

- ▶ Plug-in housing
- ▶ Width 38mm
- ▶ 16 functions
- ▶ 16 time ranges
- ▶ 2 change over contacts



▶ Technical data

▶ 1. Functions

- 1 delayed contact (pins S1-S3-S4) and 1 instantaneous contact (pins S8-S9-S11)
- E11 ON delay
- R11 OFF delay with control contact
- Ws11 Single shot leading edge with control contact
- Wa11 Single shot trailing edge with control contact
- Es11 ON delay with control contact
- Wu11 Single shot leading edge voltage controlled
- Bp11 Flasher pause first
- Wt11 Pulse detection

- 2 delayed contacts
- E20 ON delay
- R20 OFF delay with control contact
- Ws20 Single shot leading edge with control contact
- Wa20 Single shot trailing edge with control contact
- Es20 ON delay with control contact
- Wu20 Single shot leading edge voltage controlled
- Bp20 Flasher pause first
- Wt20 Pulse detection

▶ 2. Time ranges

Time range	Adjustment range	
1s	50ms	1s
3s	150ms	3s
10s	500ms	10s
30s	1500ms	30s
1min	3s	1min
3min	9s	3min
10min	30s	10min
30min	90s	30min
1h	3min	1h
3h	9min	3h
10h	30min	10h
30h	90min	30h
1d	72min	1d
3d	216min	3d
10d	12h	10d
30d	36h	30d

▶ 3. Indicators

- Green LED ON: indication of supply voltage
- Green LED flashes: indication of time period
- Yellow LED ON/OFF: indication of relay output

▶ 4. Mechanical design

- Self-extinguishing plastic housing, IP rating IP40
- Mounted on screw terminal socket 11 poles according to IEC 67-1-18a (Type R11X or ES12)
- Mounting position: any

▶ 5. Input circuit

- Supply voltage:
 - 24V DC pins S2(+)-S7
 - 24V AC pins S2-S7
 - 110 to 240V AC pins S2-S10

- Voltage range:
 - 24V DC ±10%
 - 24V AC -15% to +10%
 - 110 to 240V AC -15% to +10%
- Rated frequency: 48 to 63Hz
- Rated consumption:
 - 24V AC/DC 1.5VA (1W)
 - 110V AC 2VA (1W)
 - 230V AC 8VA (1.3W)
- Duration of operation: 100%
- Reset time: 100ms
- Residual ripple for DC: 10%
- Drop-out voltage: >30% of the supply voltage

▶ 6. Output circuit

- 2 potential free change over contacts
- Switching capacity (distance < 5mm): 1250VA (5A / 250V AC)
- Switching capacity (distance > 5mm): 2000VA (8A / 250V AC)
- Fusing: 8A fast acting
- Mechanical life: 20 x 10⁶ operations
- Electrical life: 2 x 10⁵ operations at 1000VA resistive load
- Switching frequency: max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
- Insulation voltage: 250V AC (according to IEC 664-1)
- Surge voltage: 4kV, overvoltage category III (according to IEC 664-1)

▶ 7. Control contact

- Connections: not potential free, pins S2-S5
- Loadable: yes, parallel load min. 1VA (0.5W) pins S5-S10
- Line length: max. 10m
- Control pulse length: DC min. 50ms AC min. 50ms

▶ 8. Accuracy

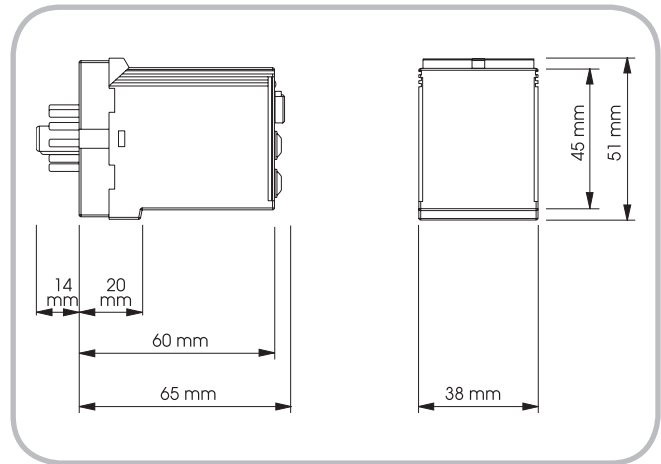
- Base accuracy: ±1% (of maximum scale value)
- Adjustment accuracy: ≤5% (of maximum scale value)
- Repetition accuracy: <0.5% or ±5ms
- Voltage influence: -
- Temperature influence: ≤0.01% / °C

