
HVPS Control Software

Manual



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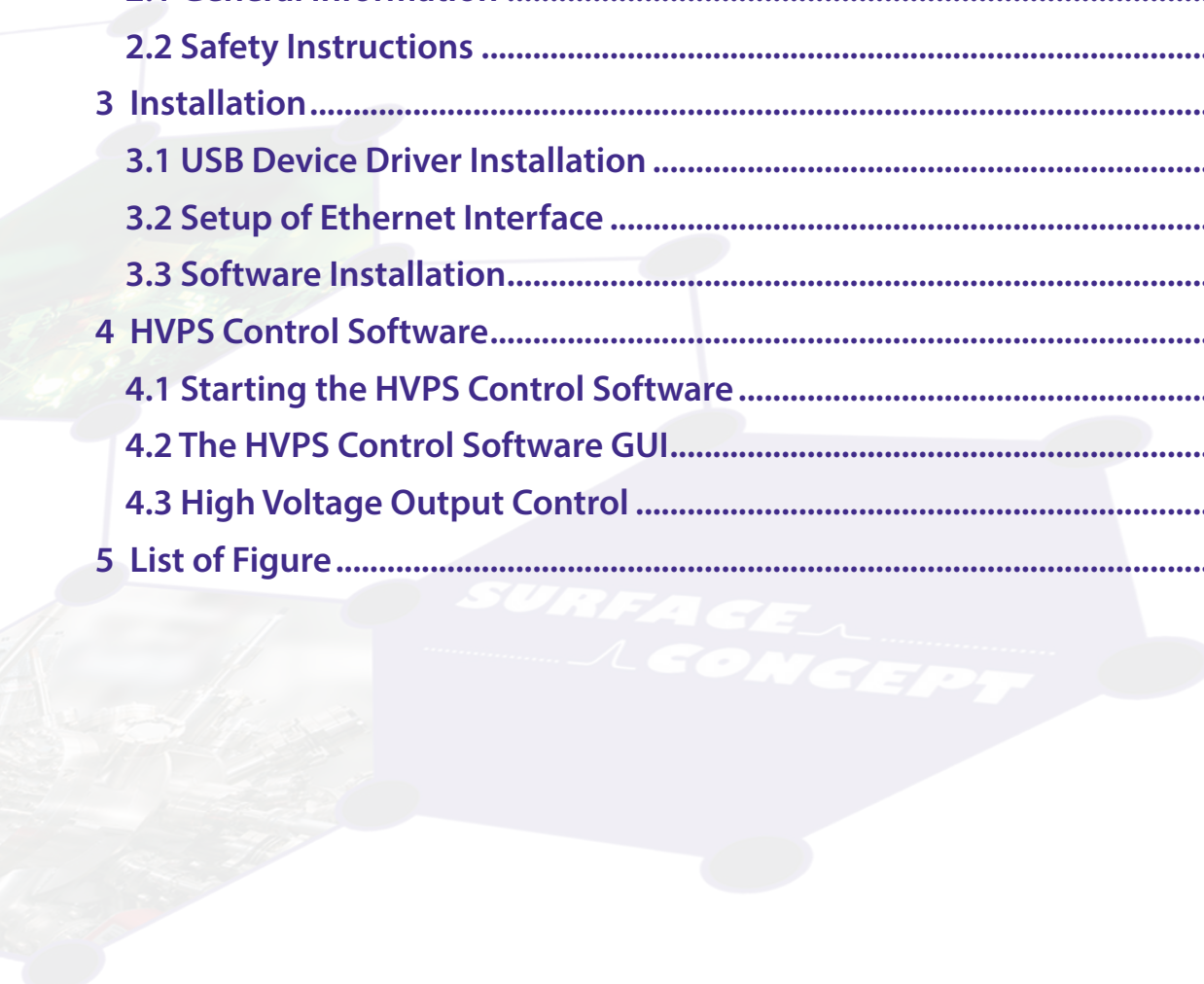
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User Manual for the
HVPS Control Software
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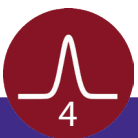


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2 Introduction

2.1 General Information

This manual is intended to provide an overview of the Control Software for the Surface Concept High Voltage Power Supplies. It is divided into 5 chapters. The chapter "Installation" refers to installation of the software while the chapter "HVPS Control Software" refers to the use of the actual software.

