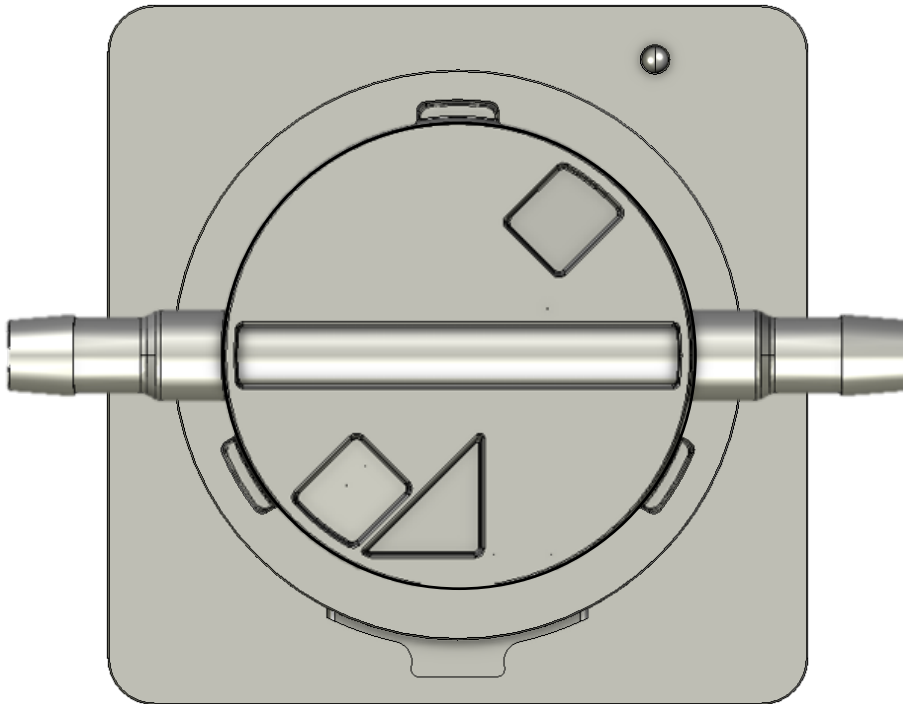


BioProTT™ FlowSU System Firmware Update Guide



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Subject to Technical Changes

Owing to our policy of continuous product development, the illustrations and technical data contained in this document may differ slightly from the current version of the device.

Legal Manufacturer

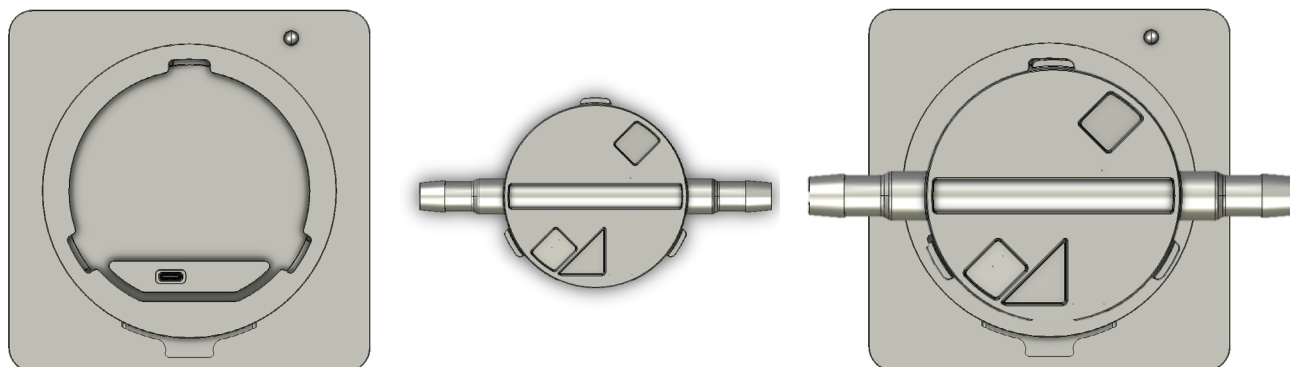
em-tec GmbH
Lerchenberg 20
86923 Finning
GERMANY

Telefon: +49 8806 9236 0
Fax: +49 8806 9236 50
E-Mail: em-tec-info@psgdover.com
Internet: www.em-tec.de



The BioProTT™ FlowSU System is em-tec's latest addition to the BioProTT™ Product Range. Designed for the integration into skids, it is geared towards industrial applications within the biopharma sector.