▶ 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: 3 (according to IEC 664-1)

Technical data

10. Dimensions

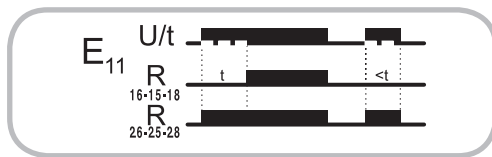


Functions

ON delay (E11)

When the supply voltage U is applied, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact 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.

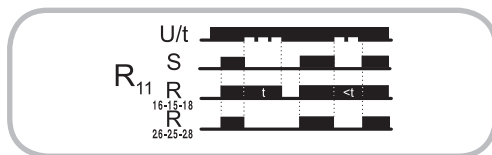


OFF delay with control contact (R11)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed, both contacts switch into on-position (yellow LED illuminated). If the control contact is opened, the instantaneous contact switches into off-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact 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 with the next cycle.



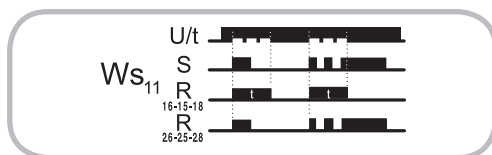
Single shot leading edge with control contact (Ws11)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed, both contacts switch into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). The instantaneous contact remains in on-position, until the control contact is opened again.

During the interval, the control contact (and the instantaneous contact) can be operated any number of times.

A further cycle can only be started when the cycle run has been completed.



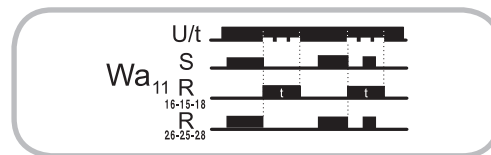
Single shot trailing edge with control contact (Wa11)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed the instantaneous contact switches into on-position. When the control contact is opened, the instantaneous contact switches into off-position, the delayed contact switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated), the delayed contact switches into off-position (yellow LED not illuminated).

During the interval, the control contact (and the instantaneous contact) can be operated any number of times.

A further cycle can only be started when the cycle run has been completed.

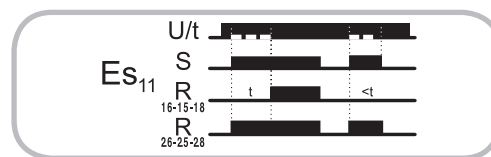


ON delay with control contact (Es11)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again.

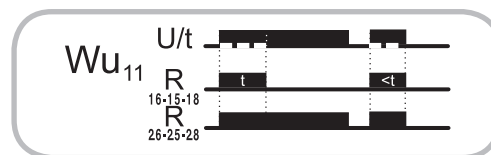
If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



Single shot leading edge voltage controlled (Wu11)

When the supply voltage U is applied, both contacts switch into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact 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 both contacts switch into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.

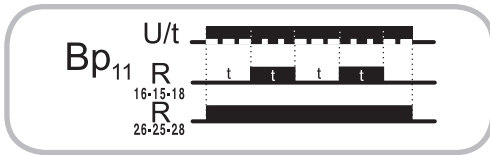


Functions

Flasher pause first (Bp11)

When the supply voltage U is applied, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired, the delayed contact switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the delayed contact switches into off-position (yellow LED not illuminated).

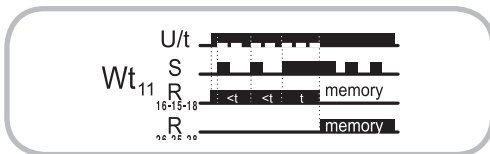
The delayed contact is triggered at a ratio of 1:1 until the supply voltage is interrupted.