2.2 Safety Instructions

Please read this manual carefully. Surface Concept declines all responsibility for damages or injuries caused by an improper use of the control software due to negligence on behalf of the User.

The following symbols may appear throughout the manual:



The "note symbol" marks text passages, which contain important information/hints about the installation. Follow these information to ensure a proper functioning of the detector.

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3 Installation

3.1 Device Driver Installation

There is no explicit installation of any device driver necessary. It is sufficient to connect the HVPS to your local network using the Ethernet connector of the HVPS.

3.2 Software Installation

- The software can be found on a storage medium (USB stick, CD etc.) which is part of the delivery of the device itself.
- Connect the storage medium to your PC.
- The storage medium contains several separate folders for software, documentation etc. The separate folders have to be copied manually to a preferred location on the User-PC (there is no specific installer routine to do this).

3.3 Java Runtime Environment

The HVPS Control Software requires Java Runtime Environment 8.0 or higher for operation. The Java Runtime Environment can be downloaded from the Oracle web page.



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4 HVPS Control Software

4.1 Starting the HVPS Control Software

Start the HVPS control Software by executing the start.bat file in the HVPS Control Software folder. The software opens a console window and start to scans the local network for Surface Concept High Voltage Power Supplies. All found devices are displayed in the device selection window (see Figure 1), which opens up next. Here you find the IP addresses of all detected devices. Enter the IP address of the device which you want to connect to manually into the field "Host" and press "Open" to connect to the

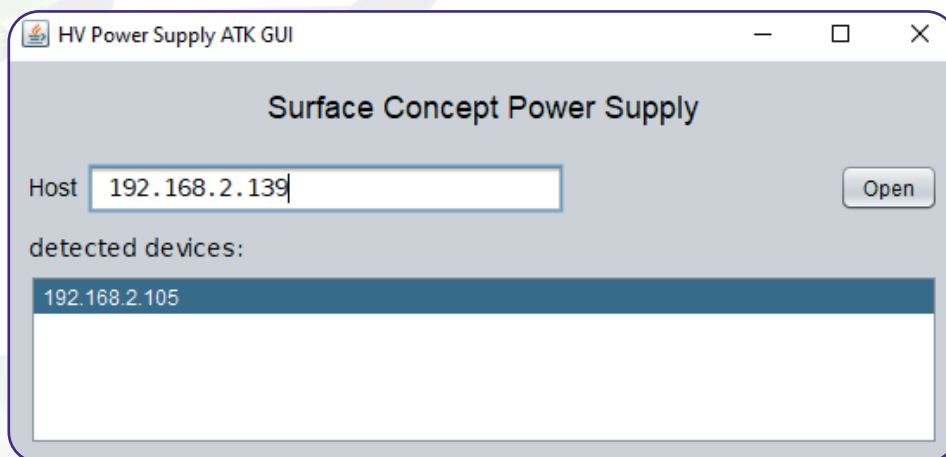


Figure 1: Device Selection Window of HVPS Control Software.

4.2 The HVPS Control Software GUI

The HVPS Control Software opens up with its main GUI (see **Figure 2**), which provides information about the selected device (IP address), the device status, the number of detected HV channels and separate sections for each HV channel for HV output control.

