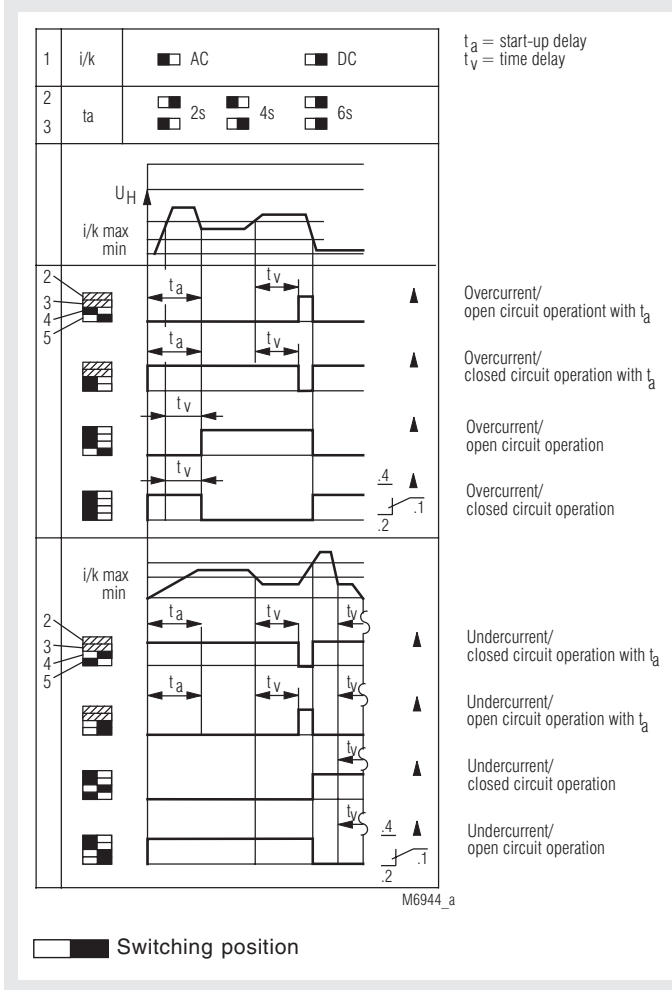


Current relay BA 9063, EB 9063 varimeter



- According to IEC 255, EN 60 255, VDE 0435 part 303
- Single phase
- Programmable with DIP-switches on relay front
 - over- / undercurrent relay
 - closed / open circuit operation
 - with / without start-up delay
 - AC / DC measurement
- With LCD-display for actual value and contact position
- Measuring ranges from 1 mA to 15 A
- Time delay t_v adjustable on relative scale
- Start-up delay t_a settable by DIP-switches
- 2 changeover contacts
- BA 9063: width 45 mm
- EB 9063: frontside 48 x 48 mm

Function diagram



Approvals and marking



Applications

Monitoring current in AC or DC systems

Function

The BA 9063 needs an auxiliary voltage. Using a switch, the display can be changed from actual value to response or release value. With the display switched to response or release value these values can be set accurately by multiturn potentiometers on the front of the unit. On AC setting the rectified meanvalue is measured. Superimposed DC current is filtered. The relays are adjusted so that they show the r.m.s. value with a sinusoidal input signal. On DC setting DC current and superimposed AC current is measured. The measuring input is not polarised. The display always shows a positive value.

Indicators

Display: shows actual value and contact position
the maximum value to be displayed is 1999. If the signal exceeds this value the figure 1 indicates overflow

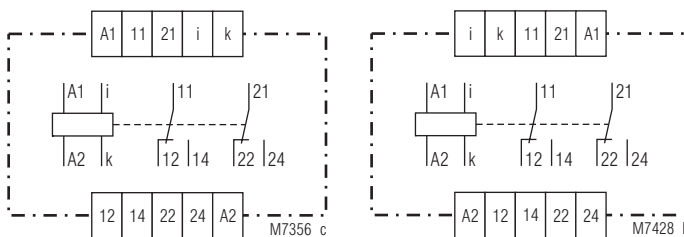
Operating instructions

Example:
Measuring range 0,4 ... 10,0 A:
The lower setpoint is adjustable between 0,4 ... 10,0 A.
If 0,4 is selected as lower setpoint, the upper value can be set to 0,6 ... 5,4 A. If the lower setpoint is 10 A. The upper can be adjusted to 10,2 ... 15 A. The display can show the max. value of 19,99 A. The max. continuous input current is 15 A (BA) or 10 A (EB).

