

# RELES ELECTRONICOS TEMPORIZADOS - SERIE plus

# FSM10

- ▶ Montaje empotrado 45x45 mm, enchufable sobre zócalo undecal, con 1 contacto conmutado NAC
- ▶ Con indicación del tiempo preseleccionado y del tiempo seleccionado y de
- ▶ Multifunción (hasta 8 funciones habituales seleccionables mediante switches)
- ▶ Multiescala (desde 0,001 s hasta 999,9 horas, seleccionables mediante switches)
- ▶ Multitensión: Versiones para 24V AC/DC y para 100...240V AC



## Características técnicas importantes

### 1. FUNCIONES SELECCIONABLES

A	ON delay
A2	ON delay, power failure detection
B	ON delay with control contact
C	OFF delay with control contact
D	Single shot leading edge with control contact
E	ON delay, pulse operated
F	Flasher pause first
G	ON delay with control contact, adding, power failure detection

### 2. Time ranges

Timerange	Adjustment range
1	0.001s 9.999s
2	0.01s 99.99s
3	0.1s 999.9s
4	1s 9999s
5	0min1s 99min59s
6	0.1min 999.9min
7	0h1min 99h59min
8	0.1h 999.9h

### 3. SEÑALIZACION

LED verde: alimentación (fijo) y temporización (en intermitencia)  
LED amarillo: relé de salida conectado

### 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP66  
Mounted in front panel aperture 45 x 45mm by means of retaining clip (included) according to DIN 43700 (screw terminal socket for panel mounting type TVC11 or R11X - not included)  
Mounting position: any

### 5. ALIMENTACIÓN

Tolerancias admisibles:  
DC: 0,90...1,1 U<sub>N</sub>  
AC: 0,85...1,1 U<sub>N</sub>  
Consumo nominal (máx.)  
24V AC/DC 1,5VA / 1W  
110V AC 4VA / 1,5W  
230V AC 8VA / 2W  
Frecuencia nominal: 48-63 Hz  
Conexión: 100% clase 1c según CEI  
Protección contra microcortes:  
máx. 10 ms  
Tiempo de rearme:  
100 ms  
Temperatura ambiente admisible:  
-25°C ... +55°C

### 6. CIRCUITO DE SALIDA

Nº de contactos conmutados: 1 / 2 NAC  
Intensidad máx. permanente: 5A / 250V AC  
relés sin separación entre sí 8A / 250V AC  
relés con 5 mm de separación entre sí 30.10<sup>6</sup> man.  
Durabilidad mecánica: a 1000VA, carga resistiva  
Durabilidad eléctrica: 4.10<sup>5</sup> man.  
Frecuencia de conmutación: a 100VA, carga resistiva máx. 3600 man/h

### 7. CONTACTO DE MANDO

Cargable: Posibilidad de conectar cargas en paralelo  $\geq 1$  VA (0,5 W), a través del mismo (p.e. bobina de un contactor).

### 8. Accuracy

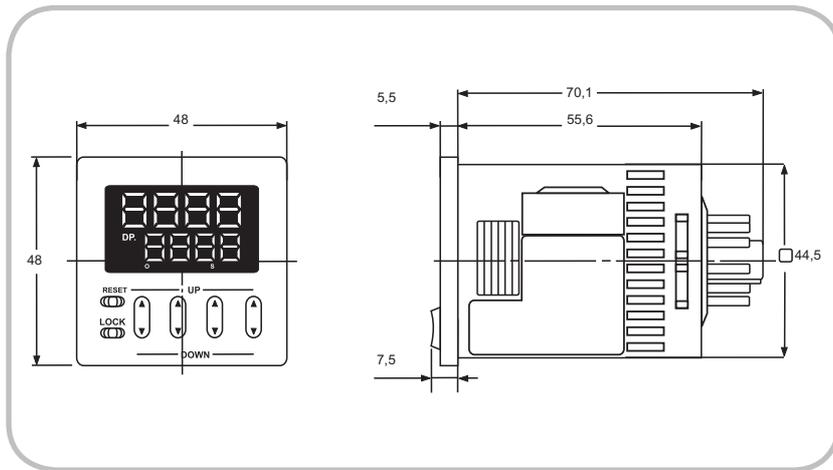
Base accuracy: <0.005%  
Adjustment accuracy: -  
Repetition accuracy:  $\pm (0.005\% + 50\text{ms})$   
start with supply voltage  
 $\pm (0.005\% + 20\text{ms})$   
start with RESET or SIGNAL  
Temperature influence: -

### 9. ESCALAS DE TEMPORIZACION

PM, PDM, PDI: 1 - 10 seg, min, horas ó días  
PDA20: 1 - 10 seg / 1 - 3 min (1 - 3 - 10 min)  
PDS20: (t1): 10 - 30 seg / 1 - 3 min  
(t2): 40 - 60 - 80 - 100 ms  
Posibilidad de ajuste: entre el 5%...100% del final de escala

## Características técnicas importantes

### 10. DIMENSIONES

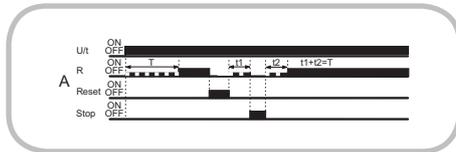


## DESCRIPCIÓN DEL FUNCIONAMIENTO

### ON delay (A)

When the supply voltage U is applied, the value of the time already expired is cleared and the set time t begins to run (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. The status is maintained until the supply voltage is interrupted.

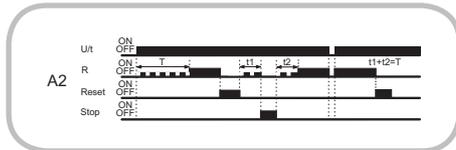
A new time lapse can be started at any time by applying a signal at the RESET function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied to the function input, the time lapse continues. Signals at the SIGNAL function input are ignored for this particular function.