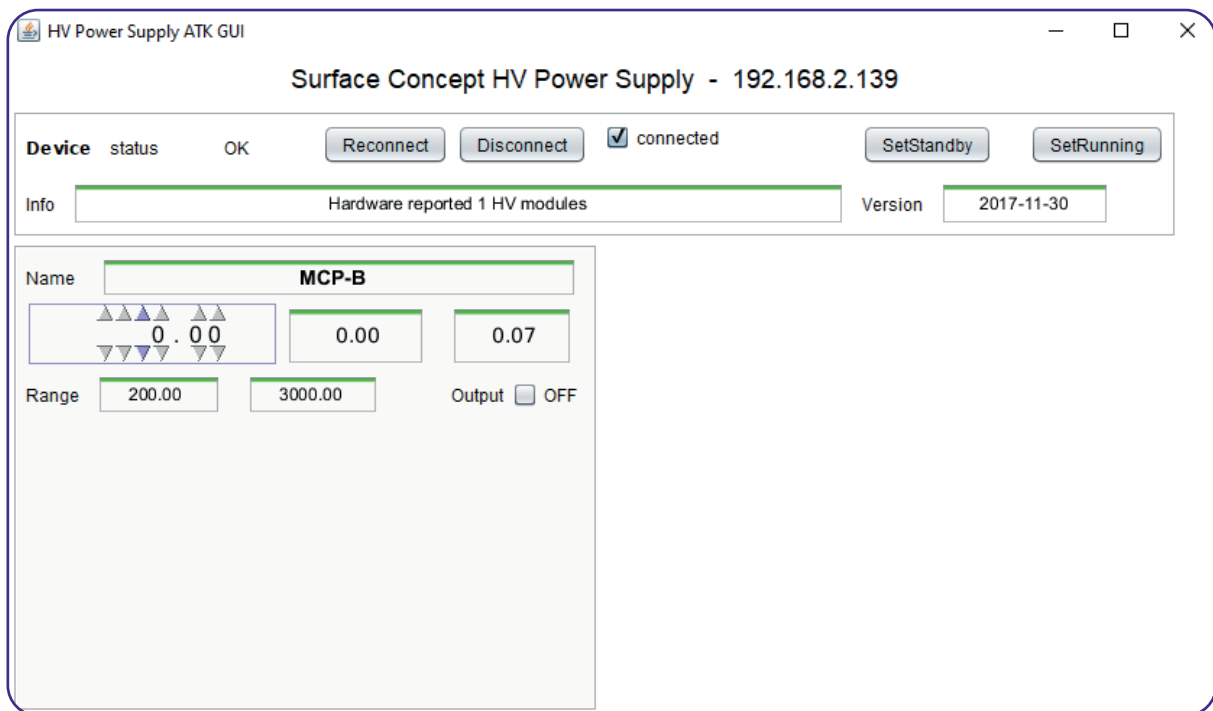


Figure 2: HVPS Control Software Main GUI.

The first line of the GUI displays the IP address of the connected device.

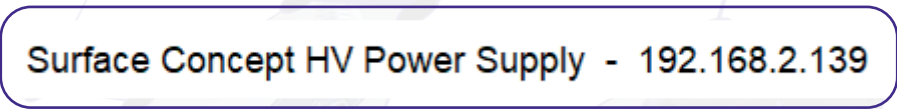


Figure 3: First Line of GUI with Device IP Address.

The second line displays the device status and its connection status. Normally the device is connected with the start of the control software. It can be disconnected and reconnected by clicking the corresponding buttons. The box "connected" shows if the device is connected (ticked) or not connected (unticked).

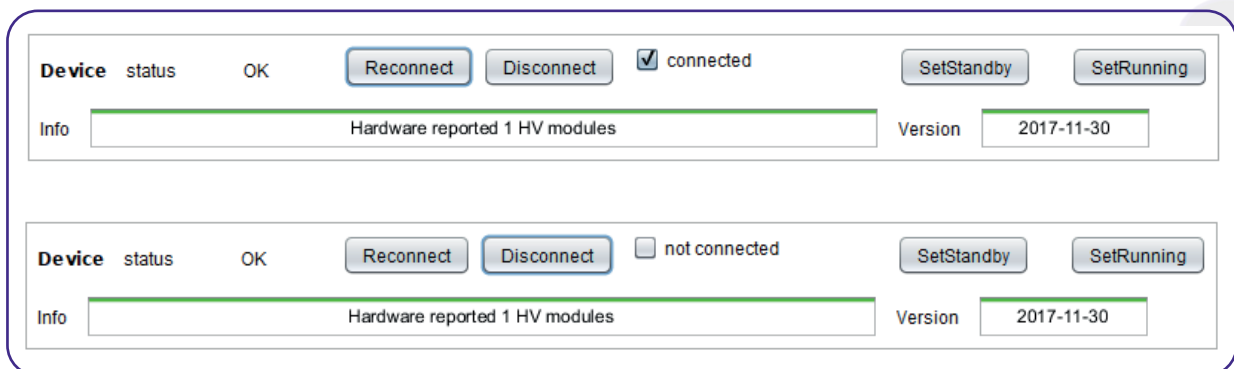


Figure 4: Second and third line of GUI with control buttons for device connecting and mode switching as well as status and info lines.

