

# Time Control Technique

## MINITIMER

Timer, Release Delay

BA 7962, AA 9962<sup>1)</sup>, MK 9962

<sup>1)</sup> Only for replacement



- 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

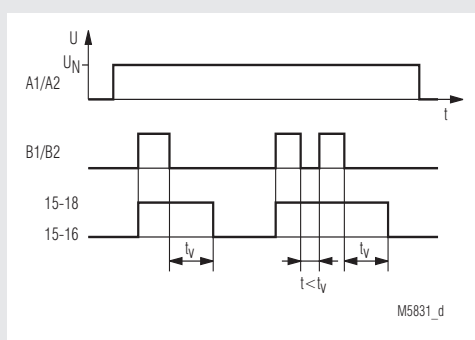
### Applications

Time-dependent controllers

### Indication

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

### Function Diagram



### Technical Data

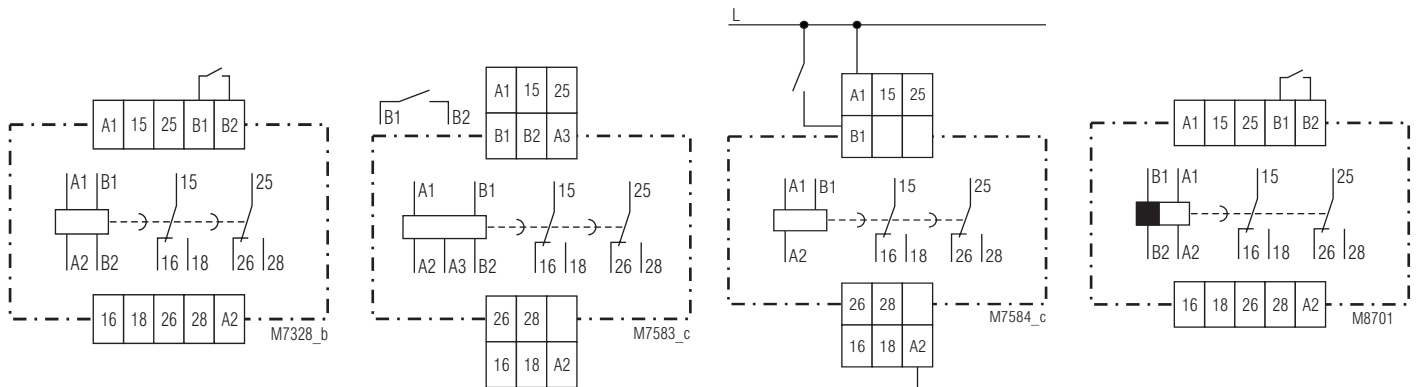
#### Time Circuit

#### 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

### Circuit Diagrams



BA 7962.82, AA 9962.82

MK 9962

MK 9962.82/020

BA 7962.82/200  
with guided contacts

Technical Data	
<b>Input</b>	
<b>Nominal voltage <math>U_N</math>:</b>	
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 <sup>1)</sup> + AC 110 ... 127 V <sup>2)</sup> AC/DC 24 V <sup>1)</sup> + AC 220 ... 240 V <sup>2)</sup> AC/DC 24 V <sup>1)</sup> + AC/DC 42 V <sup>2)</sup>
	<sup>1)</sup> at terminals A3 - A2 <sup>2)</sup> at terminals A1 - A2
<b>Voltage range:</b>	0.8 ... 1.1 $U_N$ at AC
<b>Nominal power consumption:</b>	
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
<b>Nominal frequency:</b>	50 / 60 Hz
<b>Frequency range</b>	$\pm 5\% f_N$

Output	
<b>Contacts</b>	
BA 7962.81, AA 9962.81:	1 delayed changeover contact
BA 7962.82, AA 9962.82, MK 9962:	2 delayed changeover contacts
<b>Thermal current <math>I_{th}</math>:</b>	5 A
<b>Switching capacity</b>	
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
<b>Electrical life</b>	
to AC 15 at 3 A, AC 230 V:	
BA 7962.81, AA 9962.81:	2.5 x 10 <sup>5</sup> switching cycles
BA 7962.82, AA 9962.82:	0.5 x 10 <sup>5</sup> switching cycles
MK 9962:	5 x 10 <sup>5</sup> switching cycles
<b>Permissible operating frequency:</b>	6 000 switching cycles / h
<b>Short circuit strength</b>	
<b>max. fuse rating:</b>	6 A gL IEC/EN 60 947-5-1
<b>Mechanical life:</b>	30 x 10 <sup>6</sup> switching cycles

General Data	
<b>Operating mode:</b>	Continuous operation
<b>Temperature range</b>	
BA 7962, AA 9962 (AC), MK 9962:	- 20 ... + 60°C
BA 7962, AA 9962 (DC):	- 20 ... + 50°C
<b>Clearance and creepage distances</b>	
rated impuls voltage / pollution degree:	4 kV / 2 IEC 60 664-1
<b>EMC</b>	
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:	
between wire and ground:	2 kV IEC/EN 61 000-4-5
Interference suppression:	4 kV IEC/EN 61 000-4-5
	Limit value class B EN 55 011
<b>Degree of protection</b>	
Housing:	IP 40 IEC/EN 60 529
Terminals:	IP 20 IEC/EN 60 529
<b>Housing:</b>	Thermoplastic with V0 behaviour according to UL subject 94

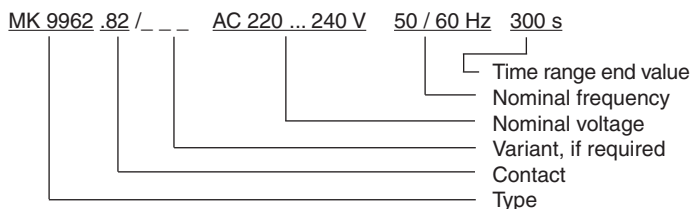
Technical Data	
<b>Vibration resistance:</b>	Amplitude 0.35 mm, frequency 10...55Hz IEC/EN 60 068-2-6
<b>Climate resistance:</b>	20 / 060 / 04 IEC/EN 60 068-1
<b>Terminal arrangement:</b>	DIN 46 199-5
<b>Terminal designation:</b>	EN 50 005
<b>Wire connection:</b>	
BA 7962, AA 9962:	2 x 2.5 mm <sup>2</sup> solid or 2 x 1.5 mm <sup>2</sup> stranded wire with sleeve
MK 9962:	2 x 1.5 mm <sup>2</sup> solid or 2 x 1.0 mm <sup>2</sup> stranded wire with sleeve
	DIN 46 228-1/-2/-3/-4
<b>Wire fixing:</b>	
	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
	DIN rail IEC/EN 60 715
<b>Mounting:</b>	
<b>Weight</b>	
BA 7962, AA 9962 (AC):	240 g
BA 7962, AA 9962 (DC):	150 g
MK 9962:	180 g

Dimensions	
<b>Width x height x depth:</b>	
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 9962/61:	with UL-approval
MK 9962.82/020:	control by supply voltage, single voltage model
	AC/DC 24 V, AC 220 ... 240 V
BA 7962.82/200:	2 guided changeover contacts delayed

#### Ordering example for variants



Accessories	
ET 4752-143:	Marking plate for MK 9962