

# Time Control Technique

## MINITIMER

Timer, Release Delay

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

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



0227978



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
- 2 changeover contacts
- BA 7962, AA 9962: width 45 mm  
MK 9962: width 22.5 mm

### Approvals and Markings



\* see variants

### Applications

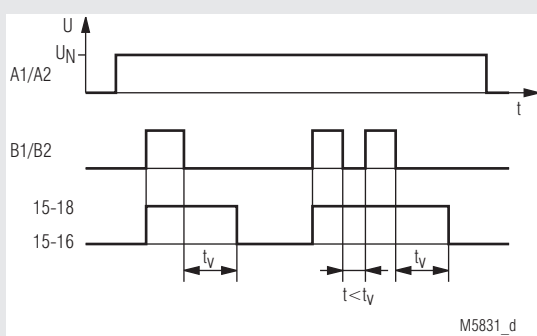
Time-dependent controllers

### Indication

upper LED:  
lower LED:

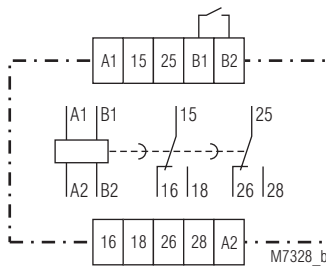
on when control contact closed  
on when output relay energized

### Function Diagram

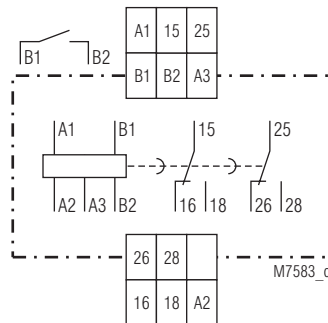


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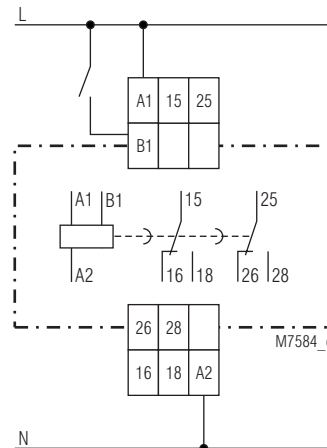
### Circuit Diagrams



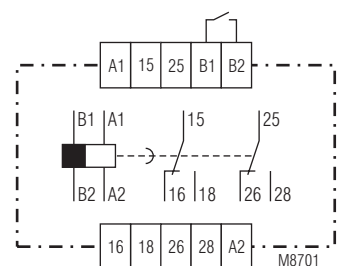
BA 7962.82, AA 9962.82



MK 9962



MK 9962.82/020



BA 7962.82/200  
mit zwangsgeführten Kontakten

Technical Data		
<b>Time Circuit</b>		
<b>Time ranges:</b>		
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		
<b>Time setting:</b> stepless on absolute scale		
<b>Min. switch-on time:</b> 20 ms		
<b>Repeat accuracy:</b> $\leq \pm 1\%$ of set value		
<b>Voltage influence:</b> $\leq \pm 0.5\%$		
<b>Temperature influence:</b> $< \pm 0.1\%$ / K		

Input	
<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 7962.82, AA 9962.82, MK 9962:	2 delayed changeover contacts
<b>Contact material:</b> AgNi 0.2 $\mu$ , gold plated	
<b>Measured nominal voltage:</b> AC 250 V	
<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> IEC/EN 60 947-5-1	
to AC 15 at 3 A, AC 230 V:	
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	

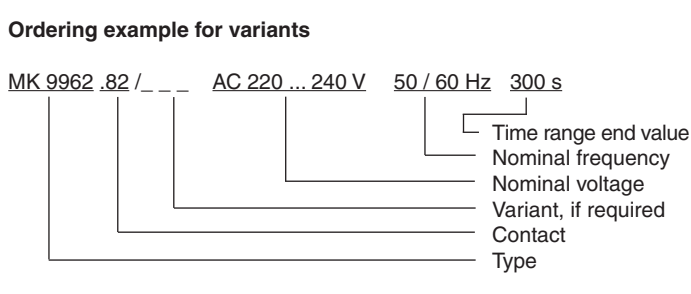
General Data	
<b>Operating mode:</b> Continuous operation	
<b>Temperature range</b>	
Operation, Storage	
BA 7962, AA 9962 (AC), MK 9962:	- 20 ... + 60 °C
BA 7962, AA 9962 (DC):	- 20 ... + 50 °C
<b>Altitude:</b> < 2,000 m	

Technical Data	
<b>Clearance and creepage distances</b>	
rated impulse 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:	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	
<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	
<b>Vibration resistance:</b> Amplitude 0.35 mm, frequency 10...55Hz IEC/EN 60 068-2-6 20 / 060 / 04 IEC/EN 60 068-1	
<b>Climate resistance:</b>	
<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	
<b>Fixing torque</b>	
BA 7962, AA 9962:	0.8 Nm
MK 9962:	0.4 Nm
<b>Mounting:</b> DIN rail IEC/EN 60 715	
<b>Weight</b>	
BA 7962, AA 9962 (AC):	240 g
BA 7962, AA 9962 (DC):	150 g
MK 9962:	180 g
<b>Dimensions</b>	
<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
• 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	
MK 9962 .82 / _ _ _ AC 220 ... 240 V 50 / 60 Hz 300 s	
	Time range end value
	Nominal voltage
	Variant, if required
	Contact
	Type



Accessories	
ET 4752-143:	Marking plate for MK 9962 Article number: 0043203