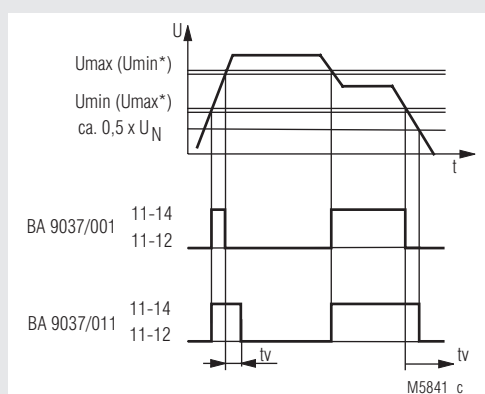


VARIMETER Voltage Relay BA 9037



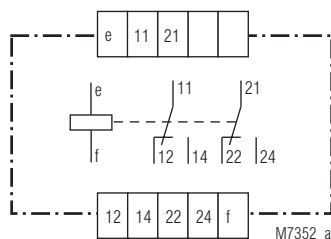
- According to IEC 255, EN 30 255, VDE 0435 part 303
- Single phase
- Measuring ranges from 24 to 660 V
- Response and release value adjustable independent of each other
- Under- and overvoltage detection
- Without auxiliary supply
- Large setting range
- With time delay
- Closed circuit operation
-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

Measuring ranges:

Voltage range:

Nominal consumption:

0.7 ... 1.3 U_N
0.6 ... 1.4 U_N

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

Nominal frequency:

Frequency range:

Temperature influence:

50 / 60 Hz

$\pm 5 \%$

$< 0.05 \%$ / K

Setting Ranges

Response value:

U_{min} infinite 0.7 ... 1.3 U_N

U_{max} infinite 0.7 ... 1.3 U_N

Hysteresis:

Setting accuracy:

Repeat accuracy:

at U_{min} bzw. $U_{max} < 0.96$

$< \pm 5 \%$

$< \pm 0.5 \%$

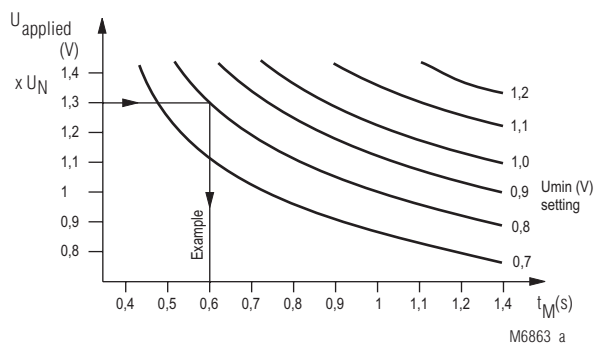
Technical Data	
Output	
Contacts	
BA 9037.12:	2 changeover contacts
Release delay:	24 V < 20 ms 220 V < 150 ms 500 V < 150 ms
Thermal current I_{th}:	5 A
Switching capacity	
to AC 15	
NO contact:	3 A / AC 230 V IEC/EN 60 947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60 947-5-1
Electrical life	IEC/EN 60 947-5-1
to AC 15 at 3 A, AC 230 V:	5 x 10 ⁵ switching cycles
Permissible switching frequency:	6000 switching cycles / h
Short circuit strength	
max. fuse rating:	4 AgL IEC/EN 60 947-5-1
Mechanical life:	> 30 x 10 ⁶ switching cycles
General Data	
Operating mode:	Continuous operation
Temperature range:	- 40 ... + 70°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:	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 mm ² solid or 2 x 1.5 mm ² 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.