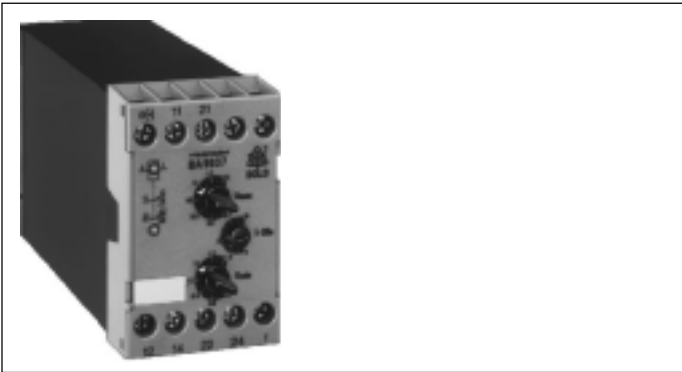


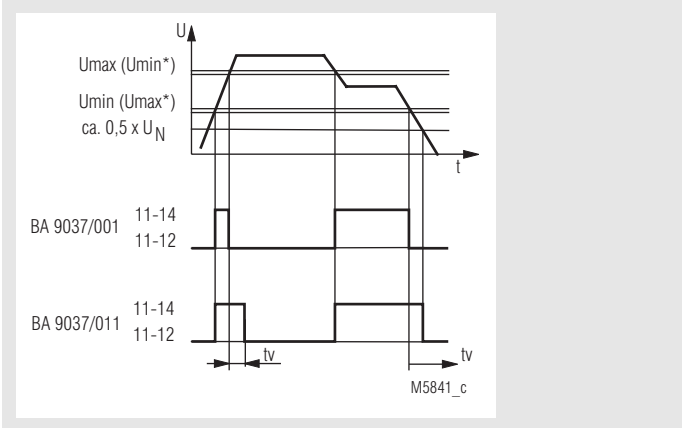
Voltage relay BA 9037 varimeter

0225113



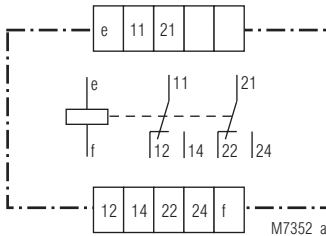
- According to IEC 255, EN 30 255, VDE 0435 part 303
- Single phase
- Measuring ranges from 24 to 660 V
- Response and release value adjustable independent of each other
- Under- and overvoltage detection
- Without auxiliary supply
- Large setting range
- With time delay
- Closed circuit operation
- Insensitive to harmonics
- LED indicators for operation and state of contacts
- Width 45 mm

Function diagram



* U_{min} and U_{max} can also be exchanged. The hysteresis of the setting values is $< 4\%$ of the response value

Circuit diagram



BA 9037.12

Approvals and marking



Applications

Under- and overvoltage detection in AC or DC voltage systems

Indicators

upper LED: on, when voltage connected
lower LED: on, when output contact activated

Technical data

Input

Nominal voltage U_N : DC 24, 42, 60 V (protected against wrong polarity). These units are calibrated for DC voltage. When AC voltage is connected the setting has an offset of 11 %.
AC 110, 127, 230, 240, 400, 660 V

Measuring ranges: 0,7 ... 1,3 U_N

Voltage range: 0,6 ... 1,4 U_N

Nominal consumption:

DC 24 V 1 W
AC 24 V 2 VA
AC 230 V 5 VA
AC 500 V 10 VA

Nominal frequency: 50 / 60 Hz

Frequency range: $\pm 5\%$

Temperature influence: $< 0,05\% / K$

Setting ranges

Response value:

U_{min} infinite 0,7 ... 1,3 U_N
 U_{max} infinite 0,7 ... 1,3 U_N

Hysteresis: at U_{min} bzw. $U_{max} < 0,96$

Setting accuracy: $< \pm 5\%$

Repeat accuracy: $< \pm 0,5\%$

Output

Contacts

BA 9037.12: 2 changeover contacts

Release delay:

24 V < 20 ms
220 V < 150 ms
500 V < 150 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

Electrical life

to AC 15 at 3 A, AC 230 V:

5 x 10^5 switching cycles

Permissible switching frequency:

6000 switching cycles / h

Technical data

Short circuit strength

max. fuse rating: 4 AgL IEC/EN 60 947-5-1
Mechanical life: > 30 x 10⁶ switching cycles

General data

Operating mode: Continuous operation
Temperature range: - 20 ... + 60°C

Clearance and creepage distances

overvoltage category /
contamination level: 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: 1 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 IEC/EN 60 068-2-6
frequency 10 ... 55 Hz

Climate resistance: 20 / 060 / 04 IEC/EN 60 068-1

Terminal designation: EN 50 005

Wire connection: 2 x 2,5 mm² solid or
2 x 1,5 mm² stranded wire with sleeve
DIN 46 228-1/-2/-3/-4

Wire fixing: Flat terminals with self-lifting
clamping piece IEC/EN 60 999-1

Mounting: DIN rail IEC/EN 60 715

Weight: 240 g

Dimensions

Width x height x depth: 45 x 73 x 132 mm

Standard type

BA 9037.12/001 AC / DC 24 V

Article number: 0030758 stock item

- without time delay
- Output: 2 changeover contacts
- Nominal voltage U_N : AC / DC 24 V
- Width: 45 mm

Variant

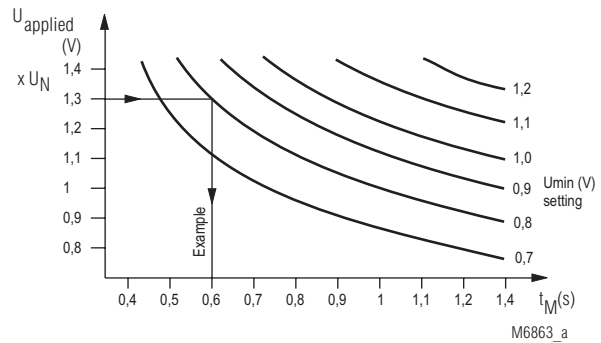
BA 9037.--/011: adjustable time delay t_v 1 ... 20 sec.
If the voltage drops below 0,5 U_N the
time delay is inactive, and the contacts
fall back immediately.

Ordering example for variant

BA 9037 .12 / _ _ AC 230 V 50 / 60 Hz

_____ Nominal frequency
_____ Nominal voltage
_____ Variant, if required
_____ Contact
_____ Type

Characteristics



Operate delay t_M :

The diagram shows the relation of the operate delay to the applied measuring voltage U_{applied} and the setting of U_{min} , when the voltage is switched on. A slow voltage change reduces the delay.