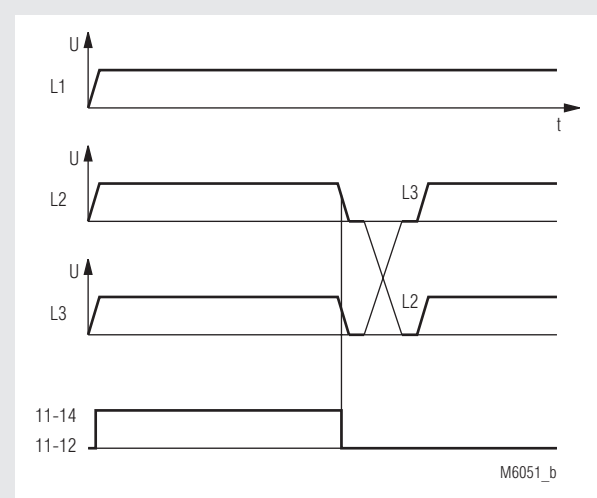
Notes

Removing the terminal blocks with cage clamp terminals

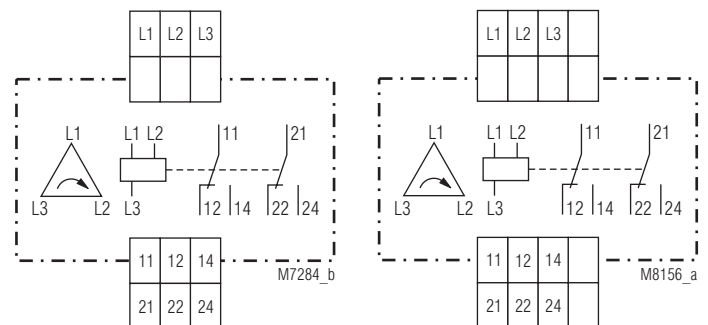
1. The unit has to be disconnected.
2. Insert a screwdriver in the side recess of the front plate.
3. Turn the screwdriver to the right and left.
4. Please note that the terminal blocks have to be mounted on the belonging plug in terminations.



Function Diagram



Circuit Diagram



MK 9056.12

MK 9056N.12

Technical Data

Input

Nominal voltage U_N:	3 AC 42 ... 60 V, 100 ... 127 V 3 AC 230 ... 240, 380 ... 500 V
Voltage range:	0.9 ... 1.1 U_N
Nominal frequency of U_N:	50 / 60 Hz
Nominal consumption:	approx. 2 W

Output

Contact	MK 9056.12, MK 9056N.12: 2 changeover contacts	
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 60 947-5-1
NC contact:	1 A / AC 230 V	IEC/EN 60 947-5-1
to DC 13		
NO contact:	1 A / DC 24 V	IEC/EN 60 947-5-1
NC contact:	1 A / DC 24 V	IEC/EN 60 947-5-1
Short circuit strength		
max. fuse rating:	4 A gL	IEC/EN 60 947-5-1
Mechanical life:	> 20 x 10 ⁶ switching cycles	

General Data

Operating mode:	Continuous operation	
Temperature range:	- 20 ... + 60°C	
Clearance and creepage distances		
rated impuls voltage / pollution degree:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
HF irradiation:	10 V / m	IEC/EN 61 000-4-3
Fast transients:	2 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
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	
Climate resistance:	20 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection	DIN 46 228-1/-2/-3/-4	
Screw terminals (integrated):	1 x 4 mm ² solid or 1 x 2.5 mm ² stranded ferruled or 2 x 1.5 mm ² stranded ferruled or 2 x 2.5 mm ² solid	
Insulation of wires or sleeve length:	8 mm	
Plug in with screw terminals		
max. cross section for connection:	1 x 2.5 mm ² solid or 1 x 2.5 mm ² stranded ferruled	
Insulation of wires or sleeve length:	8 mm	
Plug in with cage clamp terminals		
max. cross section for connection:	1 x 4 mm ² solid or 1 x 2.5 mm ² stranded ferruled	
min. cross section for connection:	0.5 mm ²	
Insulation of wires or sleeve length:	12 ±0.5 mm	

Technical Data

Wire fixing:	Plus-minus terminal screws M 3.5 box terminals with wire protection or cage clamp terminals	
Mounting:	DIN rail	IEC/EN 60 715
Weight:	140 g	

Dimensions

Width x height x depth:		
MK 9056:	22.5 x 82 x 99 mm	
MK 9056N:	22.5 x 90 x 97 mm	
MK 9056N PC:	22.5 x 111 x 97 mm	
MK 9056N PS:	22.5 x 104 x 97 mm	

Standard Types

MK 9056.12 AC 380 ... 50 V	50 / 60 Hz	
Article number:	0028411	stock item
• Output:	2 changeover contacts	
• Nominal voltage U_N :	AC 380 ... 500 V	
• Width:	22.5 mm	
MK 9056N.12 AC 380 ... 500 V	50 / 60 Hz	
Article number:	0054183	stock item
• Output:	2 changeover contacts	
• Nominal voltage U_N :	AC 380 ... 500 V	
• Width:	22.5 mm	

Variants

MK 9056.12/60:	with CSA approval
MK 9056.12/61:	with UL approval

Ordering example for variant

MK 9056N.12	/	3 AC 380 ... 500 V	50 / 60 Hz
			Nominal frequency
			Nominal voltage
			Variant, if required
			Type of terminals
			without indication:
			terminal blocks fixed with screw terminals
			PC (plug in cageclamp): pluggable terminal blocks with cage clamp terminals
			PS (plug in screw): pluggable terminal blocks with screw terminals
			Contacts
			Type