

- Installation design
- Width 35mm
- 22 functions
- Zoom voltage
- 2 change over contacts



► Technical Data

► 1. Functions

- F00 Single shot leading edge with control contact, retriggerable
- F10 Single shot leading edge with control contact, retriggerable, power failure detection
- F01 ON delay with control contact
- F11 ON delay with control contact, power failure detection
- F02 OFF delay with control contact
- F12 OFF delay with control contact, power failure detection
- F03 Single shot leading edge with control contact, interruptible
- F13 Single shot leading edge with control contact, interruptible, power failure detection
- F04 Single shot leading edge with control contact
- F14 Single shot leading edge with control contact, power failure detection
- F05 Single shot trailing edge with control contact
- F15 Single shot trailing edge with control contact, power failure detection
- F06 ON and OFF delay with control contact
- F16 ON and OFF delay with control contact, power failure detection
- F07 Single shot leading and trailing edge with control contact
- F17 Single shot leading and trailing edge with control contact, power failure detection
- F08 ON delay and single shot leading edge with control contact
- F18 ON delay and single shot leading edge with control contact, power failure detection
- F09 Asymmetric flasher pulse first
- F19 Asymmetric flasher pulse first, power failure detection
- F09 Asymmetric flasher pause first
- F19 Asymmetric flasher pause first, power failure detection (A1-B1 bridged)

► 2. Time ranges

Time adjustable from 0s to 999h.

► 3. Indicators

- Yellow LED ON/OFF: indication of relay output
- 3-digit LC display indication of function and time period

► 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 DC terminals A1-A2
 - 24 to 240V AC terminals A1-A2
- Tolerance:
 - 12 to 240V DC -15% to +10%
 - 24 to 240V AC -30% to +10%
- Rated frequency: 48 to 63Hz
- Rated consumption:
 - 12V DC 0.7W
 - 240V DC 1.5W
 - 24 to 240V AC 4.5VA (2W)
- Duration of operation: 100%
- Reset time: 80ms
- Residual ripple for DC: ≤10%
- Drop-out voltage: >4V

► 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
- Mechanical life: 20 x 10⁶ operations
- Electrical life: 1 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

- Connection: not potential free terminals A1-B1, A2-H, A1-RS, A1-L
- Loadable: yes
- Line length: max. 1.5m
- Control pulse length:
 - DC min. 50ms
 - AC min. 50ms

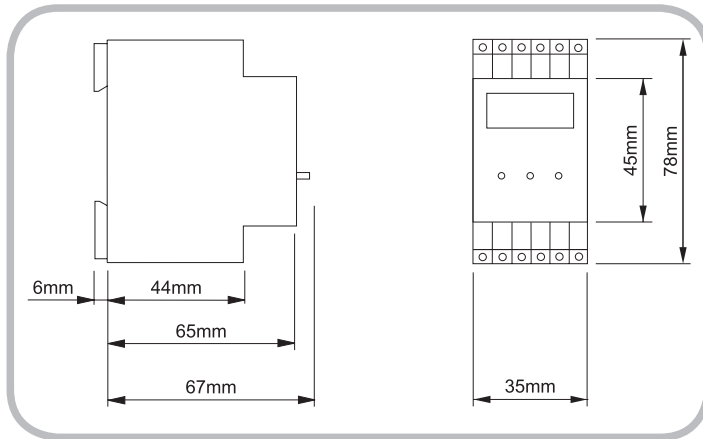
► 8. Accuracy

- Base accuracy: ≤0.5‰
- Adjustment accuracy: -
- Repetition accuracy: ≤0.5‰ or 10 to 100ms
- Voltage influence: -
- Temperature influence: ±2.5‰ (-10 to +55°C)

► 9. Ambient conditions

- Ambient temperature: -10 to +55°C (according to IEC 68-1)
- Storage temperature: -25 to +65°C
- Transport temperature: -25 to +65°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)

Dimensions



Functions

Function of control contact H (HALT)

Closing the control contact H (letter „H“ flashes on the display) stops the set interval t . The remaining interval is started when the control contact H is opened again.

Using the functions F00/F10, F02/F12, F03/F13, F04/F14, F05/F15 and F07/17 the output relay R switches into on-position when the control contact B1 (SIGNAL) is closed - even when the control contact H is closed.

Using the functions F00/F10, F02/F12 and F06/F16 (only interval t_2) the interval already expired is erased when the control contact B1 is closed.

