

- Industrial design
- Width 22.5mm
- 16 functions
- 16 time ranges
- Zoom voltage
- 2 change over contacts



► Technical data

► 1. Functions

1 delayed contact (terminals 15-16-18) and
1 instantaneous contact (terminals 25-26-28)

| | |
|------|--|
| 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 DIN-Rail TS 35 according to EN 50022
Mounting position: any
Shockproof terminal connection according to VBG 4
(PZ1 required), IP rating IP20
Initial torque: max. 1Nm
Terminal capacity:
1 x 0.5 to 2.5mm² with/without multicore cable end
1 x 4mm² without multicore cable end
2 x 0.5 to 1.5mm² with/without multicore cable end
2 x 2.5mm² flexible without multicore cable end

► 5. Input circuit

Supply voltage: 12 to 240V AC/DC terminals A1(+)-A2
Tolerance: ±10% (> -5°C)
-15% to +10% (< -5°C)
Rated frequency: 48 to 63Hz
Rated consumption:
24V AC/DC 1.5VA (1W)
110V AC 4VA (1.4W)
230V AC 11VA (2.1W)
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
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: has to be switched potential free terminals B1-B2
Loadable: no
Line length: max. 10m
Control pulse length: DC min. 50ms
AC min. 50ms

► 8. Accuracy

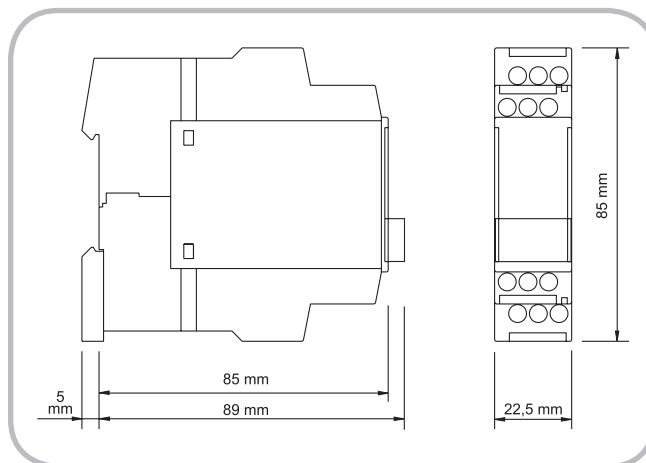
Base accuracy: ±1% (of maximum scale value)
Adjustment accuracy: ≤6% (of maximum scale value)
Repetition accuracy: ±1% or ±10ms
Voltage influence: -
Temperature influence: ≤0.05% / °C

► 9. Ambient conditions

Ambient temperature: -25 to +55°C (according to IEC 68-1)
-25 to +40°C (according to UL 508)
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

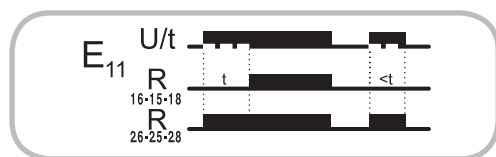


Functions

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.

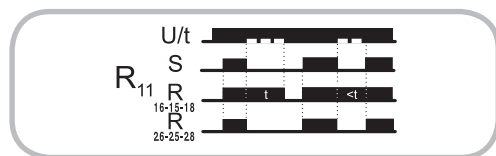


OFF delay with control contact (R11)

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.



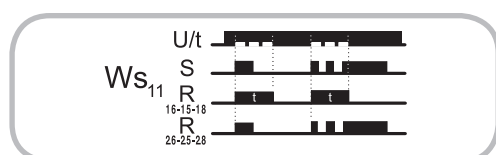
Single shot leading edge with control contact (Ws11)

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.

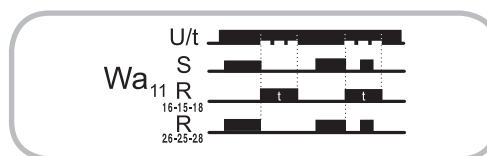


Single shot trailing edge with control contact (Wa11)

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.

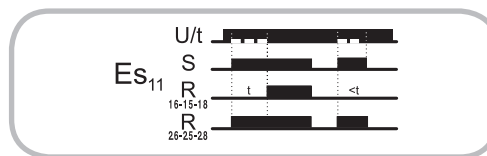


ON delay with control contact (Es11)

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.

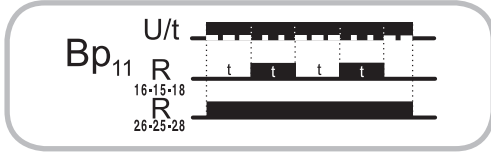
If the supply voltage is interrupted before the interval t has expired, the both contacts switch into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.



Functions

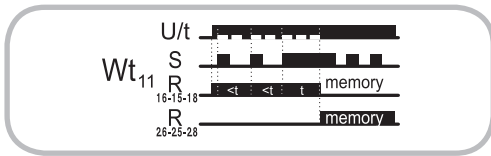
Flasher pause first (Bp11)

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.



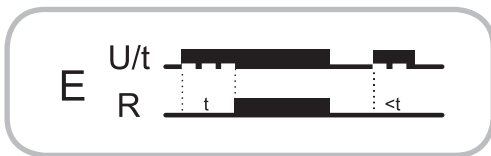
Pulse detection (Wt11)

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.



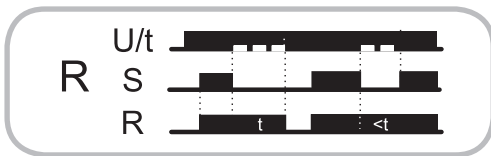
ON delay (E20)

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.



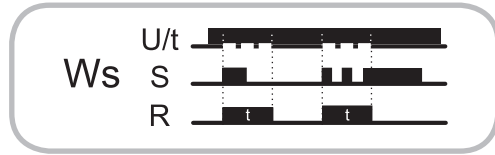
OFF delay with control contact (R20)

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.



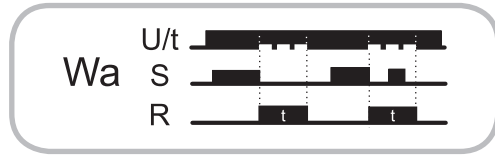
Single shot leading edge with control contact (Ws20)

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.



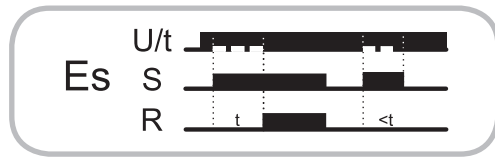
Single shot trailing edge with control contact (Wa20)

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.



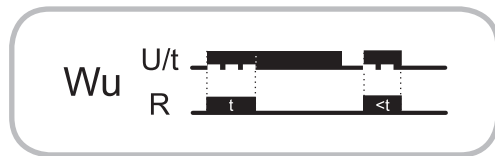
ON delay with control contact (Es20)

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.

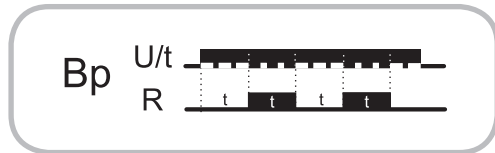


Functions

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).

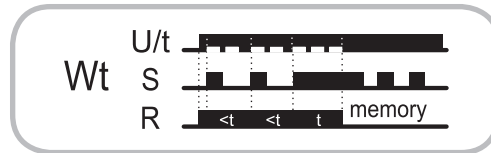
The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



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

