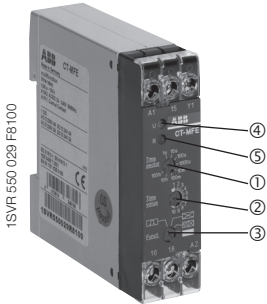


# Electronic timer CT-MFE

## Multifunctional with 1 c/o contact

### Data sheet



CT-MFE

- ① 8 selectable time ranges, from 0.05 s to 100 h
- ② Rotary switch for the fine adjustment of the time delay
- ③ Rotary switch for the preselection of the desired timing function
- ④ U: green LED - Control supply voltage
- ⑤ R: red LED - Output relay energized

#### Characteristics

- One device includes 8 times ranges, from 0.05 s to 100 h
- Rated control supply voltage range from 24 to 240 V AC/DC
- Multifunction timer with 6 timing functions: ON-delay, OFF-delay, impulse-ON, flasher starting with ON, flasher starting with OFF, pulse former
- 1 c/o contact
- Timing can be started via an external, voltage-related control input
- 2 LEDs for status indication
- Width 22.5 mm

#### Approvals

- cULus
- GL
- GOST
- CB
- CCC

#### Marks

- CE
- C-Tick

#### Order data

Type	Rated control supply voltage	Time range	Order code
CT-MFE	24-240 V AC/DC	0,05 s - 100 h	1SVR 550 029 R8100

#### Application

Their conception makes the CT-E range timers ideal for serial applications.

Multifunction timers are ideally suited for service and maintenance applications, because one device can replace a number of time relays with different functions, voltage and time ranges. This reduces inventory and saves money.

#### Operating mode

The CT-MFE with 1 c/o contact provides 6 timing functions. The function is rotary switch selectable on the front of the unit. Each function is indicated by an international function symbol. One of 8 time delay ranges, from 0.05 s to 100 h, can be selected with another rotary switch. The fine adjustment of the time delay is also made via a rotary switch on the front of the unit.

# Electronic timer CT-MFE

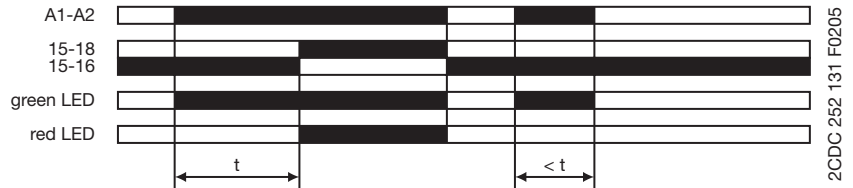
## Multifunctional with 1 c/o contact

### Data sheet

#### Function diagrams

##### ☒ ON-delay (Delay on make)

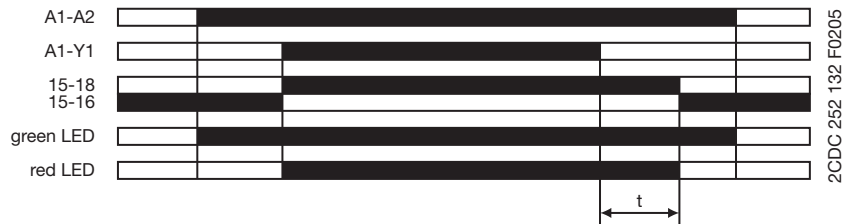
Timing begins when control supply voltage is applied. When the selected time delay is complete, the output relay energizes.  
 If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset.  
 Interrupting control supply voltage before the time delay is complete, resets the time delay. The output relay does not energize.  
 Control input A1-Y1 is disabled when this function is selected



t = adjusted time delay

##### ■ OFF-delay with auxiliary voltage (Delay on break)

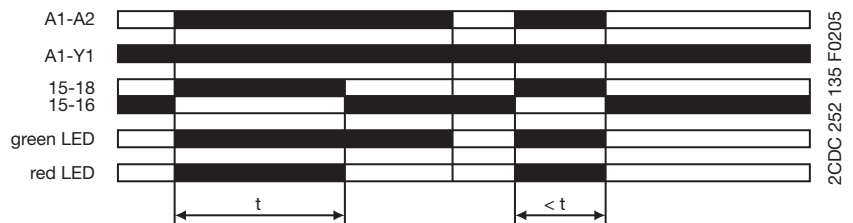
This function requires continuous control supply voltage for timing.  
 Timing is controlled by a control input, connected to terminals A1-Y1. If the control input is closed, the output relay energizes. If control input A1-Y1 is opened, the selected time delay starts. When the time delay is complete, the output relay de-energizes.  
 If control input A1-Y1 closes before the time delay is complete, the time delay is reset. Timing starts again when the control input re-opens.



