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INFORMATION SHEET

Part name	PWM power source for electro-osmotic pump	Part number	3000129 3000132
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Description

The PWM power source is for use with the micro electro-osmotic pump (see product datasheet 3000125) for realizing stable microfluidic flow control. This power source allows variable voltages to be applied across the electrodes of the EO pump using Pulse Width Modulation. With flow sensor feedback, highly accurate and stable control can be achieved.



3000129 PWM power source – single channel



3000129 (back view)



3000132 PWM power source – 4 channel



3000132 (back view)

Benefits

- Compact and lightweight
- Specifically designed for micro EO pump operation
- Easy operation from PC via USB connection
- The USB connection also supplies necessary power to the unit.
- Feedback Control
- Free software



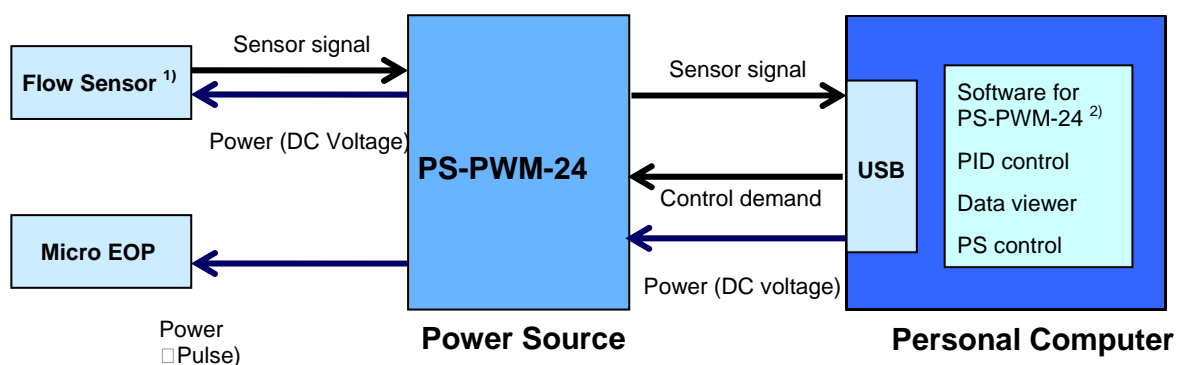
Specification

	PWM power source specification	Value
1	Output voltage ⁽¹⁾	24 V _{max}
2	Duty ratio	0 – 100 %
3	Pulse-frequency	Variable (10 – 2000 Hz)
4	Resolution of voltage	6 mV
5	Power supply	USB bus power
6	Output current	50 mA _{max}
7	Number of I/O channels	1 (3000129) or 4 (3000132)
8	Size	85 x 55 x 21 mm

Note: Pulse output with user-specified frequency and duty ratio.

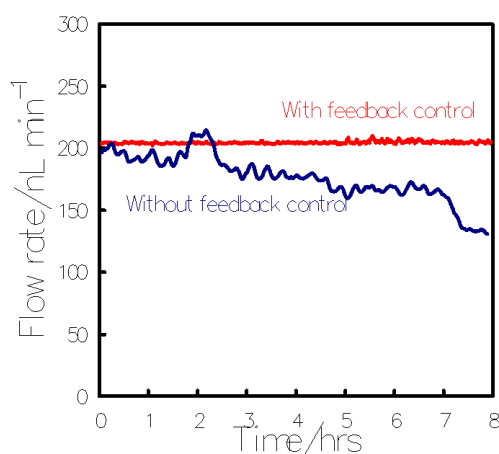
Technical Data

The diagram below shows how the power source interfaces with the software. The power source has a feedback interface for flow sensor signals. The flow sensor signal output is sent to the PC allowing closed loop PID control of the flow rate.



Block Diagram of Feedback Control

- 1) The flow sensor is not included
- 2) The software is included



Effectiveness of Feedback Control