

Time Control Technique

MINITIMER

Timer, Release Delay

BA 7962, AA 9962¹⁾, MK 9962

¹⁾ 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

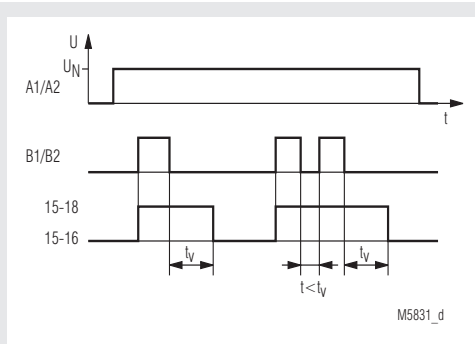
Applications

Time-dependent controllers

Indication

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

Function Diagram



Technical Data

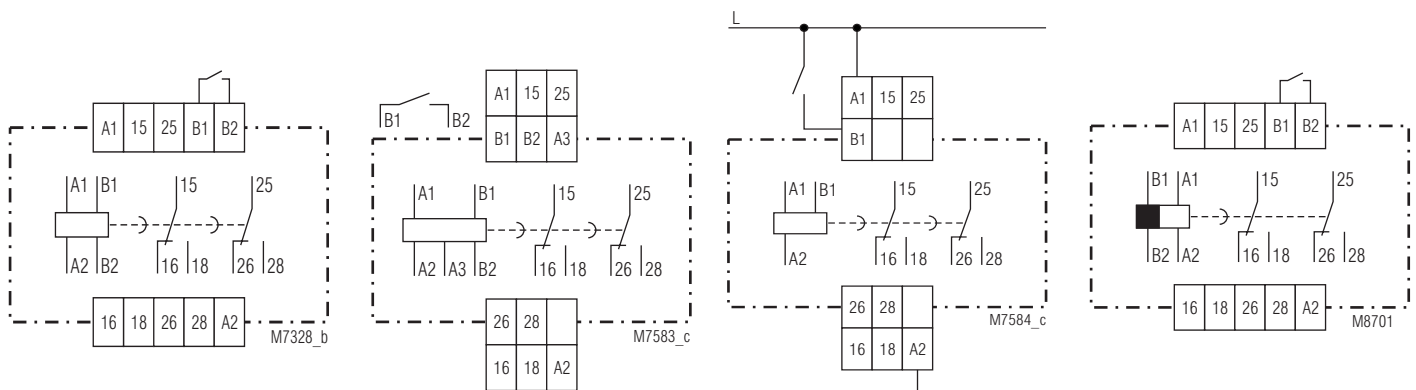
Time Circuit

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

| | |
|--|---|
| 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 | ± 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 10 ⁵ switching cycles |
| BA 7962.82, AA 9962.82: | 0.5 x 10 ⁵ switching cycles |
| MK 9962: | 5 x 10 ⁵ 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 10 ⁶ 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 | | |
| 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 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 | |

Technical Data

| | |
|------------------------------|--|
| Vibration resistance: | Amplitude 0.35 mm, frequency 10...55Hz IEC/EN 60 068-2-6 20 / 060 / 04 IEC/EN 60 068-1 |
| Climate resistance: | |
| 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 |

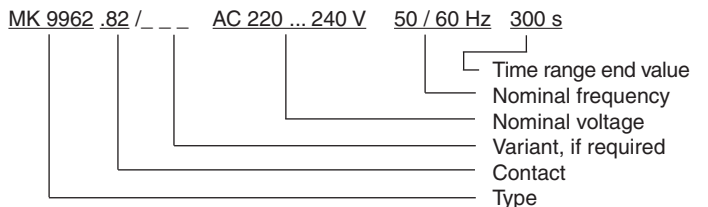
Standard Type

| | | |
|---------------------------------------|-------------------------------|------------|
| 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 9962/61: | 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 |
|--------------|---------------------------|