Multi-function multi-range timer relay

- Multi voltage for AC/DC 24 up to 230 V
- 4 functions
- Setting range from 0.1 s to 120 h divided into 7 time ranges
- KZL 72 = 1 instantaneous and 1 timed change-over contact or 2 timed change-over contacts (selectable)
- KZL 71 = 1 timed change-over contact

### Circuit diagram

#### KMZ72

![Circuit diagram KMZ72](image)

#### KMZ71

![Circuit diagram KMZ71](image)

### Time ranges

Setting range from 0.1 s to 120 h divided into:

- 0.1 s ... 1.2 s
- 1 s ... 12 s
- 0.1 min ... 1.2 min
- 1 min ... 12 min

<table>
<thead>
<tr>
<th>Time Range</th>
<th>Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 h</td>
<td>1</td>
</tr>
<tr>
<td>1 h</td>
<td>10</td>
</tr>
<tr>
<td>10 h</td>
<td>100</td>
</tr>
<tr>
<td>120 h</td>
<td>1200</td>
</tr>
</tbody>
</table>

### General information

The functions and time ranges are set on the front through selector switches.

**Setting of the operating mode**

- Rotate the operating mode selector switch with a screwdriver until the desired operating mode appears in the “MODE” display window.

**Functions for KZL 72, KZL 71:**

- A = ON-delay (AV)
- B2 = repeat cycle starting with ON (TI)
- E = interval ON (EW)
- J = one shot (ON-delay) (AI)

**Setting of the time and time range factor**

- Rotate the time selector switch located in the upper right corner of the control panel to set the desired time (sec., min. or hrs.) The time unit will be shown in the display window over the time selecting wheel. The time range factor (0.1 or 1) is set by rotating the selector switch located in the upper left corner of the operating panel.
- The selected time range factor will be shown in the display window above the selector switch.

**Setting of the operating time**

- Use the time selecting wheel (ratio 0 – 12) to set the desired operating time.

**Setting of the contact assignment**

- The function of the contacts for the model KZL 72 can be selected through a switch located at the bottom of the housing: 2 timed change-over contacts or 1 instantaneous and 1 timed change-over contact.
**Function diagrams**

**KZL 72 (2 timed change-over contacts)**

<table>
<thead>
<tr>
<th>Function</th>
<th>Delay (s)</th>
<th>A1/A2</th>
<th>15/18, 25/28</th>
<th>15/16, 25/26</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Supply voltage, LED green</td>
<td>15/18, 25/28</td>
<td>15/16, 25/26</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Repeat cycle with ON start (Tb)</td>
<td>15/18, 25/28</td>
<td>15/16, 25/26</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>One shot ON/delay (Ao)</td>
<td>15/18, 25/28</td>
<td>15/16, 25/26</td>
<td></td>
</tr>
</tbody>
</table>

**KZL 72 (1 timed and 1 instantaneous change-over contact)**

<table>
<thead>
<tr>
<th>Function</th>
<th>Delay (s)</th>
<th>A1/A2</th>
<th>15/18, 25/28</th>
<th>15/16, 25/26</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Supply voltage, LED green</td>
<td>15/18, 25/28</td>
<td>15/16, 25/26</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Delayed contact, LED orange</td>
<td>15/18, 25/28</td>
<td>15/16, 25/26</td>
<td></td>
</tr>
</tbody>
</table>

**Displays and operating components**

1. Time range switch
2. Indicator (orange) (Lit while Time relay output.)
3. Power ON LED (green) (Lit while the Voltage supply.)
4. Mode switch
5. Only KZL 72:
   - Switch INIT / TIME (default setting for timed output) *
6. Position for attaching the Users label
7. Main command for setting development time

* If you leave the switch between the settings, not be possible. Pay attention to the correct settings.

Note: The factory setting is mode A and 0.1 s.