Pulse detection (Wt11)

When the supply voltage U is applied (green LED illuminated), the delayed contact switches into on-position (yellow LED illuminated). When the control contact S is closed, the set interval t begins (green LED flashes). So that the delayed contact remains in on-position, the control contact must be opened and closed again within the set interval t . If this does not happen, the delayed contact switches into off-position, the instantaneous contact switches into on-position and all further pulses at the control contact are ignored.

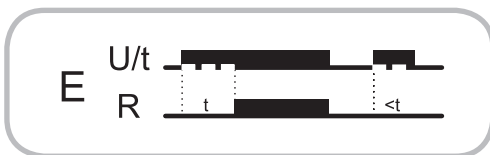
To restart the function the supply voltage must be interrupted and re-applied.



ON delay (E20)

When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired (green LED 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.

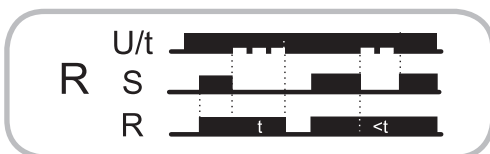


OFF delay with control contact (R20)

The supply voltage U must be constantly applied to the device (green LED 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 flashes). After the interval t has expired (green LED 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 with the next cycle.



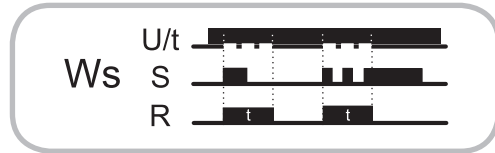
Single shot leading edge with control contact (Ws20)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED 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.



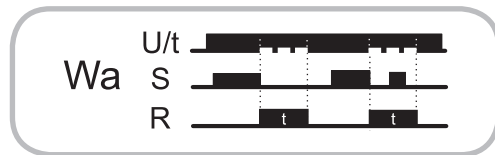
Single shot trailing edge with control contact (Wa20)

The supply voltage U must be constantly applied to the device (green LED illuminated).

Closing the control contact S has no influence on the condition of the output relay 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 flashes). After the interval t has expired (green LED 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.

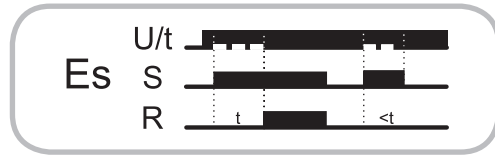


ON delay with control contact (Es20)

The supply voltage U must be constantly applied to the device (green LED illuminated).

When the control contact S is closed, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again.

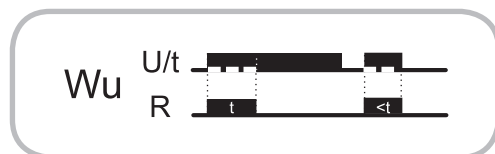
If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



Single shot leading edge voltage controlled (Wu20)

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 flashes). After the interval t has expired (green LED 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 expired is erased and is restarted when the supply voltage is next applied.

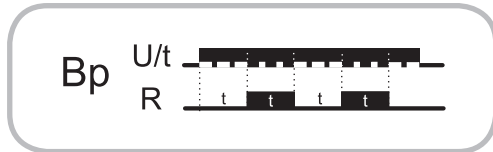


Functions

Flasher pause first (Bp20)

When the supply voltage U is applied, the set interval t begins (green LED 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).

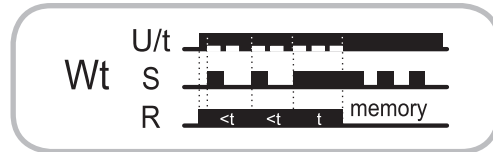
The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



Pulse detection (Wt20)

When the supply voltage U is applied (green LED illuminated), the output relay R switches into on-position (yellow LED illuminated). When the control contact S is closed, the set interval t begins (green LED flashes). So that the output relay remains in on-position, the control contact must be opened and closed again within the set interval t. If this does not happen, the output relay switches into off-position and all further pulses at the control contact are ignored.

To restart the function the supply voltage must be interrupted and re-applied.



Connections

