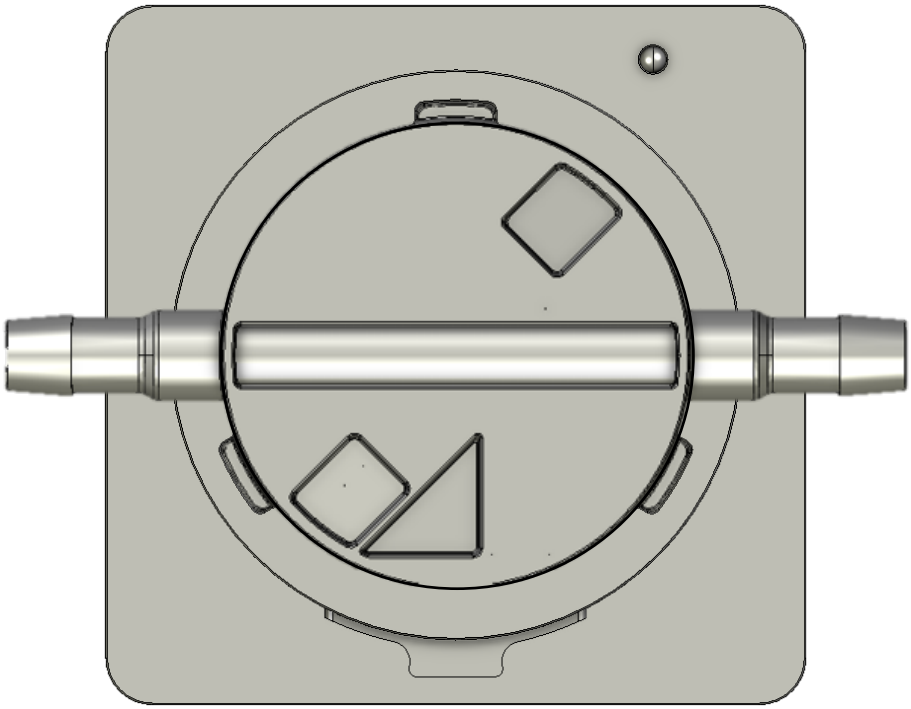
BioProTT™ FlowSU System

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.

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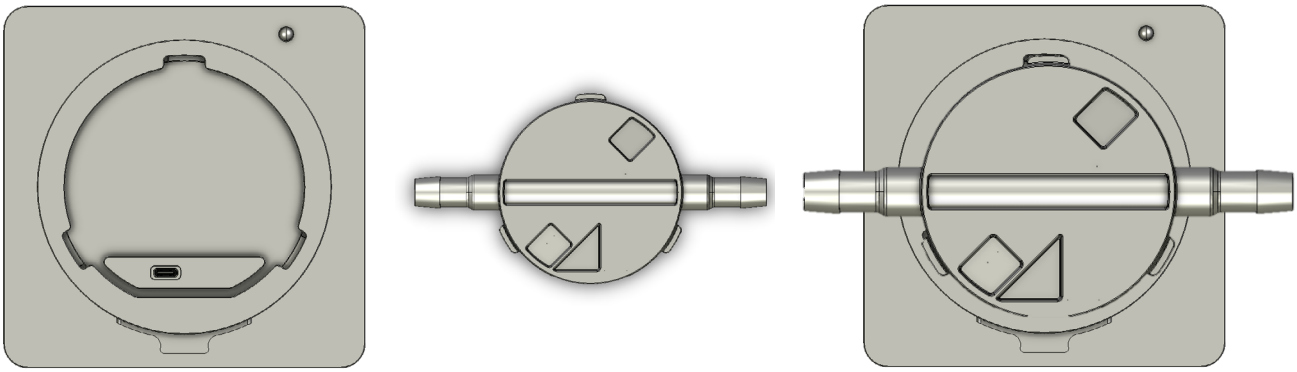
Firmware Update Guide

