

# Timers

## Asymmetrical Recycler

### Type DCB51

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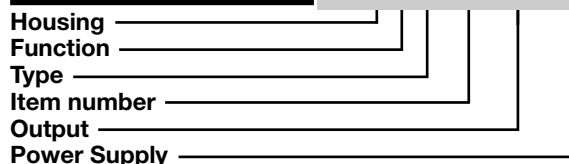
- Time range 0.1 s to 100h
- 2 selectable functions
  - Aa - Asymmetrical recycler ON first
  - Ab - Asymmetrical recycler OFF first
- Selection of time range by front knobs
- Knob adjustable time setting
- Automatic start
- Output: 1 x SPDT relay
- For mounting on DIN rail in accordance with DIN/EN 50 022
- 17.5 mm DIN-rail housing
- Combined AC and DC power supply voltage
- LED indication for relay status and power supply ON

### Product Description

Combined function timer with asymmetrical recycler ON or OFF first selectable by connection between pins A1 and Y1. Individual selection of the time ranges from 0.1 s to 100 h. For mounting on DIN-rail.

### Ordering key

**DCB 51 C M24**



### Type Selection

Mounting	Output	Housing
For DIN-rail	1 x SPDT	Mini-D

Supply: 24 VDC and 24 to 240 VAC

DCB 51 C M24

### 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>	≤ 5%
<b>Repeatability</b>	≤ 0.2%
<b>Time variation</b> Within rated power supply Within ambient temperature	(with respect to full scale value) ≤ 0.2% - whole range ≤ 500 ppm/°C
<b>Reset</b> Power supply interruption	≥ 200 ms

### Output Specifications

<b>Output</b>	1 x SPDT relay
<b>Rated insulation voltage</b>	250 VAC (RMS)
<b>Contact Ratings (AgSnO<sub>2</sub>)</b>	μ
Resistive Loads AC 1	5 A @ 250 VAC
DC 12	5 A @ 24 VDC
Small inductive loads AC 15	2.5 A @ 250 VAC
DC 13	2.5 A @ 24 VDC
<b>Mechanical life</b>	≥ 30 x 10 <sup>6</sup> operations
<b>Electrical life</b>	≥ 10 <sup>5</sup> operations (at 5 A, 250 V, cos φ = 1)
<b>Operating frequency</b>	< 7200 operations/h
<b>Dielectric strength</b>	
Dielectric voltage	2 kVAC (RMS)
Rated impulse withstand voltage	2.5 kV (1.2/50 μs)

### Supply Specifications

<b>Power Supply</b> Rated operational voltage through terminals A1, A2:	Overvoltage cat. II (IEC 60664, IEC 60038) 24 VDC +10% -15% and 24 to 240 VAC +10% -15% 45 to 65 Hz
<b>Voltage interruption</b>	≤ 10 ms
<b>Rated operational power</b>	1.5 W



## General Specifications

<b>Power ON delay</b>	≤ 150 ms
<b>Power OFF delay</b>	≤ 200 ms
<b>Indication for</b>	
Power supply ON	LED, green
Output relays ON	LED, yellow
<b>Environment</b>	(EN 60529)
Degree of protection	IP 20
Pollution degree	2 (IEC 60664)
Operating temperature	-20 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>	Approx 100 g
<b>Screw terminals</b>	
Tightening torque	Max. 0.5 Nm according to IEC EN 60947
<b>Approval</b>	UL, CSA
<b>CE Marking</b>	Yes
<b>EMC</b>	
Immunity	Electromagnetic Compatibility According to EN 61000-6-2
Emission	According to EN 61000-6-3

## Mode of Operation

### Function Aa - Asymmetrical Recycler ON-time period first

The relay operates and the ON-time period (T1) begins as soon as the power supply is connected. After the ON-time period the relay releases for the OFF-time period (T2). This sequence continues until the power supply is interrupted for at least 200 ms.

### Function Ab - Asymmetrical Recycler OFF-time period first

The OFF-time period (T1) begins as soon as the power supply is connected. After the OFF-time period the relay operates for the ON-time period (T2). This sequence continues until the power supply is interrupted for at least 200 ms.

## Function/Range/Time Setting

### Setting of function:

No connection between terminals A1 and Y1:

Aa - asymmetrical recycler (ON first)

Connection between terminals A1 and Y1:

Ab - asymmetrical recycler (OFF first)

### Upper knob:

**T1 time range setting**  
Setting of T1 time range.

### Centre top knob:

Time T1 setting on relative scale: 1 to 10 with respect to the chosen range.

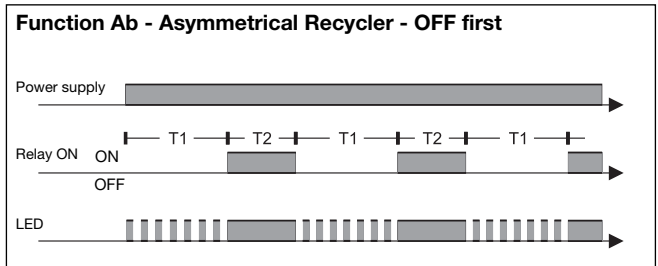
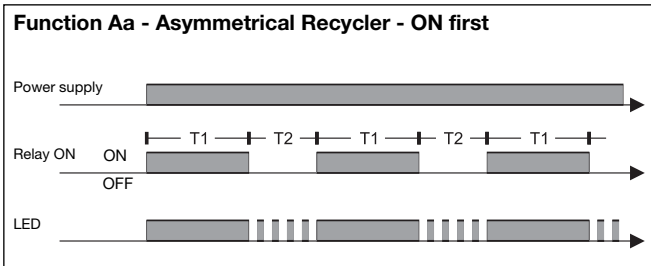
### Centre bottom knob:

Setting of T2 time range.

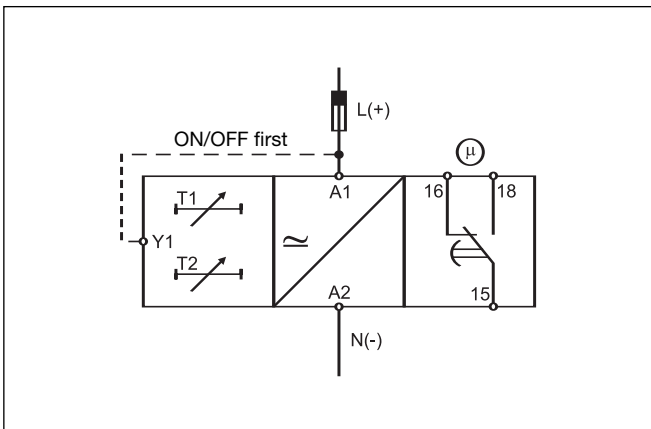
### Lower knob:

Time T2 setting on relative scale: 1 to 10 with respect to the chosen range.

## Operation Diagrams



## Wiring Diagram



## Dimensions

