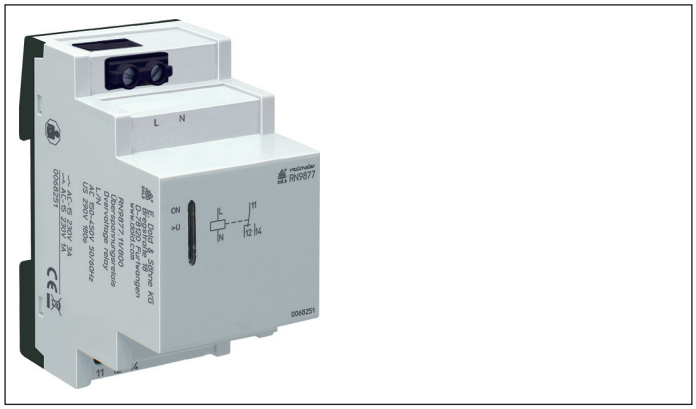
VARIMETER PRO
Overvoltage relay
RN 9877/800

Translation of the original instructions

0277921



Your Advantages
- Preventive maintenance
- For better productivity
- High repeat accuracy

Features
- According to IEC/EN 60255-1
- For monitoring of AC single-phase with 50 / 60 Hz
- Detection of overvoltage
- No separate auxiliary necessary
- Output: 1 changeover contact
- Energized on trip
- Fixed response value AC 290V
- Fixed release delay 180 s
- Fast fault detection
- Width: 52.5 mm

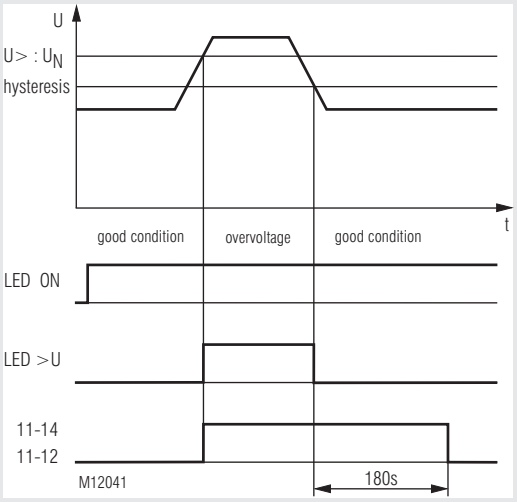
Product Description

The overvoltage relay RN 9877/800 of the VARIMETER PRO series monitor overvoltage in a AC network. The measurement is very simple and without extensive wiring as there is no auxiliary power supply necessary. The early detection of up-coming break downs and preventive maintenance avoid expensive damages. As user you profit from the reliability and availability of your plant.

Approvals and Markings

CE

Function diagram



Application

- Monitoring of alternating current networks to identify overvoltage
- Changeover to emergency supply after failure detection

Functions

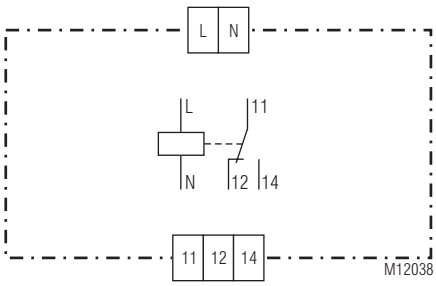
When the voltage goes over the setpoint of AC 290 V it is indicated on the overvoltage LED. At the same time the output relay energises. Reset takes place with approx. 6 % Hysteresis, the LED goes off immediately and the output relay de-energises after a fixed release delay of 180 s.

The output relay operates at energized on trip i.e. in case of good condition the relay de-energized whereas in fault condition it is energized.

Indicator

Green LED „ON“:	On, when supply connected
Red LED „>U“:	On, when overvoltage

Circuit Diagram



Notes

During initialisation the relay recognises automatic the mains frequency (50 Hz or 60 Hz).