Functions with power failure detection (functions F10 to F19)

If the supply voltage is interrupted the output relay R switches into off-position, the interval already expired and the actual status of the output relay are stored. If the supply voltage is re-applied the status is restored and the active function is continued.

Single shot leading edge, retriggerable - dead-man's circuitry (F00) + power failure detection (F10)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (remaining time is shown on the display).

If the control contact is opened and closed again before the interval t has expired, the output relay stays in on-position, the interval already expired is erased and restarted (remaining time is shown on the display).

If the control contact is not closed before the interval t has expired, the output relay switches into off-position.

ON delay with control contact (F01) + power failure detection (F11)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the set interval t begins (remaining time is shown on the display). After the interval t has expired the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened.

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

OFF delay with control contact (F02) + power failure detection (F12)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (remaining time is shown on the display). After the interval t has expired 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, interruptible (F03) + power failure detection (F13)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (remaining time is shown on the display). After the interval t has expired the output relay switches into off-position (yellow LED not illuminated).

If the control contact is opened again before the interval t has expired, the output relay switches into off-position (yellow LED not illuminated) and the interval already expired is erased.

Single shot leading edge with control contact (F04) + power failure detection (F14)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (remaining time is shown on the display). After the interval t has expired 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 (F05) + power failure detection (F15)

The supply voltage U must be constantly applied to the device.

Closing the control contact B1 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 (remaining time is shown on the display). After the interval t has expired, 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 and OFF delay with control contact (F06) + power failure detection (F16)

The supply voltage U must be constantly applied to the device.

When the control contact B1 is closed, the set interval t begins (remaining time is shown on the display). After the interval t has expired the output relay R switches into on-position (yellow LED illuminated) and the set interval t_2 is shown on the display.

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

When the control contact is opened, the set interval t_2 begins (remaining time is shown on the display). After the interval t_2 has expired the output relay switches into off-position (yellow LED not illuminated).

If the control contact is closed again before the interval t_2 has expired, the interval already expired is erased and is restarted with the next cycle.

**Single shot leading and trailing edge with control contact F(07)
+ power failure detection F(17)**

The supply voltage U must be constantly applied to the device. When the control contact B1 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (remaining time is shown on the display). After the interval t has expired the output relay switches into off-position (yellow LED not illuminated).

During the interval, the control contact can be operated any number of times.

If the control contact is opened after the expiry of the interval t, the output relay switches into on-position (yellow LED illuminated) and the set interval t2 begins (remaining time is shown on the display). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated).

During the interval, the control contact can be operated any number of times.

**ON delay and single shot leading edge with control contact F(08)
+ power failure detection F(18)**

The supply voltage U must be constantly applied to the device. When the control contact B1 is closed, the set interval t begins (remaining time is shown on the display).

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

After the interval t has expired the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (remaining time is shown on the display). After the interval t2 has expired the output relay switches into off-position (yellow LED not illuminated).

During the interval, the control contact can be operated any number of times.

**Asymmetric flasher pulse first F(09)
+ power failure detection F(19)**

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and set interval t begins (remaining time is shown on the display). After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t2 begins (remaining time is shown on the display). After the interval t2 has expired, the output relay switches into on-position (yellow LED illuminated).

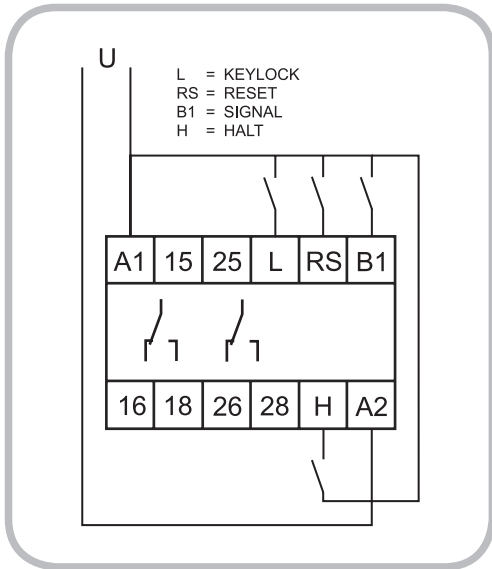
The output relay is triggered at a ratio of t1:t2 until the supply voltage is interrupted.

**Asymmetric flasher pause first - bridging A1-B1 F(09)
+ power failure detection F(19)**

When the supply voltage U is applied, the set interval t begins (remaining time is shown on the display). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (remaining time is shown on the display). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated).

The output relay is triggered at a ratio of t1:t2 until the supply voltage is interrupted.

Connections



 **Notes**