## Lighting control

## Time relay, electronic, DIN-rail


tako MF 200

The tako MF 200 is an electronic time relay with 10 different, freely selectable functions. It is therefore suited to a wide range of applications.

The tako MF 200 is intended for mounting on top-hat rails.

## Functional description

## (1) Switch-on delay



## (2) Cyclic 0N/OFF


(3) Cyclic OFF/ON

(4) Signal OFF delay


## Funktionen 1-10 (Mode)

(1) stn - Signal ON delay: Timing starts when switch $S$ is closed. $R$ energizes at end of period $T$ and de-energizes when switch S is opened.
(2) cnf $\bullet$ Cyclic ON/OFF (ON start): Initially the relay $R$ is on for period $T$ after the power is applied. The relay $R$ keeps on changing its status till power is removed with on and period $=\mathrm{T}$.
(3) cfn - Cyclic OFF/ON (OFF start): Initially the relay $R$ is off for period $T$ after the power is applied. The relay R keeps on changing its status till power is removed with on and off period $=\mathrm{T}$.

## (5) On and off delay


(6) Accumulated switch-on delay

(7) Pulses when control contact switches On or Off

(8) Pulses when control contact switches On

(9) Pulses when control contact switches off

(10) With each control contact On Pulse, the output signal alternates

(4) sf OFF delay, constant supply: R energizes when switch S is closed. Timing commences after switch S is opend and then the relay de-energizes.
(5) sfn - Signal OFF/ON: When switch S is closed or opened for present time $T$, the relay changes its state after time duration T .
(6) san Accumulate delay ON signal: Time commences as supply is present and switch S is open. Closing switch S pauses timing. Timing resumes when switch $S$ opened again. R energizes at the end of timing.
(7) inf - Impulse ON/OFF: R energizes for the period $T$ when switch $S$ is openend or closed. When timing commences, changing state of switch S does not affect $R$ but resets timer.
(8) iL ON impulse, constant supply: When switch S is closed and remains closed output relay energizes until timing is over. If switch $S$ is opened during period T , R resets.
(9) it ON impulse, constant supply: When switch $S$ is openend, $R$ energizes and de-energizes when timing is over. If switch $S$ is closed during period $\mathrm{T}, \mathrm{R}$ resets.
(10) sbi Leading edge bistabile or step relay:

After every signel, the output contact changes state, alternately switching from open to closed \& vice versa

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Product selection

| Frequency | Standby output | Operating voltage | Type |
| :--- | :--- | :--- | :--- |
| $50 / 60 \mathrm{~Hz}$ | 3 VA | $12-230 \mathrm{~V} \mathrm{AC}$ | tako MF 200 |

Technical data

|  | tako MF 200 |
| :--- | :---: |
| Operating voltage | $12-230 \mathrm{~V} \mathrm{AC}$ |
| Frequency | $50 / 60 \mathrm{~Hz}$ |
| Recovery time | 200 ms |
| Standby output | $<5 \mathrm{VA}$ |
| Switching capacity cos phi $=1$ | 16 A at 250 V AC |
| DC switching capacity | 16 A at 24 V DC |
| Ambient temperature | $-10{ }^{\circ} \mathrm{C} \ldots+60^{\circ} \mathrm{C}$ |
| Setting accuracy | $5 \%$ full scale |
| Repeatability | $1 \%$ |
| Adjustable time range | 0.1 s to 100 h |
| Protection rating | IP 20 |
| Switching cycles, electrical | $5 \times 10 \wedge 5$ |
| Switching cycles, mechanical | $1 \times 10 \wedge 6$ |
| Max. humidity | $95 \% \mathrm{RH}$ (non-condensing) |

Connection example