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

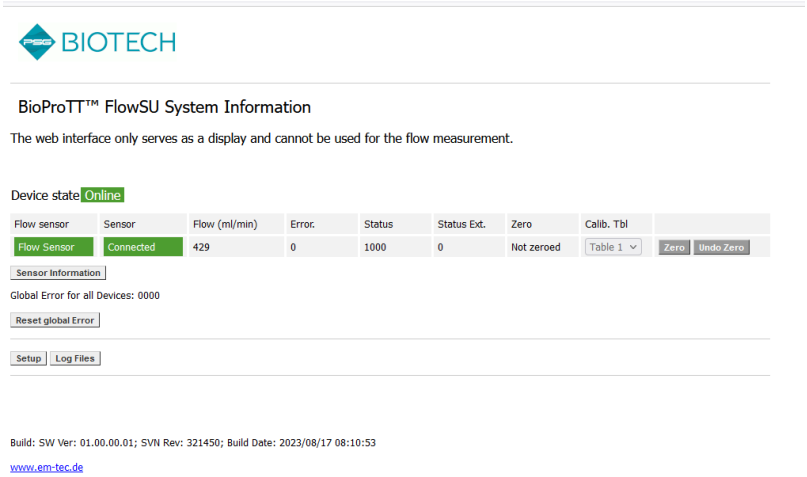
Please also note:

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.

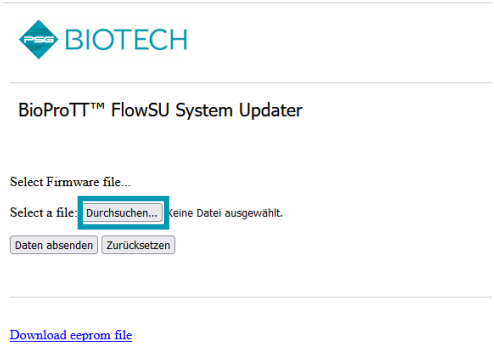
Firmware Update

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

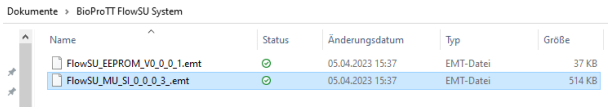
- Go to the web interface of the BioProTT™ FlowSU System (default IP address is: 192.168.0.12).



- 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".

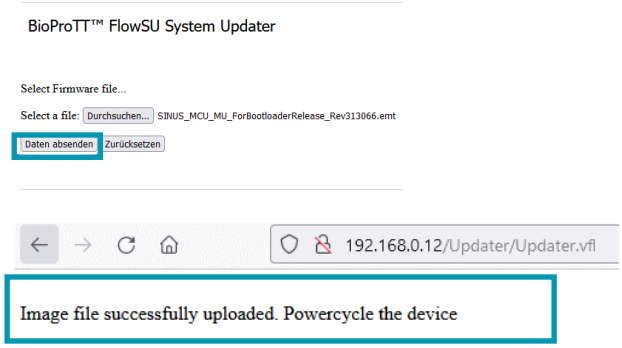


  → Select the firmware file



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

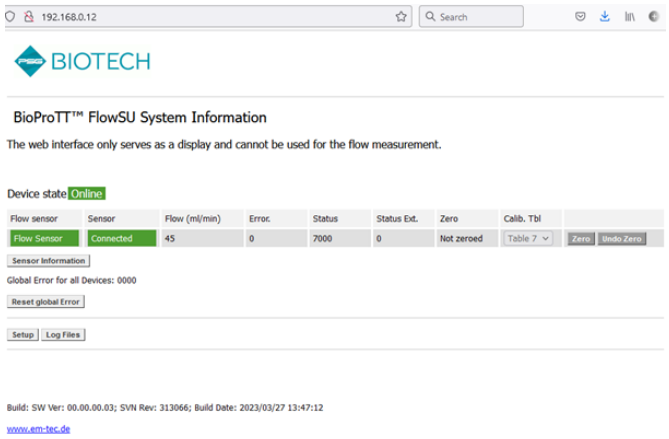
Color	Duration	Repetition
– green	0.5 seconds	3 - 4 times
– green – red flashes	1 second 1 second	10 - 12 times
– green flashes – red	1 second 5 - 10 seconds	
– green	0.5 seconds	3 - 4 times
– red, green, blue	0.5 seconds each	

- The device is working.

