

## MFT Series



### Description

Multi-Function Timer featuring seven knob-selectable functions and seven knob-selectable time ranges spanning from 0.1 seconds to 100 hours. Designed for DIN-rail mounting, it offers a housing width of 17.5 mm in a SPDT configuration, suitable for both back and front panel installation. Compatible with a wide power supply range: 24 VDC, 24 to 240 VAC, or 12 to 240 VAC/DC.

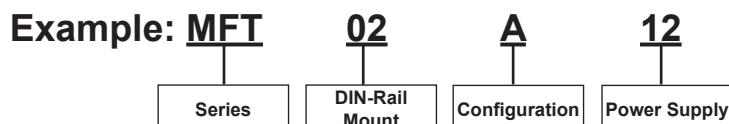
### Main Features

- Selectable time range 0.1 s to 100 h
- 7 knob selectable functions:
 

Op	-	delay on operate
In	-	interval
Io	-	interval on trigger open
Id	-	double interval
Dr	-	delay on release
R	-	symmetrical recycler ON first
Rb	-	symmetrical recycler OFF first
- Automatic or manual start
- Repeatability:  $\leq 0.2\%$
- Output: 5 A SPDT or 5 A DPDT relays
- For mounting on DIN-rail in accordance with DIN/EN/EC 60715
- 17.5 mm DIN-rail housing (DIN 43880)
- Combined AC and DC power supply
- LED indication for relay status and power supply ON

### Part Numbering System

Code	Option	Description
MFT		Product Series
-	02	DIN Rail Mount
-	A	SPDT Configuration, 17.5 mm Package
-	12	Power Supply: 12 to 240 VAC/DC
-	24	Power Supply: 24 VDC and 24 to 240 VAC



### Time Specifications

<b>Time ranges</b> Knob selectable	0.1 to 1 s
	1 to 10 s
	6 to 60 s
	60 to 600 s
	0.1 to 1 h
	1 to 10 h
	10 to 100 h
<b>Setting accuracy</b>	$\leq 5\%$
<b>Repeatability</b>	$\leq 0.2\%$
<b>Time variation</b> Within rated power supply Within ambient temperature	$\leq 0.05\%/V$
	$\leq 0.2\%/^{\circ}C$
<b>Reset</b> Manual reset of time and/or relay Pulse duration Power supply interruption	Close the trigger contact between pins A1 and Y1
	$\geq 100$ ms
	$\geq 200$ ms
<b>Automatic start</b>	Connect pins A1 and Y1

### Output Specifications

<b>Output</b>	SPDT relay
<b>Rated insulation voltage</b>	250 VAC (rms)
<b>Contact Ratings</b> DMB51 (SPDT): Resistive loads Small inductive loads	$\mu$
	AC 1 5 A @ 250 VAC
	DC 12 5 A @ 24 VDC
	AC 15 2.5 A @ 250 VAC
	DC 13 2.5 A @ 24 VDC
<b>Mechanical life</b>	$\geq 30 \times 10^6$ operations
<b>Electrical life</b>	$\geq 50 \times 10^3$ operations (at 5 A, 250 V, $\cos \phi = 1$ )
<b>Dielectric strength</b> Dielectric voltage Rated impulse withstand voltage	2 kVAC (rms)
	2.5 kV (1.2/50 $\mu$ s)



## Supply Specifications

<b>Power supply</b>	Overvoltage cat. III (IEC 60664, IEC 60038)
Rated operational voltage through terminals:	
A1, A2 M24:	24 VDC ± 15% and 24 to 240 VAC + 10% -15%, 45 to 65 Hz
W24:	12 to 240 VDC + 10% -15% and 12 to 240 VAC + 10% -15%, 45 to 65 Hz
<b>Voltage interruption</b>	≤ 10 ms
<b>Consumption</b>	
MFT02A12	< 3.5 VA
MFT02A24	< 3 VA

## Time Setting

### Upper knob:

Setting of function:

- Op - delay on operate
- In - interval
- Io - interval on trigger open
- Id - double interval
- Dr - delay on release
- R - symmetrical recycler  
(ON first)
- Rb - symmetrical recycler  
(OFF first)

### Centre knob:

Time setting on relative scale:  
1 to 10 with respect to the  
chosen range.