### ON delay, power failure detection (A2)

When the supply voltage U is applied, the value of the time already expired is not cleared (power failure recognition) and the time lapse is continued or restarted (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the set time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. If the supply voltage is interrupted, both the expired time t up to this point and the relay position are saved (power failure recognition).

A new time lapse can be started at any time by applying a signal at the RESET function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues. Signals at the SIGNAL function input are ignored for this particular function.

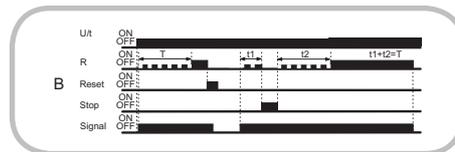


### ON delay with control contact (B)

The supply voltage U must be constantly applied to the device. When the supply voltage is applied the value of the time already expired is cleared. When a signal is applied at the SIGNAL function input, the set time t begins to run (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. This status is maintained until the signal at the SIGNAL function input is removed again.

Applying a signal at the RESET function input releases the output relay (OP display does not light up) and the time already expired is cleared. A new time lapse is started by applying a signal at the SIGNAL function input.

The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



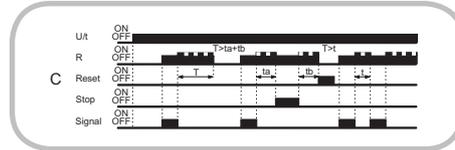
### OFF delay with control contact (C)

The supply voltage U must be constantly applied to the device. When the supply voltage is applied the value of the time already expired is cleared. When a signal is applied at the SIGNAL function input, the output relay R picks up (OP display lights up). If the signal at the SIGNAL function input is removed, the set time t begins to run (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay releases (OP display is deleted) and the set time t (adding) or the value 0 (subtracting) is shown in the display.

If another signal is applied at the SIGNAL function input before the expiry of the set time t, the time already expired is cleared and the process restarts with the next cycle.

Applying a signal at the RESET function input releases the output relay (OP display does not light up) and the time already expired is cleared. A new time lapse is started by applying a signal at the SIGNAL function input.

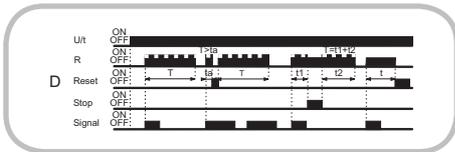
The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



# DESCRIPCIÓN DEL FUNCIONAMIENTO

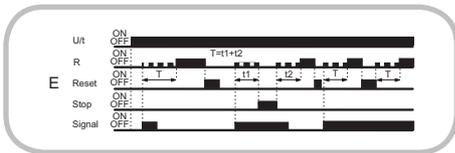
## Single shot leading edge with control contact (D)

The supply voltage U must be constantly applied to the device. When the supply voltage is applied the value of the time already expired is cleared. When a signal is applied at the SIGNAL function input, the output relay R picks up (OP display lights up) and the set time t begins to run (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay releases (OP display is deleted) and the set time t (adding) or the value 0 (subtracting) is shown in the display. Signals at the SIGNAL function input are ignored during the time lapse. Applying a signal at the RESET function input releases the output relay (OP display does not light up) and the time already expired is cleared. A new time lapse is started by applying a signal at the SIGNAL function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



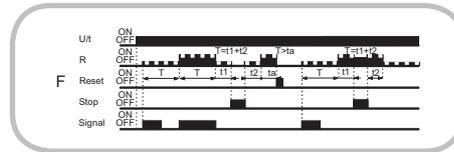
## On delay, pulse operated (E)

The supply voltage U must be constantly applied to the device. When the supply voltage is applied the value of the time already expired is cleared. When a signal is briefly applied at the SIGNAL function input, the set time t begins to run (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. Signals at the SIGNAL function input are ignored during the time lapse. Applying a signal at the RESET function input releases the output relay (OP display does not light up) and the time already expired is cleared. A new time lapse is started by applying a signal at the SIGNAL function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



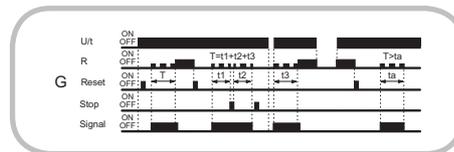
## Flasher pause first (F)

The supply voltage U must be constantly applied to the device. When the supply voltage is applied the value of the time already expired is cleared. When a signal is applied at the SIGNAL function input, the set time t begins to run (display for lapse time flashes, counting runs either by adding or subtracting). After expiry of the time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. The output relay is triggered in the ratio 1:1 until the supply voltage is interrupted. Signals at the SIGNAL function input are ignored during the time lapse. Applying a signal at the RESET function input releases the output relay (OP display does not light up) and the time already expired is cleared. A new time lapse is started by applying a signal at the SIGNAL function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



## On delay with control contact, adding, power failure detection (G)

When the supply voltage U is applied, the time already expired is not cleared (power failure recognition). When a signal is applied at the SIGNAL function input, the time lapse continues (display for time lapse flashes, counting runs either by adding or subtracting). After expiry of the set time t, the output relay R picks up (OP display lights up) and the set time t (adding) or the value 0 (subtracting) is shown in the display. If the signal at the SIGNAL function input or the supply voltage is interrupted, both the expired time t up to this point and the relay position are saved (power failure recognition). A new time lapse can be started at any time by applying a signal at the RESET function input. The time lapse can be interrupted for any length of time by applying a signal at the STOP function input. If no signal is applied at the STOP function input, the time lapse continues.



## CONEXIONES