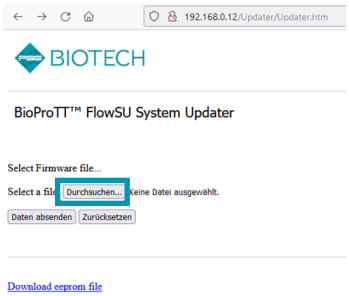
Parameter Set Update

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:

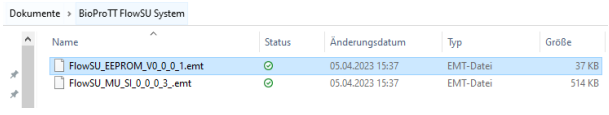
- Go to the web interface of the BioProTT™ FlowSU System (default IP address is: 192.168.0.12).
  → Please note: This may take some time as the IP net must be reconnected.



- 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".

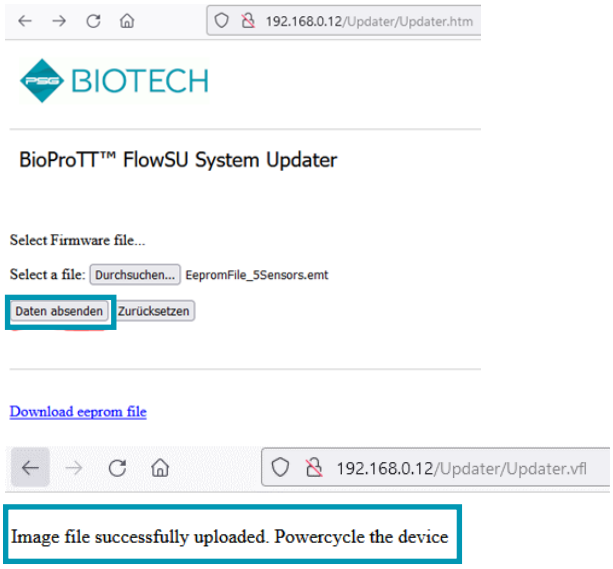


→ Select the sensor EEPROM file

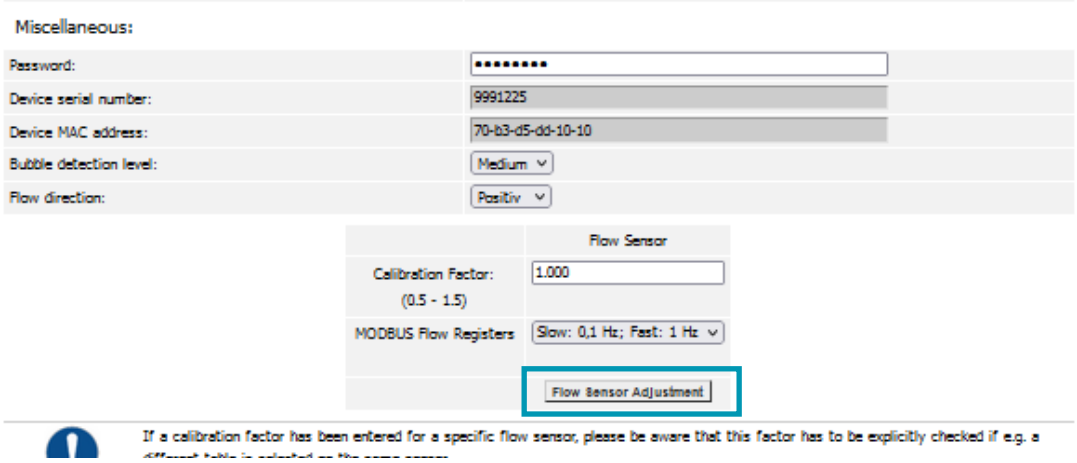


Please note:
When renaming the file, please be aware that the file name may only be 60 characters long!