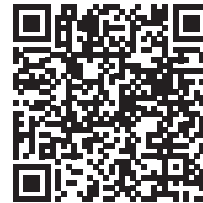
### Lower knob:

Setting of time range

## General Specifications

<b>Power ON delay</b>	≤ 100 ms
<b>Indication for</b>	
Power Supply ON	LED, green
Output Relays ON (flashing when timing)	LED, yellow
<b>Environment</b>	(EN 60529)
Degree of Protection	IP 20
Pollution Degree	2 (IEC 60664)
Operating Temperature	-25° to +60°C, R.H. < 95%
Storage Temperature	-30° to +80°C, R.H. < 95%
<b>Housing</b>	
Dimensions	17.5 x 81 x 67.2 mm
Material	PA66
<b>Weight</b>	75 g
<b>Screw terminals</b>	
Tightening torque	Max. 0.5 Nm according to IEC EN 60947
<b>Approvals</b>	cULus, RCM
<b>Marking</b>	CE, UKCA
<b>EMC</b>	Electromagnetic Compatibility
Immunity	According to EN 61000-6-2
Emissions	According to EN 61000-6-3

Questions? Scan the QR code to submit your inquiry.



## Mode of Operation

### Function Op Delay on operate

The time period begins as soon as the trigger contact is closed.

At the end of the set delay time the relay operates and does not release until the trigger contact is closed again or the power supply is disconnected. If the trigger contact is closed before the end of the delay time, the device resets and a new time period starts.

### Function In Interval

The relay operates and the time period begins as soon as the trigger contact is closed. The relay releases at the end of this period or when the power supply is disconnected. The relay operates again when the trigger contact is closed again. If the trigger contact is closed before the end of the delay time, the device resets and a new time period starts.

### Function Io Interval on trigger open

The relay operates and the time period begins as soon as the trigger contact is opened. At the end of the set delay or when the power supply is disconnected the relay releases. The relay operates again when the trigger contact is opened again. If the trigger contact is opened before the end of the delay time the relay keeps ON and a new time period begins.

### Function Id Double interval

The relay operates and the time period begins as soon as the trigger contact is closed. The relay releases at the end of this period or when the power supply is disconnected. When the trigger contact is opened the relay operates again for the set delay period. If the trigger contact is opened before the end of the first time period the second one begins; if the trigger contact is closed before the end of the second time period the device resets and the first time period begins again.



## Mode of Operation (Continued)

### Function Dr Delay on release

The relay operates as soon as the trigger contact is closed. The time period begins when the trigger contact is opened. The relay releases at the end of the set delay time or when the power supply is disconnected. The relay operates again when the input contact is closed again. If it is opened before the end of the delay time the relay keeps ON, a new time period begins as soon as the contact is closed again.

### Function R Symmetrical Recycler ON-time period first

The relay operates and the time period begins as soon as the input contact is closed. After the set delay period the relay releases for the same time period. This sequence continues with equal ON- and OFF-time periods until the power supply is interrupted.

### Function Rb Symmetrical Recycler OFF-time period first

The time period begins as soon as the input contact is closed. The relay is OFF during the set delay period, after this time it operates for the same time period. This sequence continues with equal OFF- and ON-time periods until the power supply is interrupted.

### Additional Load

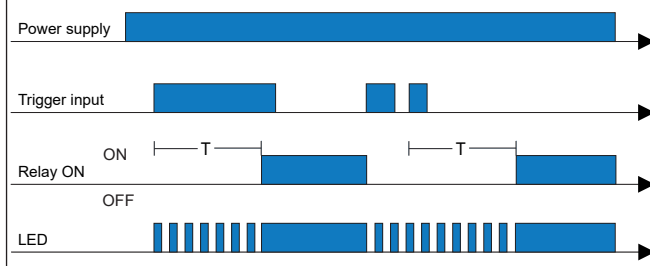
It's possible to wire an additional load (i.e. a relay) between pins Y1 and A2, driven by the trigger contact without damaging the device.

