

Time control technique

Timer BA 7962, AA 9962¹⁾, MK 9962,
long time release delay

minitimer

¹⁾ only for replacement



022 7978



BA 7962



AA 9962



MK 9962

- According to IEC/EN 61 812-1
- Time delay up to 100 h
- Repeat accuracy $\leq \pm 1 \%$
- With auxiliary voltage (Nominal voltage U_N)
- MK 9962 with dual voltage supply
- Control by voltage free contact
MK 9962 optionally control by supply voltage
- 2 LED displays for control and contact position
- BA 7962, AA 9962: 1 or 2 changeover contacts
MK 9962: 2 changeover contacts
- BA 7962, AA 9962: width 45 mm
MK 9962: width 22,5 mm

Approvals and marking



* see variants

Applications

Time-dependent controllers

Indication

upper LED: on when control contact closed
lower LED: on when output relay energised

Technical data

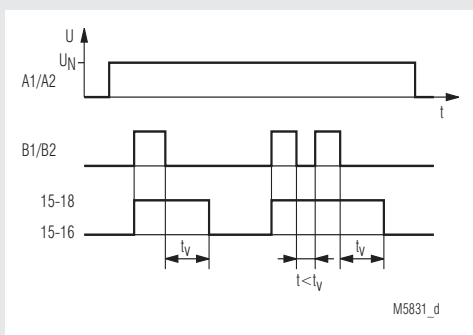
Time circuit

Time ranges:

0,05 ... 1 s	0,5 ... 10 min.	0,15 ... 3 h
0,15 ... 3 s	1,5 ... 30 min.	0,5 ... 10 h
0,5 ... 10 s	3 ... 60 min.	1,5 ... 30 h
1,5 ... 30 s		5 ... 100 h
5 ... 100 s		
15 ... 300 s		

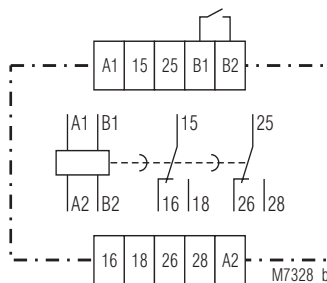
Time setting: stepless on absolute scale
Min. switch-on time: 20 ms
Repeat accuracy: $\leq \pm 1 \%$ of set value
Voltage influence: $\leq \pm 0,5 \%$
Temperature influence: $< \pm 0,1 \%$ / K

Function diagram

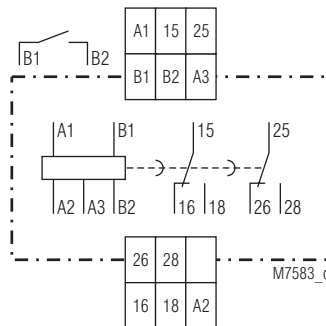


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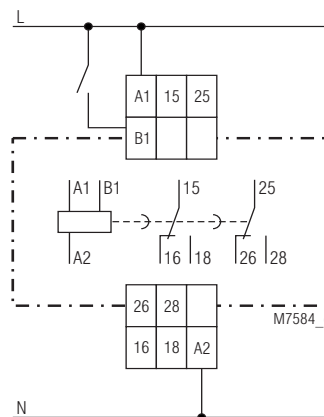
Circuit diagrams



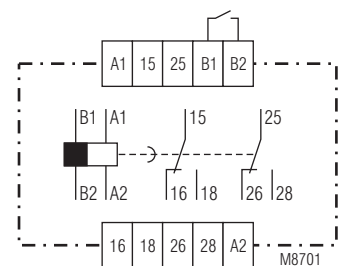
BA 7962.82, AA 9962.82



MK 9962



MK 9962.82/020



BA 7962.82/200
with guided contacts

Technical data	
Input	
Nominal voltage U_N:	
BA 7962, AA 9962:	AC 24, 42, 110, 127, 230, 240 V DC 24, 48, 60, 110, 220, 240 V
MK 9962:	AC/DC 24 V ¹⁾ + AC 110 ... 127 V ²⁾ AC/DC 24 V ¹⁾ + AC 220 ... 240 V ²⁾ AC/DC 24 V ¹⁾ + AC/DC 42 V ²⁾
	¹⁾ at terminals A3 - A2 ²⁾ at terminals A1 - A2
Voltage range:	0,8 ... 1,1 U_N at AC
Nominal power consumption:	
BA 7962, AA 9962:	AC 3,5 VA DC 24 V 1 W DC 48 V 2 W DC 60 V 2 W DC 110 V 2 W DC 220 V 3 W DC 240 V 3 W
MK 9962:	AC 24 V 0,8 VA AC 42 V 1,8 VA AC 110 V 3,5 VA AC 230 V 7 VA AC 240 V 8 VA DC 24 V 0,8 W DC 42 V 1,8 W
Nominal frequency:	50 / 60 Hz
Frequency range	$\pm 5\% f_N$

Output

Contacts

BA 7962.81, AA 9962.81: 1 delayed changeover contact

BA 7962.82, AA 9962.82,

MK 9962: 2 delayed changeover contacts

Thermal current I_{th} : 5 A

Switching capacity
to AC 15

NC contact: 1 A / AC 230 V IEC/EN 60 947-5-1

NO contact: 3 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:

BA 7962.81, AA 9962.81: 2,5 x 10⁵ switching cycles

BA 7962.82, AA 9962.82: 0,5 x 10⁵ switching cycles

MK 9962: 5 x 10⁵ switching cycles

Permissible operating frequency: 6 000 switching cycles / h

Short circuit strength

max. fuse rating: 6 A gL IEC/EN 60 947-5-1

Mechanical life: 30 x 10⁶ switching cycles

General data

Operating mode: Continuous operation

Temperature range

BA 7962, AA 9962 (AC),

MK 9962: - 20 ... + 60°C

BA 7962, AA 9962 (DC): - 20 ... + 50°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

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...55Hz IEC/EN 60 068-2-6

Technical data	
Climate resistance:	20 / 060 / 04 IEC/EN 60 068-1
Terminal arrangement:	DIN 46 199-5
Terminal designation:	EN 50 005
Wire connection:	
BA 7962, AA 9962:	2 x 2,5 mm ² solid or 2 x 1,5 mm ² stranded wire with sleeve
MK 9962:	2 x 1,5 mm ² solid or 2 x 1,0 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 7962, AA 9962 (AC):	240 g
BA 7962, AA 9962 (DC):	150 g
MK 9962:	180 g

Dimensions

Width x height x depth:

BA 7962: 45 x 73 x 133 mm

AA 9962: 45 x 77 x 127 mm

MK 9962: 22,5 x 82 x 99 mm

Standard type

MK 9962 AC/DC 24 V + AC 220 ... 240 V 15 ... 300 s

Article number: 0044937 stock item

- Output: 2 changeover contacts
- Nominal voltage U_N : AC/DC 24 V + AC 220 ... 240 V
- Time range: 15 ... 300 s
- Width: 22,5 mm

Variants

MK 9962/60: with CSA-approval

MK 9962/61: with UL-approval

MK 9962.82/020: control by supply voltage,
single voltage model

BA 7962.82/200: AC/DC 24 V, AC 220 ... 240 V

2 guided changeover contacts delayed

Ordering example for variants

MK 9962 .82 / _ _ _ AC 220 ... 240 V 50 / 60 Hz 300 s



Accessories

ET 4752-143: Marking plate for MK 9962