

Timers Multifunction Type DMB51

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- Selectable timerange 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: 8 A 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
- LED indication for relay status and power supply ON

Product Description

Multi-voltage timer with 7 knob-selectable functions and 7 knob-selectable time ranges within 0.1s and 100h. For mounting on DIN-rail. 17.5 mm wide housing suitable both for back and front panel mounting.

Ordering Key

DMB 51 C M24

Housing _____
 Function _____
 Type _____
 Item number _____
 Output _____
 Power supply _____

Type Selection

Mounting	Output	Housing	Supply: 24 VDC and 24 to 240 VAC
DIN-rail	SPDT	Mini-D	DMB51CM24

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	$\leq 5\%$
Repeatability	$\leq 0.2\%$
Time variation Within rated power supply Within ambient temperature	$\leq 0.05\%/V$ $\leq 0.2\%/^{\circ}C$
Reset Manual reset of time and/or relay Pulse duration Power supply interruption	Close the trigger contact between pins A1 and Y1 ≥ 100 ms ≥ 200 ms

Output Specifications

Output	SPDT relay
Rated insulation voltage	250 VAC (rms)
Contact Ratings (AgSnO ₂) Resistive loads AC 1 DC 12 Small inductive loads AC 15 DC 13	μ 8 A @ 250 VAC 5 A @ 24 VDC 2.5 A @ 250 VAC 2.5 A @ 24 VDC
Mechanical life	$\geq 30 \times 10^6$ operations
Electrical life	$\geq 10^5$ operations (at 8 A, 250 V, $\cos \varphi = 1$)
Operating frequency	< 7200 operations/h
Dielectric strength Dielectric voltage Rated impulse withstand voltage	2 kVAC (rms) 2.5 kV (1.2/50 μ s)

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Supply Specifications

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

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: 10 to 110% on full scale Lower knob: Setting of time range
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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.

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

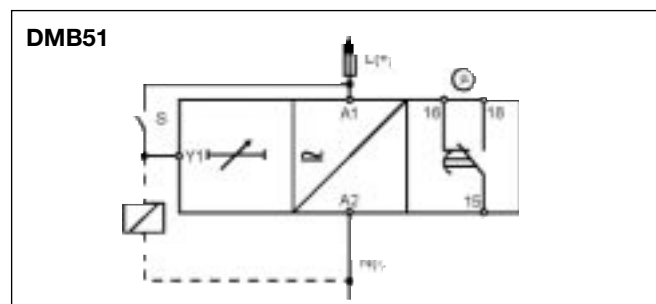
Relay ON: See operation diagrams

Incorrect knobs position:
Fast blinking

General Specifications

Power ON delay	$\leq$ 100 ms
Indication for Power supply status Output status	LED, green LED, yellow (flashing when timing)
Environment Degree of protection Pollution degree Operating temperature Storage temperature	(EN 60529) IP 20 2 (IEC 60664) -20° to +60°C, R.H. < 95% -30° to +80°C, R.H. < 95%
Weight	75 g
Screw terminals Tightening torque	Max. 0.5 Nm according to IEC 60947
Approval	UL
EMC Immunity Emission	Electromagnetic Compatibility According to EN 50082-2 According to EN 50082-1

Wiring Diagram



Operating Diagrams