### Yellow LED working mode

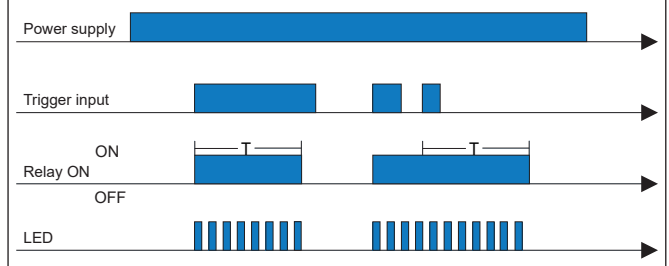
Timing: Slow blinking  
Relay ON: See operation diagrams  
Incorrect knobs position: Fast blinking

## Operating Diagrams

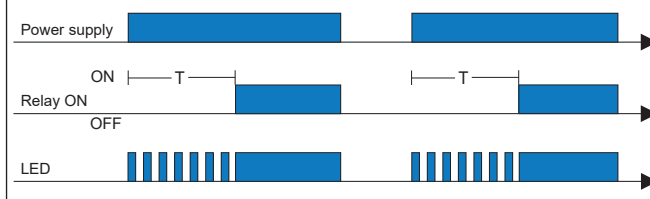
### Function Op - Delay on operate - Manual start



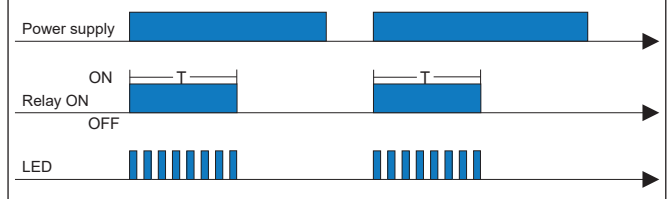
### Function In - Interval - Manual start



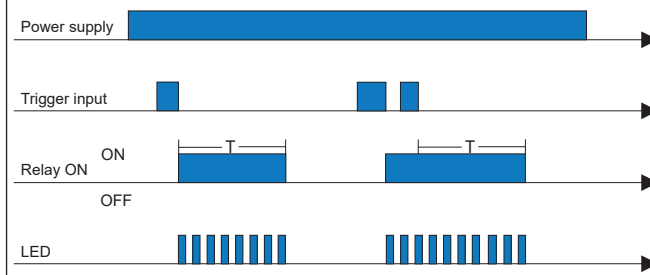
### Function Op - Delay on operate - Automatic start



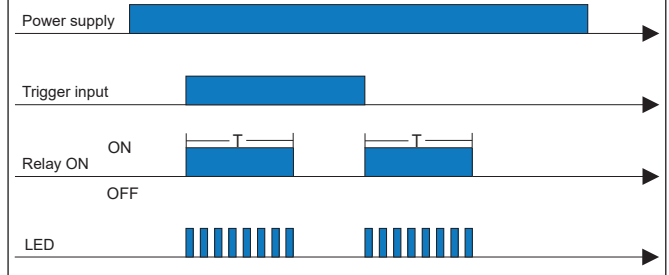
### Function In - Interval - Automatic start