Connection Terminals

Terminal designation	Signal description
L	Phase voltage
N	Neutral
11, 12, 14	Changeover contact (outputrelays)

Technical Data

Input

Operating voltage U_B:	AC 150 ... 450 V	
Voltage rated operating U_e:	AC 176 ... 410 V	
Nominal frequency:	50 / 60 Hz	
Frequency range:	45 … 65 Hz	
Nominal consumption:	Approx. 7 VA	

Output

Contact:	1 changeover contact	
Contact material:	AgNi	
Switching voltage:	AC 250 V	
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
Electrical life		
Electrical life		
To AC 15 at 1 A, AC 230 V:	Typ. 3 x 10^5 switching cyles	
Short circuit strength		IEC/EN 60947-5-1
Max. fuse rating:	5 A gG / gL	
Mechanical life:	> 30 x 10^6 switching cyles	

Measuring circuit

Measuring voltage:	AC 150 ... 450 V
Switching threshold:	AC 290 V
Hysteresis:	Approx. 6 %
Release delay:	180 s
Repeat accuracy:	± 2 %
Temperature influence:	± 1 %

General Data

Operating mode:	Continuous operation	
Temperature range		
Operation:	- 20 ... + 55 °C	
Storage:	- 25 ... + 65 °C	
Relative air humidity:	93 % at 40 °C	
Altitude:	< 2000 m	
Clearance and creepage distances		
Rated impuls voltage/ Pollution degree:	6 kV / 2	IEC 60664-1
EMC		
Electrostatic discharge (ESD):	8 kV (air)	IEC/EN 61000-4-2
HF irradiation		
80 MHz ... 1 GHz:	12 V / m	IEC/EN 61000-4-3
1 GHz ... 2,7 GHz:	10 V / m	IEC/EN 61000-4-3
Fast transients:	2 kV	IEC/EN 61000-4-4
Surge voltage		
Between		
wires for power supply:	2 kV	IEC/EN 61000-4-5
Between wire and ground:	4 kV	IEC/EN 61000-4-5
HF wire guided:	10 V	IEC/EN 61000-4-6
Interference suppression:	Limit value class B	EN 55011
Degree of protection:		
Housing:	IP 40	IEC/EN 60529
Terminals:	IP 20	IEC/EN 60529
Enclosure:	Thermoplastic with V0 behaviour acc. to UL subject 94	
Vibration resistance:	Amplitude 0.35 mm	
	Class I	IEC/EN 60255-21
Climate resistance:	20 / 055 / 04	IEC/EN 60068-1
Terminal designation:	EN 50005	

Technical Data

Wire connection:		DIN 46228-1/-2/-3/-4
Fixed screw terminals (11, 12, 14)		
Cross section:	0.2 ... 4 mm² (AWG 24 - 12) solid or 0.2 ... 2.5 mm² (AWG 24 - 12) stranded wire with and without ferrules	
Stripping length:	7 mm	
Fixing torque:	0.6 Nm	EN 60999-1
Wire fixing:	Captive slotted screw / M2.5	
Fixed High-voltage terminals (L, N)		
Cross section:	0.2 ... 6 mm² (AWG 24 - 10) massiv oder 0.2 ... 4 mm² (AWG 24 - 10) stranded wire without ferrules 0.25 ... 4 mm² (AWG 24 - 10) stranded wire with ferrules	
Stripping length:	8 mm	
Fixing torque:	0.7 Nm	EN 60999-1
Wire fixing:	Captive slotted screw / M3	
Mounting:	DIN rail	IEC/EN 60715
Weight:	Approx. 125 g	

Dimensions

Width x height x depth:	52.5 x 90 x 71 mm

Standard Type

RN 9877.11/800 AC 150 ... 450 V Us 290 V 180 s

Article number:	0068251
• Output:	1 changeover contact
• Measuring voltage:	AC 150 ... 450 V
• Switching threshold:	AC 290 V
• Release delay:	180 s
• Width:	52.5 mm

Connection Example