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

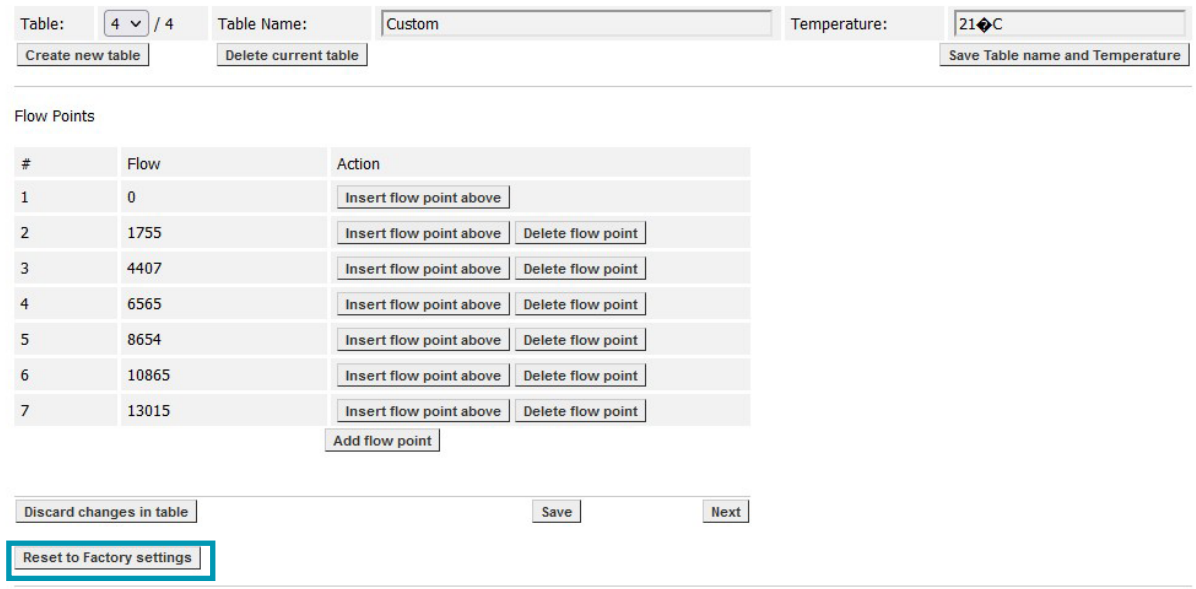


- Power the device off, then on again.
- Go back to the main page of the Web Interface
- Go to the "Setup" page by clicking the setup button at the bottom of the main page
  → This opens a pop-up window.
  → To log into the configuration page, enter the default user name "root" and the default password “uknown”.
  ⇨ 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 “uknown”.

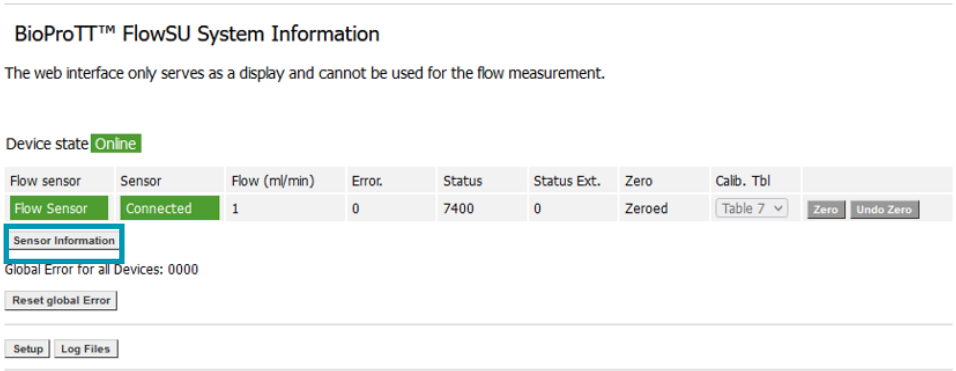


  ⇨ Please note: like "unknown" but without the “n”. In case the password was changed, please use the new one.

- 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.



- 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.



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, Mouvex®, Neptune®, Quantex™, Quattroflow®, RedScrew™ and Wilden®. You can find more information on PSG Biotech at psgdover.com/biotech and on PSG at psgdover.com.