- Setting of response and release value
- Move switch to min. The display shows the lower setpoint
- Adjust the lower setpoint with potentiometer min.
- Move switch to max. The display shows the upper setpoint
- Adjust the upper setpoint with potentiometer max.
- Move switch to "Operate" to show the actual value

If the potentiometer min. is turned, also the upper setpoint is moved by the same value. The hysteresis remains constant when turning potentiometer min.

Circuit diagrams



BA 9063

EB 9063

Technical data			
Input			
Measuring * range	internal resistance	max. current 100 %	max. current 3 s on 100 s off
1,00 ... 19,99 mA	1,5 Ω	0,7 A	1 A
4,00 ... 100,0 mA	0,15 Ω	2 A	5 A
20 ... 500 mA	35 mΩ	5 A	15 A
0,04 ... 1,00 A	35 mΩ	5 A	15 A
0,20 ... 5,00 A	5 mΩ	15 A BA 9063 10 A EB 9063	40 A BA 9063 20 A EB 9063
0,40 ... 10,00 A	5 mΩ	15 A BA 9063 10 A EB 9063	40 A BA 9063 20 A EB 9063
*DC or AC current 40 ... 400 Hz			

Setting range

Setting:

lower setting value: adjustable within the measuring range
upper setting value: lowers setting value + Hysteresis

Display range:

1999 digits
"Δ" for contact position
figure "1" on display

Overflow display:

Influence of aux. voltage: < 0,1 % at 0,8 ... 1,1 U_N

Accuracy:

± 0,5 % + 4 digits

Temperature influence:

< 0,05 % / K

Switching delay t_v:

infinite variable 0 ... 10 s

Start-up delay t_a:

0, 2, 4, 6 s settable with DIP-switches

Hysteresis:

2 ... 50 % of max. setting value

Auxiliary circuit

Auxiliary voltage U_H:

AC 24, 42, 48, 110, 127, 230 V
AC/DC 24 ... 60 V, 110 ... 230 V

Voltage range:

0,8 ... 1,1 U_H

Nominal consumption:

approx. 2,5 VA

Nominal frequency:

50 / 60 Hz

Frequency range:

± 5 %

Output

Contacts

BA 9063.12: 2 changeover contacts

Thermal current I_{th}:

see continuous current limit curve

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

BA 9063:

2 x 10⁵ switching cycles

EB 9063:

8 x 10⁵ switching cycles

Permissible switching

frequency:

6 000 switching cycles / h

Mechanical life

BA 9063:

≥ 50 x 10⁶ switching cycles

EB 9063:

30 x 10⁶ switching cycles

General data

Operating mode:

Continuous operation

Temperature range:

0 ... 50°C

Clearance and creepage distances

rated impuls voltage /

pollution degree:

4 kV / 2 IEC 60 664-1

EMC

Electrostatic discharge:

4 kV (contact dis.) 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

Technical data	
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
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 DIN rail IEC/EN 60 715
Mounting:	
Weight:	
BA 9063:	300 g
EB 9063:	250 g
Dimensions	
Width x height x depth	
BA 9063:	45 x 73 x 132 mm
EB 9063:	48 x 48 x 100 mm
Panel cut-out	
EB 9063:	45 ^{+0,6} x 45 ^{+0,6} mm
Standard type	
BA 9063.12	0,2 ... 5,0 A AC 230 V
Article number:	0039244
• Measuring range:	0,2 ... 5,0 A
• Auxiliary voltage U _H :	AC 230 V
• Width:	45 mm
EB 9063.12	0,2 ... 5,0 A AC 230 V
Article number:	0039256
• Measuring range:	0,2 ... 5,0 A
• Auxiliary voltage U _H :	AC 230 V
• Frontside:	48 x 48 mm
Ordering example	
BA 9063 .12 0,40 ... 10,00 A AC 230 V 50 / 60 Hz	
	Nominal frequency
	Auxiliary voltage
	Measuring range
	Contacts
	Type
Variante	
EB 9063.12/100:	Version for current transformer (measuring range on request) Example: Measuring range 1,0 ... 50 A possible adjusting of setpoint from 2 ... 50 A

