

Multi function timer MKE timetron® MKC timetron® with thyristor output

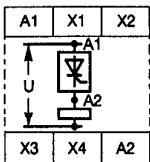


MKE screw connection



MKC cage clamp connection

- 4 functions:
 - Delay on operate AC/DC
 - Single pulse on release only AC
 - Single pulse on operate only AC
- solid-state for high switching frequency
- Continuous voltage range 24...240 V AC/DC
- 2 time ranges 0.1... 300 s in one device
- Function and time range selection by external bridge



Time ranges

Supplied in packs of 10 units per reference

0.1...10 s
3...300 s

■ Approvals:

Supply voltage	P/N: E series Screw connection	P/N: C series Spring connection
24...240 V AC/DC	2 550 019 00	2 530 019 00

Technical data

Input circuit

Supply voltage	A1, A2	24...240 V AC/DC
Tolerance of the supply voltage		-10% ...+10%
Mains frequency		50...60Hz
Voltage drop in connected state		(A1/A2) ≤ 3 V
Current consumption whilst delay time		≤ 2 mA (24...60 V AC/DC) ≤ 8 mA (60...240 V AC/DC)

Timing circuit

Time ranges	0.1...10s	3...300 s
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Recovery time

100 ms

Repetitive accuracy

± 0.2 %

Timing error within the tolerance of the supply voltage

≤ 0.5 %

Timing error within the temperature range

≤ 0.1 % / °C

Display of operational status

LED red

Timer

Thyristor

Output circuit

max. 240 V AC

Switching voltage

20 mA

Load current min.

0.8 A at $T_0 = 20^\circ\text{C}$

Load current max.

10 mA/°C

Load current reduced

≤ 20 A for $t \leq 20$ ms

Surge current max.

at 24 V AC = 220 m/22 nF

Maximal cable length between MKE/MKC and connected switching load

at 48 V AC = 100 m/10 nF

at 50 Hz and a cable capacity of 100 pF/m:

at 60 V AC = 65 m/6.5 nF

at 110 V AC = 50 m/5.0 nF

at 240 V AC = 22 m/2.2 nF

General data

4 kV

Pulse voltage withstand Uimp

-20°C ... +60°C

Operating temperature range

-40°C ... +85°C

Storage temperature range

any

Installation position

Snap-on mounting/ Screw mounting by adapter

Mounting on DIN rail (EN 50022)

2 x 1.5 mm²

Wire size stranded with wire end ferrule

approx. 150 g

Weight

Note

Supplied in packs of 10 units per reference



Operation

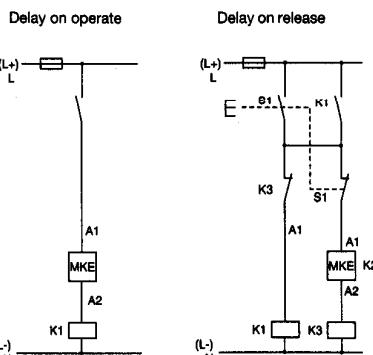
MKE/MKC is a solid-state timer for various applications with thyristor output for 2-wire technique.

It is connected in line to the control inductor of contactors or relays. The voltage should not be connected without a load being connected, because it does not have a current limitation.

Functions and time ranges are programmed simply by plugging external wire bridges.

Times can be set exactly by a knurled thumb wheel with relative time scale.

Connection scheme when being used as timer delayed on release
S 1 = control contact
K 1 = contactor with timer delayed on release
K 2 = Switching delay MKE
K 3 = Auxiliary contactor



Programming of functions and time ranges
Functions and time ranges are programmed simply by plugging external wire bridges.

Function "Delay on operate"

Without external connection. If voltage is connected e. g. by an external control contact to a series connection of contactor or relay, the timer will start. After the set delay time the thyristor will switch and energise the contactor. MKE/MKC works as a switching delayer.

Function "Delay on release"

With an additional auxiliary contactor it is possible also to realize a circuit with "delay OFF" afterwards the circuit on the scheme beneath.

Function "Single pulse on operate"

External connection X₁-X₄. If voltage is connected e. g. by an external control contact to a series connection of contactor or relay, the thyristor will switch without delay and energizes the contactor. After the time has elapsed, the thyristor blocks, the contactor opens.

Function "Flashing, starting with operate"

External connection X₁-X₄ and X₃-X₄. If voltage is connected e. g. by an external control contact to a series connection of contactor or relay, the relay will control the contactor cyclically. The ON and OFF times are identical. It starts with an "ON" time.

Function "Flashing, starting with release"

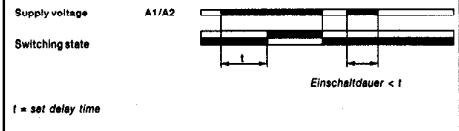
External connection X₁-X₄. If voltage is connected e. g. by an external control contact to a series connection of contactor or relay, the contactor controls cyclically with the preset time. The ON and OFF times are identical. It starts with an "OFF" time.

Programming the time ranges

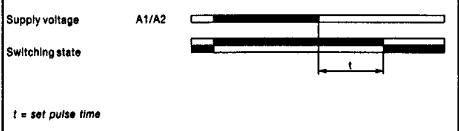
Time ranges 0.1...10 s - necessary connection: X₃-X₄
3...300 s - no connection

4 Functions

= Delay on operate



= Single pulse on operate



= Flasher, starting with "ON"



= Flasher, starting with "OFF"