The system consists of the multi-use holder with integrated electronics, the BioProTT™ FlowSU System, which is directly mounted to the skid, and the single-use BioProTT™ FlowSU Sensor.



To integrate the BioProTT™ FlowSU System, the firmware and the file containing the parameter sets (also referred to as EEPROM file) must be updated first.

Please note:

The file version currently stored onto your BioProTT™ FlowSU System is indicated on the web interface. If, in the future, another update is needed, this is indicated here, too.

Sensor Information Table						
Dev Calib Factor	Sens Id	Sens Tube Size	Calib Medium	Tables count	Sens Max Flow	Cal. version
1.000	PLEASE	UPDATE	--- ---	1	0	00.00.00.01

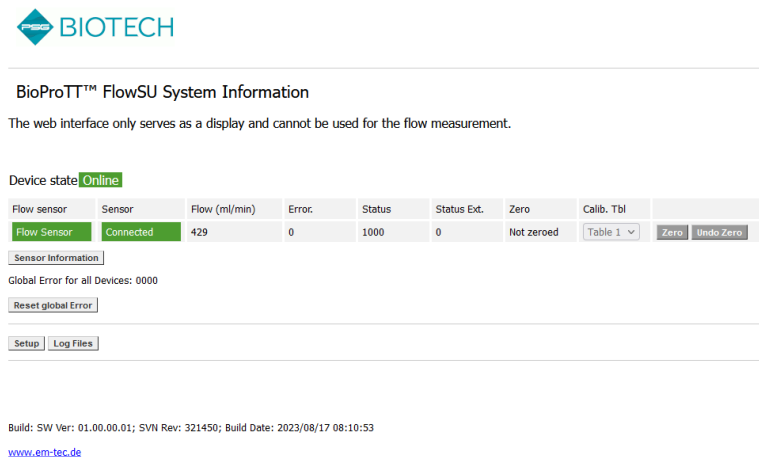
Please also note:

For information regarding the installation and integration of the system, please refer to the user manual, which is available [upon request](#) or can be downloaded from our [website](#).

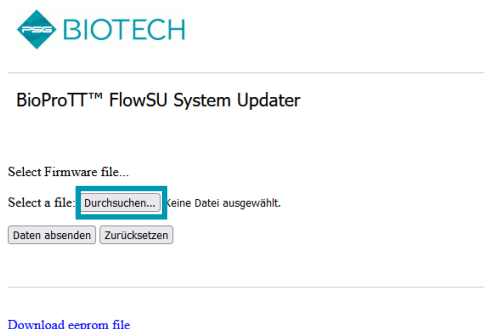
Firmware Update

To carry out the firmware update, please follow the steps described below:

- Go to the web interface of the BioProTT™ FlowSU System (default IP address is: 192.168.0.12).



- Insert the following address into your web browser
 - <http://192.168.0.12/Updater/Updater.htm>
 - **Please note:**
 - The update must be carried out with **Mozilla Firefox**.
 - If you have previously updated/changed your IP address and no longer use the default IP address, insert your current IP address in the link above, i.e.: <http://your IP adress/Updater/Updater.htm>
- Insert the user name and the password
 - user name: Em-TecUpdt
 - password: 9F2i3n6ning
- On the page that opens, select "search".