**Dimension diagram**
## Technical data

### KMZ 72

- **Function type**: Multi-function relay with 4 functions for multi-voltage
  - ON-delay timer relay
  - Interval ON relay
  - Repeat cycle starting with ON
  - One shot (ON-delay) relay
- **Function display**: 1 LED green, 1 LED orange
- **Function diagrams**: FD 239-4/10 – 14
- **Power supply circuit**
  - Rated voltage \( U_{N} \): AC/DC 24 – 230 V
  - Rated consumption at 50 Hz and \( U_{N} \) 24 V AC: 1.1 VA / 0.9 W
  - Rated consumption at 50 Hz and \( U_{N} \) 24 V DC: 0.9 W
  - Rated consumption at 50 Hz and \( U_{N} \) 230 V AC: 2.7 VA / 1.7 W
  - Rated consumption at 50 Hz and \( U_{N} \) 230 V DC: 1.4 W
  - Starting current inrush A1/A2 at 24 V DC: approx. 250 mA
  - Rated frequency: 50 – 60 Hz
  - Operating voltage range: \( 0.85 \) – \( 1.1 \times U_{N} \)
  - Release value der Excitation voltage A1/A2: < 8 V AC/DC

### KMZ 71

- **Function type**: Multi-function relay with 4 functions for multi-voltage
  - ON-delay timer relay
  - Interval ON relay
  - Repeat cycle starting with ON
  - One shot (ON-delay) relay
- **Function display**: 1 LED green, 1 LED orange
- **Function diagrams**: FD 239-4/10 – 14
- **Power supply circuit**
  - Rated voltage \( U_{N} \): AC/DC 24 – 230 V
  - Rated consumption at 50 Hz and \( U_{N} \) 24 V AC: 0.7 VA / 0.6 W
  - Rated consumption at 50 Hz and \( U_{N} \) 24 V DC: 0.6 W
  - Rated consumption at 50 Hz and \( U_{N} \) 230 V AC: 2.3 VA / 1.4 W
  - Rated consumption at 50 Hz and \( U_{N} \) 230 V DC: 1.4 W
  - Starting current inrush A1/A2 at 24 V DC: approx. 250 mA
  - Rated frequency: 50 – 60 Hz
  - Operating voltage range: \( 0.85 \) – \( 1.1 \times U_{N} \)
  - Release value der Excitation voltage A1/A2: < 8 V AC/DC

### Time circuit

- **Time setting / number of time ranges**: Analog / 7
- **Available setting range**: See table “Time ranges”
- **Recovery time**: \( \geq 100 \) ms
- **Repeatability**: ± 1 % + ± 10 ms average value of all measured values
- **Setting tolerance**: ± 10 % + ± 50 ms
- **Influence of the energizing quantity or supply voltage**: ± 0.5 % + ± 10 ms
- **Influence of the ambient temperature**: ± 2 % + ± 10 ms

### Output circuit

- **Contact assignment**: 1 instantaneous and 1 timed change-over contact or 2 timed change-over contacts
- **Contact material**: AgNi gold-flashed
- **Rated operating voltage \( U_{n} \)**: 230/125 V AC/DC
- **Max. continuous current \( I_{n} \)**: 5 A
- **Application category according to EN 60947-5-1:1991**
  - AC-13: \( U_{e} \) 250 V AC, \( I_{e} \) 5 A
  - DC-13: \( U_{e} \) 24 V DC, \( I_{e} \) 0.1 A
  - AC-15: \( U_{e} \) 250 V AC, \( I_{e} \) 3 A
- **Permissible switching frequency**: \( \leq 3600 \) switching cycles/h
- **Mechanical life**: \( 10 \times 10^6 \) switching cycles
- **Electrical life**: \( 80 \times 10^4 \) switching cycles at AC 5 A, 250 V, 360 switching cycles/h

### General information

- **Creepage distances and clearances between the circuits**: according to DIN VDE 0110-1:04.97
- **Rated impulse voltage**: 4 kV
- **Overvoltage category**: III
- **Degree of pollution**: 3 outside, 2 inside
- **Rated voltage**: 250 V AC
- **Rated voltage \( U_{eff} \) at 50 Hz according to DIN VDE 0110-1:04.97**: 2.21 kV
- **Protection degree housing/terminal according to DIN VDE 0470 sec. 1:11.92**: IP 30 / IP 20
- **Noise immunity according to IEC 61000-4**: Test severity 3
- **Ambient temperature, operating range**: –10 to +55 °C
- **Dimension diagram**: K1-16
- **Circuit diagram**: KS 0328/4
- **Weight**: 0.12 kg
- **Accessories**: –

### Overview of devices / Part numbers

<table>
<thead>
<tr>
<th>Type</th>
<th>Rated voltage</th>
<th>ON-delay time</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMZ 71</td>
<td>AC/DC 24-230 V</td>
<td>50-60 Hz</td>
<td>See table “Time ranges”</td>
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<td>KMZ 72</td>
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