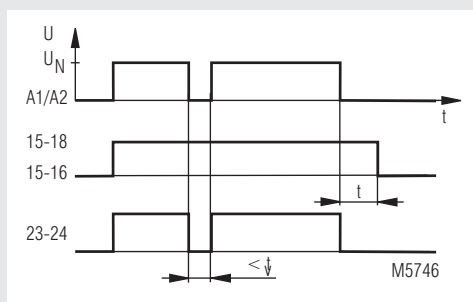


## MINITIMER Timer, Release Delay MK 9961



- According to IEC/EN 61 812-1
- Delay up to 600 s
- Repeat accuracy  $< \pm 1 \%$
- Without auxiliary voltage
- Available with instantaneous contact
- Safe resetting
- Remote potentiometer connection to terminal Z1 - Z2 possible
- 2-wire proximity sensor control
- Width 22.5 mm

### Function Diagram



### Approvals and Marking



\* see variant

### Indication

LED: on when operating voltage applied

### Technical Data

#### Time Circuit

|                     |              |              |
|---------------------|--------------|--------------|
| <b>Time ranges:</b> | 0.05 ... 1 s | 3 ... 60 s   |
|                     | 0.15 ... 3 s | 5 ... 100 s  |
|                     | 0.5 ... 10 s | 15 ... 300 s |
|                     | 1.5 ... 30 s | 30 ... 600 s |

**Time setting:** infinitely, on absolute scale  
remote setting via external potentiometer

|                               |                |
|-------------------------------|----------------|
| <b>Repeat accuracy:</b>       | $< \pm 1 \%$   |
| <b>Min. setting time:</b>     | 80 ms          |
| <b>Voltage influence:</b>     | $< \pm 1.5 \%$ |
| <b>Temperature influence:</b> | $< 0.1 \%$ / K |

#### Input

|  |   |
|--|---|
| <b>Nominal voltage <math>U_N</math>:</b> | AC/DC 24, 42 V with polarity protection<br>AC 110 ... 127, 230, 240 V |
| <b>Voltage range:</b>                    | 0.8 ... 1.1 $U_N$   |
| <b>Permissible residual current:</b>     | 10 mA   |
| <b>Nominal consumption:</b>              | AC 230 V / 9 VA   |
| <b>Nominal frequency:</b>                | 50 / 60 Hz  |

#### Output

#### Contacts

|             |  |
|-------------|--|
| MK 9961.81: | 1 changeover contact, delayed                                |
| MK 9961.35: | 1 NO contact, instantaneous<br>1 changeover contact, delayed |

#### Thermal current $I_{th}$

|             |     |
|-------------|-----|
| MK 9961.81: | 5 A |
| MK 9961.35: | 2 A |

#### 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 |
|             |                | IEC/EN 60 947-5-1 |

#### Electrical life

to AC 15 at 3 A, AC 230 V

|             |                                      |
|-------------|--------------------------------------|
| MK 9961.81: | 5 x 10 <sup>5</sup> switching cycles |
| MK 9961.35: | 3 x 10 <sup>5</sup> switching cycles |

#### Permissible switching frequency:

3 000 switching cycles / h

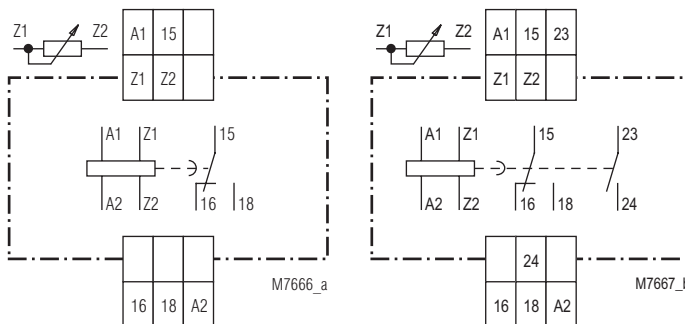
#### Short circuit strength

**max. fuse rating:** 4 A gL IEC/EN 60 947-5-1

#### Mechanical life:

50 x 10<sup>6</sup> switching cycles

### Circuit Diagrams



MK 9961.81

MK 9961.35

## Technical Data

### General Data

|  |  |                   |
|--|--|-------------------|
| <b>Operating mode:</b>                         | Continuous operation   |                   |
| <b>Temperature range:</b>                      | - 20 ... + 60 °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: | 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>                                | Thermoplast with V0 behaviour according to UL subj. 94   |                   |
| <b>Vibration resistance:</b>                   | Amplitude 0.35 mm frequency 10 ... 55 Hz IEC/EN 60 068-2-6   |                   |
| <b>Climate resistance:</b>                     | 20 / 060 / 04 IEC/EN 60 068-1  |                   |
| <b>Terminal designation:</b>                   | EN 50 005  |                   |
| <b>Wire connection:</b>                        | 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>Mounting:</b>                               | DIN rail IEC/EN 60 715   |                   |
| <b>Weight:</b>                                 | 140 g  |                   |

### Dimensions

**Width x height x depth:** 22.5 x 82 x 99 mm

### Standard Type

|                                   |                      |
|-----------------------------------|----------------------|
| MK 9961.81 AC 230 V 50/60 Hz 10 s |                      |
| Article number:                   | 0021491 stock item   |
| • Output:                         | 1 changeover contact |
| • Nominal voltage $U_N$ :         | AC 230 V             |
| • Time range:                     | 0.5 ... 10 s         |
| • Width:                          | 22.5 mm              |

### Variant

MK 9961/61: with UL-approval

### Ordering example of variant

|         |     |   |          |          |       |                       |
|---------|-----|---|----------|----------|-------|-----------------------|
| MK 9961 | .81 | / | AC 230 V | 50/60 Hz | 100 s |                       |
|         |     |   |          |          |       | Time range, end value |
|         |     |   |          |          |       | Nominal frequency     |
|         |     |   |          |          |       | Nominal voltage       |
|         |     |   |          |          |       | Variant, if required  |
|         |     |   |          |          |       | Contacts              |
|         |     |   |          |          |       | Type                  |

## Accessories

AD 3:

External potentiometer

|     |    |               |       |
|-----|----|---------------|-------|
| 1   | MΩ | at time range | 1 s   |
| 1   | MΩ | at time range | 3 s   |
| 1   | MΩ | at time range | 10 s  |
| 4.7 | MΩ | at time range | 30 s  |
| 10  | MΩ | at time range | 60 s  |
| 10  | MΩ | at time range | 100 s |
| 20  | MΩ | at time range | 300 s |
| 20  | MΩ | at time range | 600 s |

Degree of protection front side:

IP 60