### Function Io - Interval on trigger open

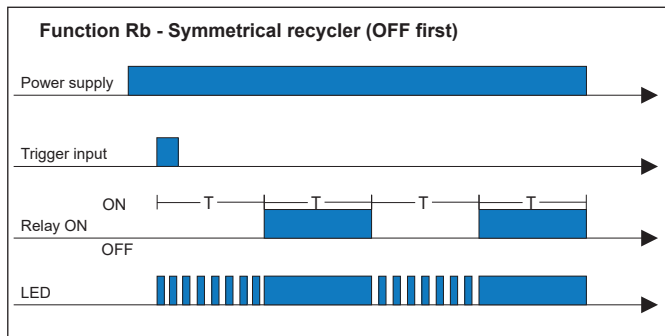
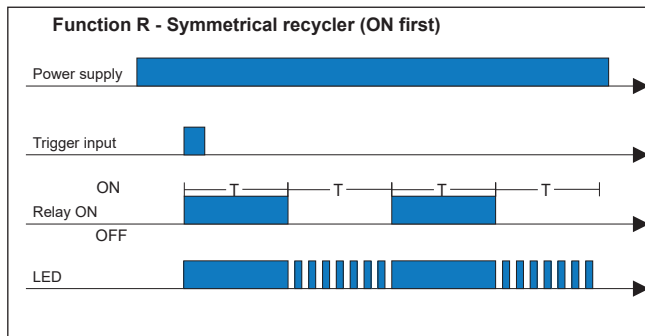
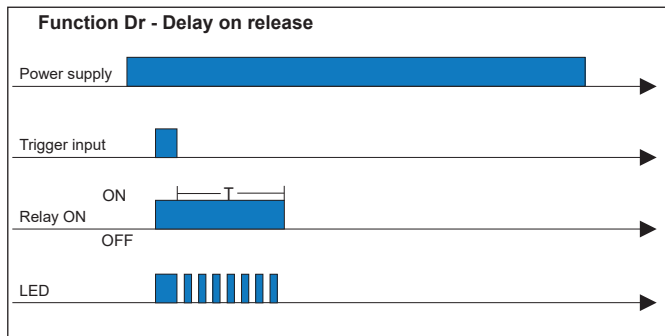


### Function Id - Double interval

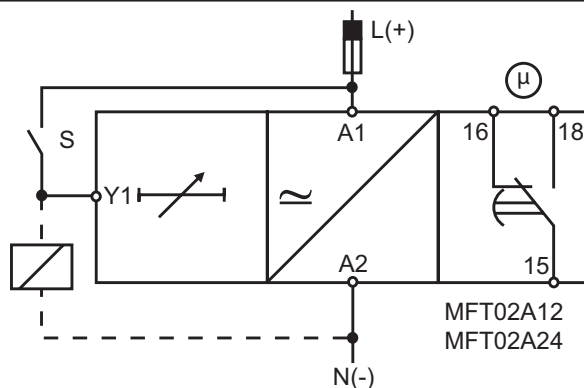




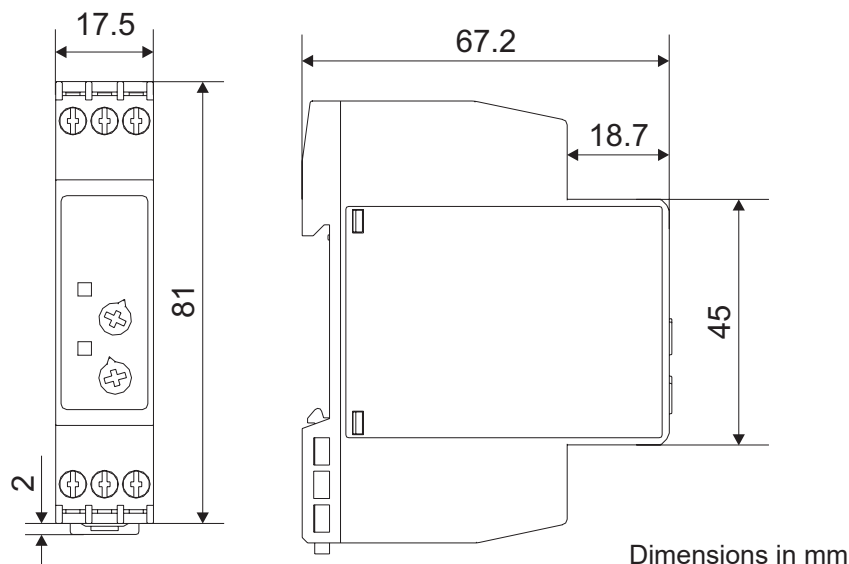
## Operating Diagrams



## Wiring Diagram



## Dimensions



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