t = adjusted time delay

##### 1┐☒ Impulse-ON (Interval)

The output relay energizes immediately when control supply voltage is applied and de-energizes after the selected time delay time is complete.  
 If control supply voltage is interrupted before the time delay is complete, the output relay de-energizes and the time delay is reset.  
 Control input A1-Y1 has to be jumpered, when this timing function is selected..



t = adjusted pulse time

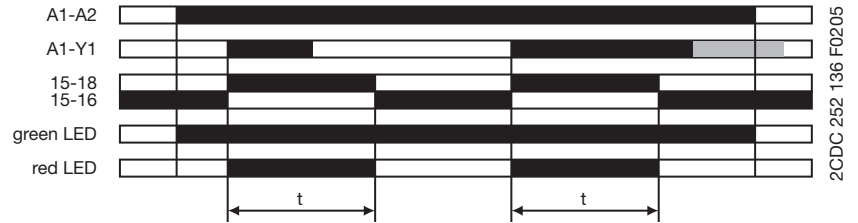
# Electronic timer CT-MFE

## Multifunctional with 1 c/o contact

### Data sheet

#### Pulse former (Single shot)

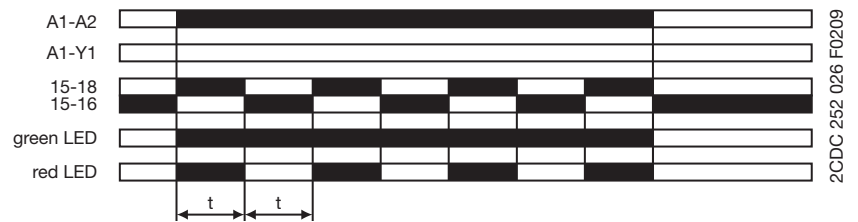
Closing the control input connected to terminals A1-Y1, with control supply voltage applied, energizes the output relay for the selected ON time. When the ON time is complete, the output relay de-energizes. Operating the control input switch A1-Y1 during the time delay has no effect. After the time delay is complete, it can be restarted by closing control input A1-Y1. If control supply voltage is interrupted during timing, the output relay de-energizes and the ON time is reset.



$t$  = adjusted pulse time

#### Flasher with symmetrical ON & OFF times, starting with the ON time (Recycling equal times, ON first)

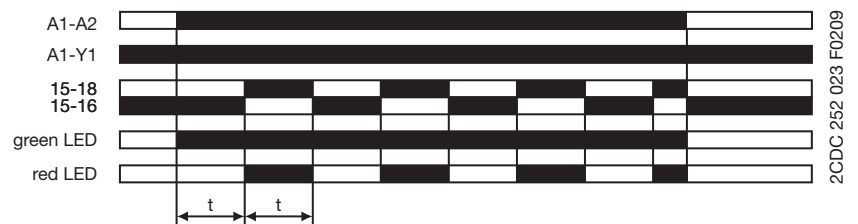
Applying control supply voltage starts timing with symmetrical ON & OFF times. The cycle starts with an ON time first. If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset. Control input A1-Y1 has to be open, when this timing function is selected.



$t$  = adjusted flashing time

#### Flasher with symmetrical ON & OFF times, starting with the OFF time (Recycling equal times, OFF first)

Applying control supply voltage starts timing with symmetrical ON & OFF times. The cycle starts with an OFF time first. If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset. Control input A1-Y1 has to be jumpered, when this timing function is selected.



