

Additional Information

1 mp6-OEM timer

1.1 Purpose of the system

The mp6-OEM timer is meant to demonstrate an autarkic, battery driven mp6 using the standardized mp6-OEM driving unit of Bartels Mikrotechnik. Besides a continuous driving mode (priming mode) it can drive the pump in different intermittent modes, where the pump is switched on once every 30 or 45 minutes. In general it is possible to customize the integrated microcontroller to other timer modi.

1.2 System components and features



Figure 1: Top view of unit

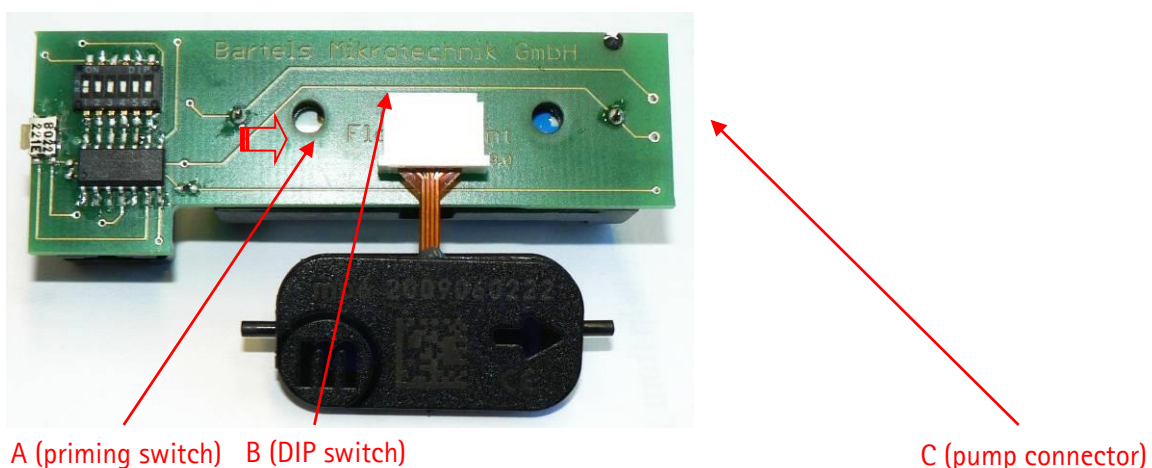


Figure 2: Bottom view of unit



- The general system consists of a PCB with the mp6-OEM mounted on top, a CR123A type 3V battery and a micropump mp6.
- The electronic is displayed in Fig 1. and Fig. 2. The functions of the switches are:
 - A. Priming of the device.
 - B. Power switch and switches for the timing periods
 - C. Electrical connector port to micropump mp6
- The green micro LED indicates if the pump is driven.

- Priming (Switch A)
 1. Priming (continuous running of the pump) can be initiated by pushing the switch A. As the status of the switch is controlled only once a second, the button must be pushed for about a second. When the green micro LED lightens up, the button can be released. Now the pump will run continuously for 5 minutes or if the button is pushed again for about a second, the priming will stop instantly.

- Timing (DIP-switches B)
 1. To change the position of the switches, a tweezer or other tool should be used. The switches are numbered and the ON and OFF state is indicated.
 2. Switch "1" is the main power switch (ON/OFF)
If only this switch is ON, the unit is in a test mode, where the pump operates every minute for 2 seconds
 3. Switch "2" controls the waiting period for the timing. The settings are only valid if one of the switches "3-6" is ON otherwise the unit is in test mode. When the switch is ON, a pumping cycle every 45 minutes is carried out, in the OFF state it is 30 minutes between the cycles.
 4. Switch "3" to "6" control the time the pump is active. Only one of these switches need to be activated (ON). Switch "3" lets the pump run for 15 seconds in the period defined by switch "2", Switch "4" lets the pump run for 18 seconds, switch "5" for 21 seconds and switch "6" for 24 seconds.



1.3 Examples

The following examples show the position of the DIP switches and the corresponding driving mode of the pump

■	□	□	■	□	□
□	■	■	□	■	■
1	2	3	4	5	6

The pump is switched ON and will pump every 30 minutes, for 18 seconds

■	□	□	□	□	□
□	■	■	■	■	■
1	2	3	4	5	6

The pump is in the test mode, will pump every 60 seconds for 2 seconds

□	■	□	■	□	□
■	□	■	□	■	■
1	2	3	4	5	6

The pump is switched OFF. If switch 1 is changed to ON, the pump will operate every 45 minutes for 18 seconds.

1.4 Priming and operation

First a pump must be connected to the unit according to the description in the manual of the mp6 micropump. Then a battery type CR 123A must be inserted with regards to the right polarity printed on the battery holder. After tubing has been connected to the pump and the reservoir is filled, the dip switch "1" should be switched ON. The priming button should be pushed according to the description above. Then the pump can either be operated in continuous mode with the priming switch, in test mode with 2 seconds pumping every 60 seconds, or in a timed pumping mode defined by the dip switches 2 and 3 through 6. Afterwards the switch "1" should be set to OFF again.

1.5 General handling procedures

As the unit produces voltages of up to 235V, it should be handled with care and not immersed in water or other fluids.

If the unit is not working properly, the unit should be switched OFF, the mp6 pump should be removed, and the unit should be driven without a pump connected. The status of the green micro LED will indicate if the unit is working. If this is not the case, a new battery should be connected to the unit.

Concerning further handling procedures of the pump, the manual of the micropump mp6 applies.



All values are approximate and no guarantee of specific technical properties.

Changes in the course of technical progress are possible without notice.

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