The second line also holds the buttons “SetStandby” and “SetRunning”. They are used to set the device into standby or into operation mode. After connecting, the device is set to standby mode as default. Click “SetRunning” to switch the HVPS to operation mode.

The third line holds information about the number of detected HV modules (channels) as well as the software release version.

Below the third line, there are separate sections for each detected HV channel displayed. Each section shows the name of the corresponding HV channel (e.g. MCP-B), the output range of the HV channel, a box to switch ON/OFF the high voltage output, a field to set the output voltage as well as two field which show the set value (left field) and the given value (right field).

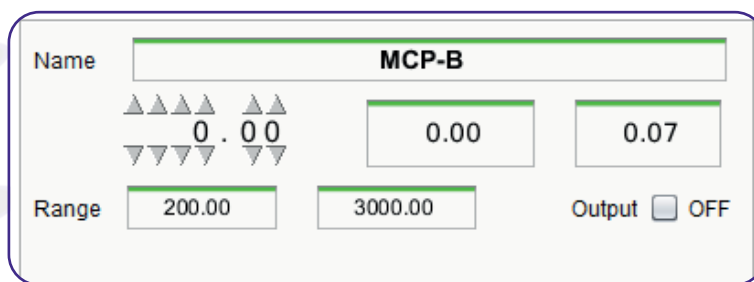


Figure 5: HV Channel Control Section.

4.3 High Voltage Output Control

- Press “SetRunning” to switch the HVPS to operation mode.
- Tick “Output” in the single HV channel section, to switch on the high voltage output of this HV channel.
- Use the grey arrow buttons, to select the output voltage. The arrows pointing upwards are used to increase the set value, the arrows pointing downwards are used to decrease it. Hereby the position of the single arrow pair (in terms of the thousand position, the hundred position, the ten position and so on) indicates the decimal place of the set value, which will be increased/ decreased when clicking on the corresponding arrow button.
- The selected value of the output voltage is also displayed in the field for the set value. There is no entry in the given value field and thus also no output voltage of the HVPS as long as the selected output voltage is below the minimum output range.

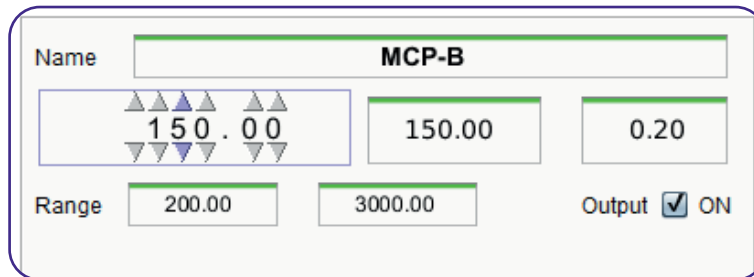


Figure 6: HV Channel Control Section with set output voltage below the minimum output range.

The output voltage is switched on as soon as the set output voltage is equal or larger than the minimum output range. This becomes obvious with the device starting to regulate to the set value (noticeable by displaying the current given value in the given value field).

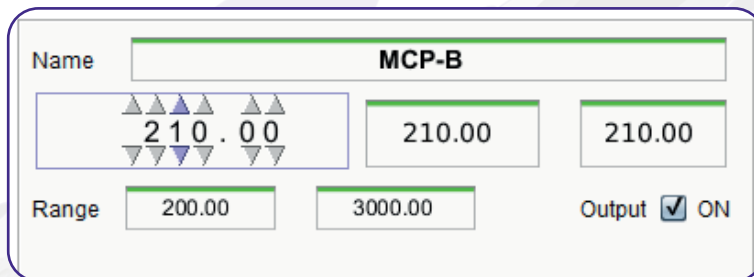


Figure 7: HV Channel Control Section with set output voltage within the output range.