$t$  = adjusted flashing time

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# Electronic timer CT-MFE

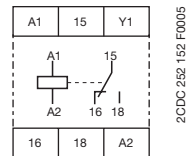
## Multifunctional with 1 c/o contact

### Data sheet

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#### Connection diagram

#### CT-MFE



Version: 1SVR 550 029 R8100  
A1-A2 Supply: 24-240 V AC  
15-16/18 c/o contact

# Electronic timer CT-MFE

## Multifunctional with 1 c/o contact

### Data sheet

#### Technical Data

Input circuits		
Rated control supply voltage	A1-A2	24-240 V AC/DC
Power consumption	24-240 V AC/DC	approx. 1.0-2.0 VA/W
Supply voltage tolerance		-15...+10 %
Frequency of the rated control supply voltage		DC or 50/60 Hz
Control input connections, voltage-related	A1-Y1	start timing external
Control voltage potential		Rated control supply voltage
Minimum control pulse length		20 ms
Duty time		100 %
Timing circuit		
Time ranges		0.05-1 s
		0.5-10 s
		5-100 s
		50-1000 s
		0.5-10 min
		5-100 min
		0.5-10 h
		5-100 h
Recovery time		< 50 ms
Repeat accuracy (constant parameters)		< 1 %
Accuracy within the supply voltage tolerance range		$\Delta t < 0.5 \%$
Accuracy within operating temperature range		$\Delta t < 0.06 \%$ / °C
Indication of operational states		
Supply voltage / timer		green LED
Output relay energized		red LED
Output circuits		
Number of contacts	15-16/18	
Number of contacts		relay, 1 c/o contact
Contact material		AgCdO
Related voltage	acc. to VDE 0110, IEC 60947-1	250 V
Maximum switching voltage		250 V AC, 250 V DC
Rated switching current acc. to IEC 60947-5-1	AC-12 (resistive) 230 V	4 A
	AC-15 (inductive) 230 V	3 A
	DC-12 (resistive) 24 V	4 A
	DC-15 (inductive) 24 V	2 A
Maximum lifetime	mechanical	30 x 10 <sup>6</sup> switching cycles
	electrical (AC-12, 230 V, 4 A)	0.1 x 10 <sup>6</sup> switching cycles
Short circuit proof, max. fuse rating	n/c	10 A fast, operating class gL
	n/o	10 A fast, operating class gL
General data		
Enclosure	width	22.5 mm
	length	78. mm
	depth	78.5 mm
Wire size	fine-strand with wire end ferrule	2 x 1.5 mm <sup>2</sup>
	fine-strand without wire end ferrule	
	rigid	
Weight		approx. 80 g (2.8 oz)
Mounting position		any
Degree of protection	enclosure / terminals	IP50 / IP20
Temperature	operating	-20...+60 °C
	storage	-40...+85 °C
Mounting		DIN rail (EN 50022)
Standards		
Product standard		IEC 61812-1, EN 61812-1
EMC Directive		2004/108/EC
Electromagnetic compatibility		IEC/EN 61000-6-2, IEC/EN 61000-6-4
ESD	IEC/EN 61000-4-2	level 3 6 kV / 8 kV
HF radiation resistance	IEC/EN 61000-4-3	level 3 10 V/m
Burst	IEC/EN 61000-4-4	level 3 2 kV / 5 kHz
Surge	IEC/EN 61000-4-5	level 4 2 kV L-L

# Electronic timer CT-MFE

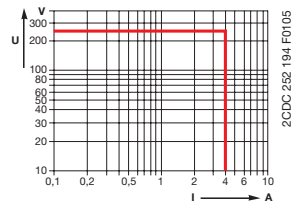
## Multifunctional with 1 c/o contact

### Data sheet

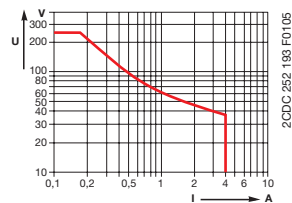
HF line emission	IEC/EN 61000-4-6	level 3 10 V
Low Voltage Directive		2006/95/EC
Operational reliability	acc. to IEC 68-2-6	6 g
Mechanical resistance	acc. to IEC 68-2-6	10 g
<b>Approvals / marks</b>		
Approvals		cULus, GL, GOST, CB and CCC
Marks		CE and C-Tick
<b>Isolation data</b>		
Rated insulation voltage between supply circuit, control circuit and output circuit	acc. to VDE 0110, IEC 60947-1	supply up to 240 V: 300 V supply up to 440 V: 500 V
Rated impulse withstand voltage between all isolated circuits	acc. to VDE 0110, IEC 664	4 kV / 1.2-50 $\mu$ s
Test voltage between all isolated circuits		2.5 kV, 50 Hz, 1 min.
Pollution category	acc. to VDE 0110, IEC 664, IEC 255-5	III/C
Overvoltage category	acc. to VDE 0110, IEC 664, IEC 255-5	III/C
Environmental testing	acc. to IEC 68-2-30	24 h cycle time, 55 °C, 93 % rel., 96 h

#### Load limit curves

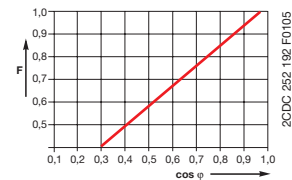
##### AC load (resistive)



##### DC load (resistive)



##### Derating factor F for inductive AC load



##### Contact lifetime /switching cycles N



220 V 50 Hz 1 AC 360 cycles/h

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# Electronic timer CT-MFE

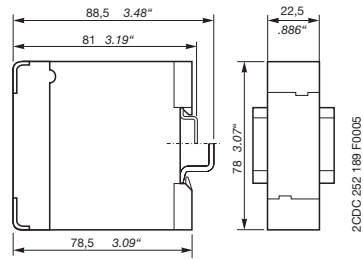
## Multifunctional with 1 c/o contact

### Data sheet

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#### Dimensional drawings

Dimensions in mm





As part of the on-going product improvement, ABB reserves the right to modify the characteristics of the products described in this document. The information given is non-contractual.

For further details please contact ([www.abb.com/contacts](http://www.abb.com/contacts)) the ABB company marketing these products in your country.

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