Timers
Asymmetrical Recycler
# Type DCB51

CARLO GAVAZZI

- 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

Housing
Function
Type
Item number
Output
Power Supply
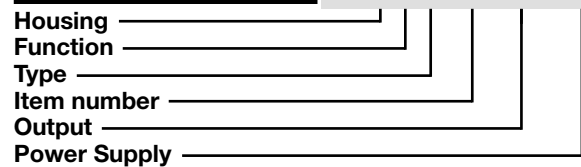
Type Selection

Mounting	Output	Housing	Supply: 24 VDC and 24 to 240 VAC
For DIN-rail	1 x SPDT	Mini-D	**DCB 51 C M24**

Time Specifications

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

Output Specifications

Output		1 x SPDT relay
Rated insulation voltage		250 VAC (RMS)
Contact Ratings ($AgSnO_2$)		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
Mechanical life		≥ 30 x 10^6 operations
Electrical life		≥ 10^5 operations (at 5 A, 250 V, cos φ = 1)
Operating frequency		< 7200 operations/h
Dielectric strength		
Dielectric voltage		2 kVAC (RMS)
Rated impulse withstand voltage		2.5 kV (1.2/50 µs)

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Supply Specifications

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

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.
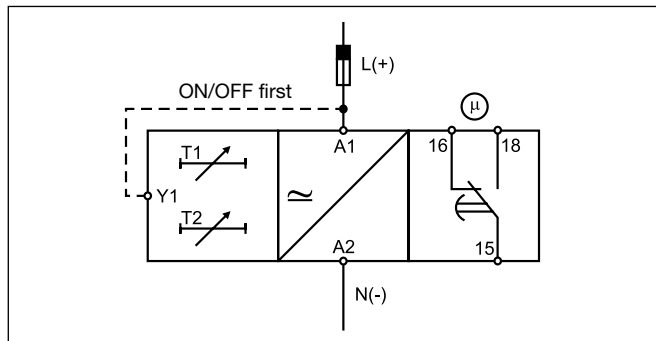
General Specifications

Power ON delay	≤ 150 ms
Power OFF delay	≤ 200 ms
Indication for	
Power supply status	LED, green
Output status	LED, yellow
Environment	(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%
Weight	Approx 100 g
Screw terminals	
Tightening torque	Max. 0.5 Nm according to IEC EN 60947
EMC	Electromagnectic Compatibility
Immunity	According to EN 61000-6-2
Emission	According to EN 50081-1
Approval	UL
CE Marking	Yes

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.

Wiring Diagram

Operation Diagrams

Function Aa - Asymmetrical Recycler - ON first

Function Ab - Asymmetrical Recycler - OFF first