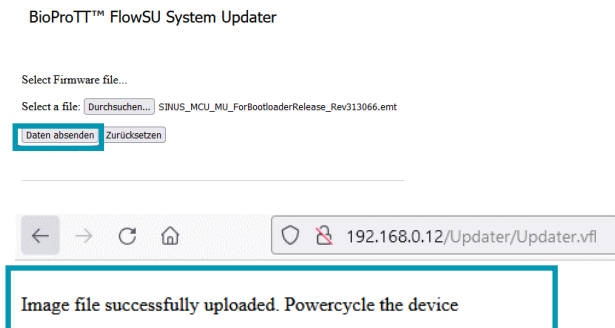
→ Select the firmware file

Name	Status	Änderungsdatum	Typ	Größe
FlowSU_EEPROM_VO_0_0_1.emt	⊙	05.04.2023 15:37	EMT-Datei	37 KB
FlowSU_MMU_SI_0_0_0_3_.emt	⊙	05.04.2023 15:37	EMT-Datei	514 KB

Please note:

When renaming the file, please be aware that the file name may only be 60 characters long!

- Select "send data" and wait until the page changes and the sentence "Image file successfully uploaded. Powercycle the device", appears.



- Power the device off, then on again.
→ The LED must be flashing in the following order

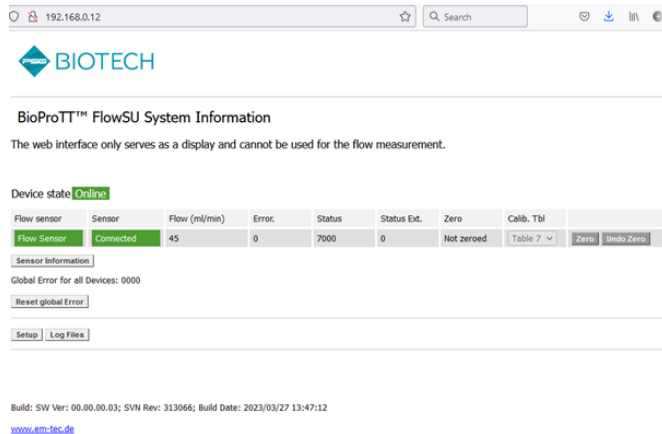
Color	Duration	Repetition
- green	0.5 seconds	3 - 4 times
- green	1 second	10 - 12 times
- red flashes	1 second	
- green flashes	1 second	5 - 10 seconds
- red	5 - 10 seconds	
- green	0.5 seconds	3 - 4 times
- red, green, blue	0.5 seconds each	

- The device is working.

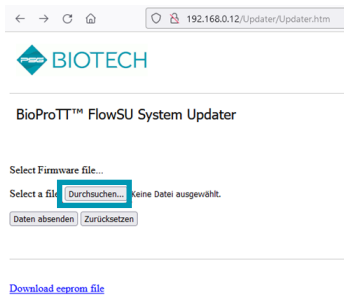
Parameter Set Update

Once the firmware has been successfully updated, the file containing the parameter sets must be updated as well. To do so, carry out the following steps:

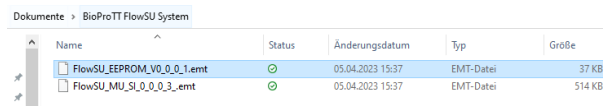
- Go to the web interface of the BioProTT™ FlowSU System (default IP address is: 192.168.0.12).
→ Please note: This may take some time as the IP net must be reconnected.



- Insert the following address into your web browser (Mozilla Firefox is preferred):
→ <http://192.168.0.12/Updater/Updater.htm>
- Insert the user name and the password
→ user name: Em-TecUpdt
→ password: 9F2i3n6ning
- On the page that opens, select "search".



→ Select the sensor EEPROM file



Please note:

When renaming the file, please be aware that the file name may only be 60 characters long!

- Select "send data" and wait until the page changes and the sentence "Image file successfully uploaded. Powercycle the device", appears.