Although you can set an output voltage higher than the maximum output range, the device is not providing more than the maximum output voltage.

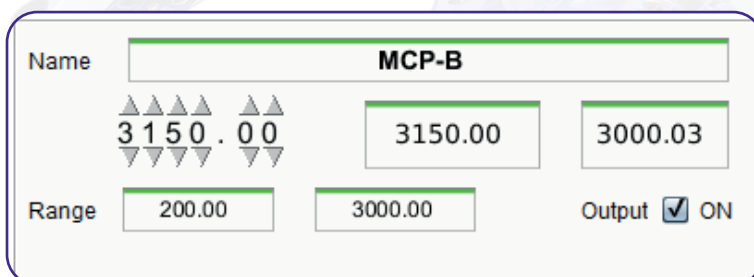


Figure 8: HV Channel Control Section with set output voltage above the maximum output range.

For a temporary switching ON and OFF of the high voltage, it is sufficient, to just tick or untick the box "Output". The software keeps the set voltage value, but it drives up and down the regulation of the given output voltage.

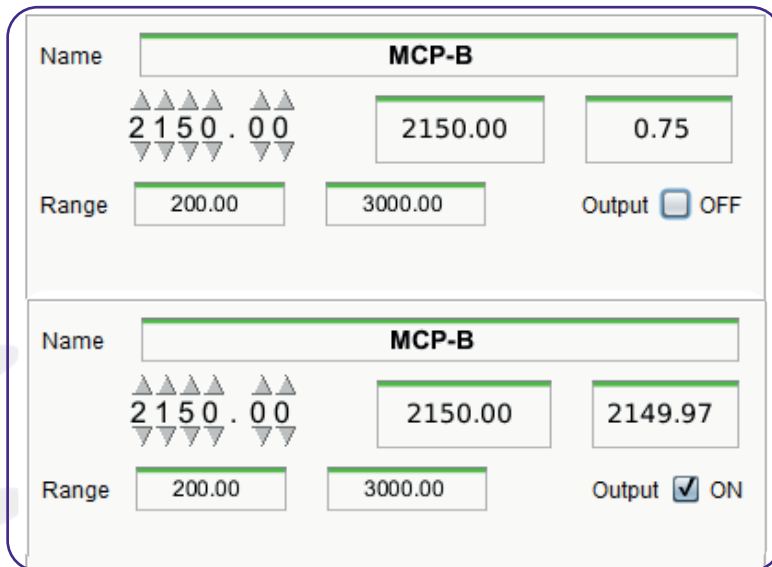


Figure 9: HV Channel Control Section with output voltages switched OFF (box "Output" unticked) and ON (box "Output" ticked).

To switch off the HVPS Control Software, set the set value to 0V. The HVPS drives down the output voltage to zero and the software automatically unticks the box "Output". Now you can close the HVPS Control Software, the device selection window and additionally the terminal window.

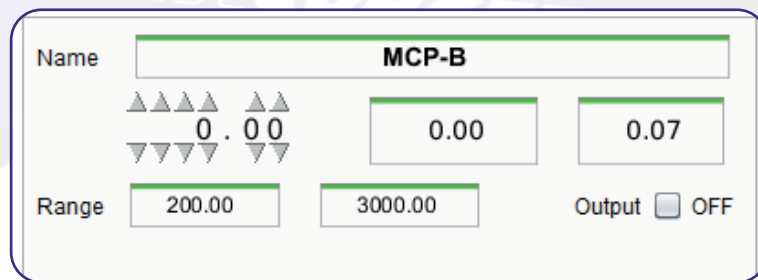


Figure 10: HV Channel Control Section.



Note Do not close the HVPS Control Software without switching off the HV voltage. Otherwise the software connecting to the HVPS will be terminated, but the high voltage output on the device itself is still switched on.

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