DATA SHEET: TIMERS ZR5MF011

1. Functions
The functions has to be set before connecting the relay to the supply voltage.
- E ON delay
- R OFF delay
- Ws Single shot leading edge with control input
- Wa Single shot trailing edge with control input
- Es ON delay with control input
- Wu Single shot leading edge voltage controlled
- Bp Flasher pause first

2. Time ranges

<table>
<thead>
<tr>
<th>Time range</th>
<th>Adjustment range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 s</td>
<td>50 ms</td>
</tr>
<tr>
<td>10 s</td>
<td>500 ms</td>
</tr>
<tr>
<td>1 min</td>
<td>3 s</td>
</tr>
<tr>
<td>10 min</td>
<td>30 s</td>
</tr>
<tr>
<td>1 h</td>
<td>3 min</td>
</tr>
<tr>
<td>10 h</td>
<td>30 min</td>
</tr>
<tr>
<td>100 h</td>
<td>5 h</td>
</tr>
</tbody>
</table>

3. Indicators
- Green LED U/t ON: indication of supply voltage
- Green LED U/t flashes: indication of time period
- Yellow LED R ON/OFF: indication of relay output

4. Mechanical design
- Self-extinguishing plastic housing, IP rating IP40
- Mounted on DIN-rail TS 35 according to EN 50022
- Shockproof terminal connection according to VBG 4 (PZ1 required)
- IP rating IP20
- Tightening torque: max. 1 Nm
- Terminal capacity:
  - 1 x 0.5 to 2.5 mm² with/without multicore cable end
  - 1 x 4 mm² without multicore cable end
  - 2 x 0.5 to 1.5 mm² with/without multicore cable end
  - 2 x 2.5 mm² flexible without multicore cable end

5. Input circuit
- Supply voltage: terminals A1(+)-A2
- Type ZR5MF025: 12 to 240 V AC/DC
- Tolerance: 12 V-10% to 240 V+10%
- Rated consumption: 4 VA (1.5 W)
- Rated frequency: AC 48 to 63 Hz
- Duty cycle: 100%
- Reset time: 100 ms
- Residual ripple for DC: 10%
- Drop-out voltage: >30% of minimum rated supply voltage

6. Output circuit
- 1 potential free change over contact
- Rated voltage: 250 V AC
- Switching capacity: 2000 VA (8 A / 250 V)
- Fusing: 8 A fast acting
- Mechanical life: 2 x 10⁶ operations
- Electrical life: at 1000 VA resistive load
- Switching frequency: max. 60/min at 100VA resistive load
  - max. 6/min at 1000VA resistive load
  - (according to IEC 947-5-1)
- Overvoltage category: III. (according to IEC 60664-1)
- Rated surge voltage: 4kV

7. Control input
- Input not potential free: terminals A1-B1
- Loadable: yes
- Max. line length: 10m
- Trigger level (sensitivity): automatic adaption to supply voltage
- Min. control pulse length: 50 ms / AC 100 ms

8. Accuracy
- Base accuracy: ±1% of maximum scale value
- Adjustment accuracy: <5% of maximum scale value
- Repetition accuracy: <0.5% or ±5 ms
- Voltage influence: -
- Temperature influence: ±0.01% / °C

9. Ambient conditions
- Ambient temperature: -25 to +55 °C
  - (according to IEC 68-1)
- Storage temperature: -25 to +70 °C
- Transport temperature: -25 to +70 °C
- Relative humidity: 15% to 85%
  - (according to IEC 721-3-3 class 3K3)
- Pollution degree: 2, if built in 3
  - (according to IEC 664-1)
- Vibrations resistance: 10 to 55 Hz 0.35 mm
  - (according to IEC 68-2-6)
- Shock resistance: 15 g 11 ms
  - (according to IEC 68-2-27)
**FUNCTIONS**

**ON delay (E)**
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.

**OFF delay (R)**
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.

**Single shot leading edge with control input (Ws)**
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (green LED U/t illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.

**Single shot trailing edge with control input (Wa)**
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.

**ON delay with control input (Es)**
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.

**Single shot leading edge voltage controlled (Wu)**
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.

**Flascher pause first (Bp)**
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

**CONNECTIONS**

**DIMENSIONS**

**WEIGHT**
Single packing: 72 g
Package 10 pcs: 670 g per Package

**ARTICLE NUMBER**
Multifunction timerelay E, R, Ws, Wa, Es, Wu, Bp,
12-240VAC, 1 change over, 8A/250V
ZR5MF011