Dimensions

Width x height x depth

BA 9063: 45 x 73 x 132 mm

EB 9063: 48 x 48 x 100 mm

Panel cut-out

EB 9063: 45^{+0,6} x 45^{+0,6} mm

Standard type

BA 9063.12 0,2 ... 5,0 A AC 230 V

Article number: 0039244

• Measuring range: 0,2 ... 5,0 A

• Auxiliary voltage U_H: AC 230 V

• Width: 45 mm

EB 9063.12 0,2 ... 5,0 A AC 230 V

Article number: 0039256

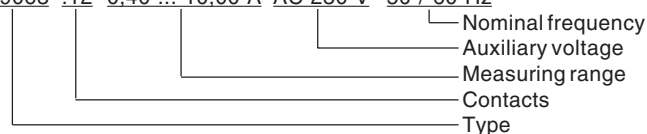
• Measuring range: 0,2 ... 5,0 A

• Auxiliary voltage U_H: AC 230 V

• Frontside: 48 x 48 mm

Ordering example

BA 9063 .12 0,40 ... 10,00 A AC 230 V 50 / 60 Hz

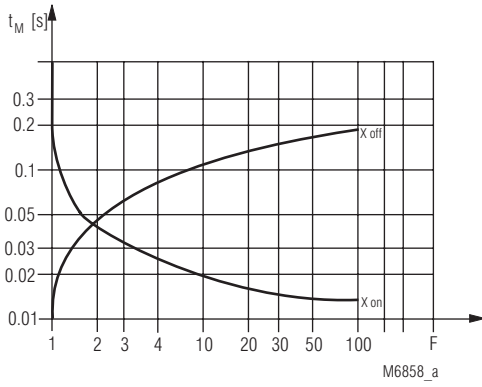


Variante

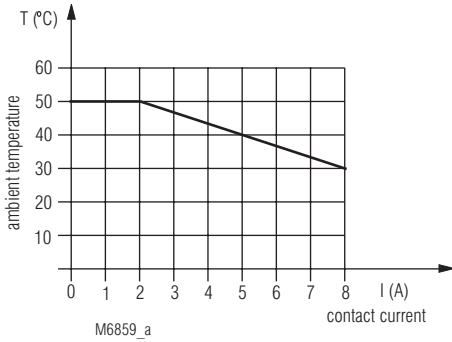
EB 9063.12/100: Version for current transformer (measuring range on request)
Example: Measuring range 1,0 ... 50 A possible adjusting of setpoint from 2 ... 50 A

The display shows the current measured in the current transformer.

Characteristics

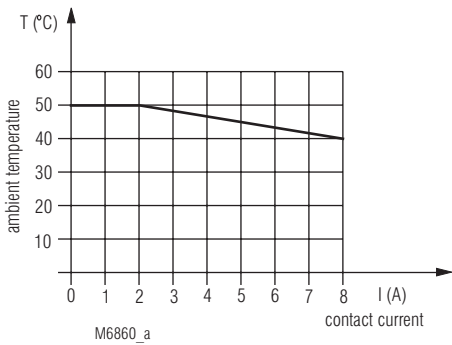


Reaction time t_M
 $F = U(I) \text{ applied} / U(I) \text{ setting}$



Continuous current limit curve for BA 9063

Permissible ambient temperature depending on contact current with units mounted without distance



Continuous current limit curve for EB 9063