BioProTT™ FlowSU System Updater

Select Firmware file...

Select a file: EepromFile_SSensors.emt

[Download eeprom file](#)




Image file successfully uploaded. Powercycle the device

- Power the device off, then on again.
- Go back to the main page of the Web Interface
- Go to the "Setup" page by clicking the setup button at the bottom of the main page
 - This opens a pop-up window.
 - To log into the configuration page, enter the default user name "root" and the default password "unknown".
 - ⇒ Please note: like "unknown" but without the "n". In case the password was changed, please use the new one.
- Click "Flow Sensor Adjustment"
 - This opens a pop-up window.
 - To log into the configuration page, enter the default user name "calibRoot" and the default password "unknown".

Miscellaneous:	
Password:	<input type="password" value="*****"/>
Device serial number:	<input type="text" value="9991225"/>
Device MAC address:	<input type="text" value="70-b3-d5-dd-10-10"/>
Bubble detection level:	<input type="text" value="Medium"/>
Flow direction:	<input type="text" value="Positiv"/>

Flow Sensor	
Calibration Factor: (0.5 - 1.5)	<input type="text" value="1.000"/>
MODBUS Flow Registers	<input type="text" value="Slow: 0,1 Hz; Fast: 1 Hz"/>

 If a calibration factor has been entered for a specific flow sensor, please be aware that this factor has to be explicitly checked if e.g. a different bubble is selected on the ...

- ⇒ Please note: like "unknown" but without the "n". In case the password was changed, please use the new one.

- Once the "Flow Sensor Adjustment" page is open, do not change anything and go to the bottom of the page to "Reset to Factory settings" and click it.

Table: 4 / 4 Table Name: Custom Temperature: 21°C

Flow Points

#	Flow	Action
1	0	<input type="button" value="Insert flow point above"/>
2	1755	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>
3	4407	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>
4	6565	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>
5	8654	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>
6	10865	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>
7	13015	<input type="button" value="Insert flow point above"/> <input type="button" value="Delete flow point"/>

- Latest EEPROM file is now active which can be checked on the "Sensor information page" which is accessible from the main page of the Web Interface.

BioProTT™ FlowSU System Information

The web interface only serves as a display and cannot be used for the flow measurement.

Device state: Online

Flow sensor	Sensor	Flow (ml/min)	Error	Status	Status Ext.	Zero	Calib. Tbl
Flow Sensor	Connected	1	0	7400	0	Zeroed	Table 7 <input type="button" value="Zero"/> <input type="button" value="Undo Zero"/>

Global Error for all Devices: 0000

About em-tec GmbH

em-tec has been a specialist for flow measurement systems in the medical and bioprocessing technology sector for over 30 years. The company's core competence is the non-invasive flow measurement using the ultrasonic transit-time method, that is used for applications in extracorporeal circulation systems of life-sustaining systems as well as in biopharma applications that use flexible tubes. Headquartered in Finning, Germany, em-tec is part of PSG®, a Dover company.

For more information about em-tec, please visit psgdover.com/em-tec.

About PSG Biotech

PSG® Biotech is dedicated to Caring For Every Drop in the biopharmaceutical industry by providing a comprehensive portfolio of specialty flow-control solutions. With its ground-breaking innovation, PSG Biotech offers pumps, sensors, and flow meters that have been designed to safely transfer and precisely meter the most delicate biologics, medicines and therapeutics, all while increasing yield, throughput and speed to market.

PSG Biotech is a product brand of PSG®, a Dover company, Oakbrook Terrace, IL, USA, which is comprised of several leading pump and flow-measurement brands, including Abaque®, All-Flo™, Almatec®, Blackmer, Ebsray®, em-tec, Griswold®, Hydro™, Malema, Movex®, Neptune®, Quantex™, Quattroflow®, RedScrew™ and Wilden®. You can find more information on PSG Biotech at psgdover.com/biotech and on PSG at psgdover.com.



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