relyon plasma

plasmabrush®

Operating instructions

Operating software PS2000.exe

Thank you for buying a high-quality **relyon plasma** GmbH product.
To get the best from your product, please read these instructions carefully.

Important!

Read these instructions carefully before assembling, installing and starting up the machine!

Always follow the safety instructions! Failure to follow the safety instructions may result in accidents, serious injury and serious damage to the machine.

The Starter Kit E and Starter Kit G may only be started up and operated by trained and qualified persons!

Train your staff! The operator / user is responsible for ensuring that personnel have fully understood the operation of the machine and the safety requirements.

Original Operating Instructions

1 Establishing connection to the PS2000

Establish all connections needed to operate the PS2000.

Note!

To establish connections to the PS2000, perform the steps required in accordance with the separate PS2000 operating instructions.

2 Starting the operating software

Use the main switch to switch on the PS2000. Ensure that the "High voltage On/Off" button is not pressed.

Following installation, the software can be found at
Start → Programs → PS2000 → PS2000.exe.

Now start the software.

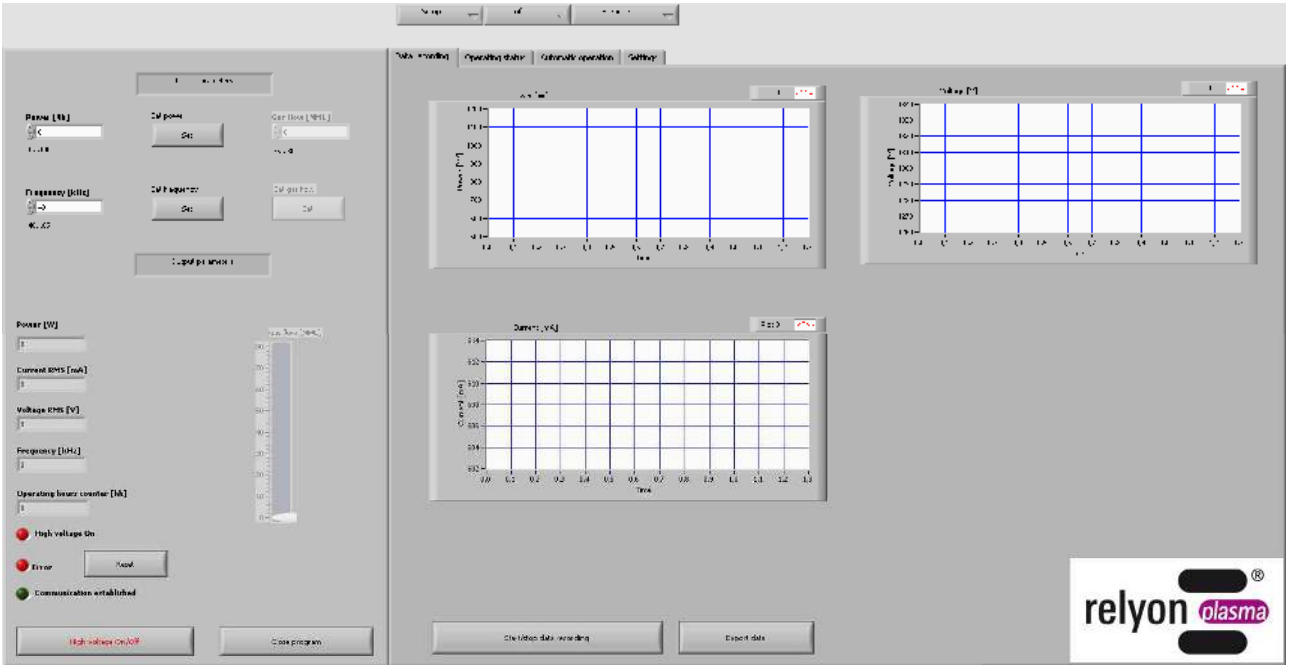

Figure 1: Software interface after starting

Upon successful initialisation, the green LED "REMOTE CONTROL" on the front of the PS2000's housing lights up (see Figure 2). The "Communication established" status display also lights up green (see Figure 1).

Figure 2: Initialisation successful

The software is split into the following areas on the left:

- Input parameters
- Output parameters

There is a tab on the right (Figure 3).

- Data recording (active)
- Operating status
- Automatic operation
- Settings

Figure 3: Data recording active tab

3 Setting the language

There is a drop-down menu entitled "Language" in the centre at the top. Open the menu as shown in Figure 4 and select the language you want. All elements are now labelled in the same language.

Figure 4: Selected menu language

4 Changing input parameters

The input parameters are in the top left of the main window (see Figure 5). The following parameters can be changed:

- Power in %
- Frequency in kHz
- Gas flow in NML

Note the operating limits under the input box. The inputs are transmitted by selecting "Set".

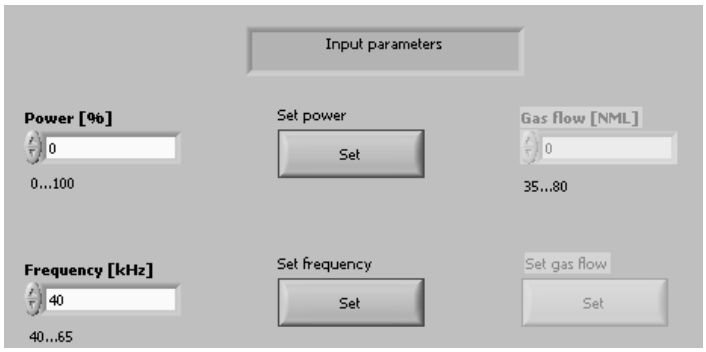

Figure 5: Input parameters range

5 Switching on the high voltage

To switch on the high voltage, press the "High voltage On/Off" button. When using an MFC, the high voltage can only be switched on when the MFC gas flow is indicating more than 35 NML/min. The high voltage status is also indicated by a status display in the "Output parameters" area (see Figure 6). Switch the high voltage off again by clicking on the button.

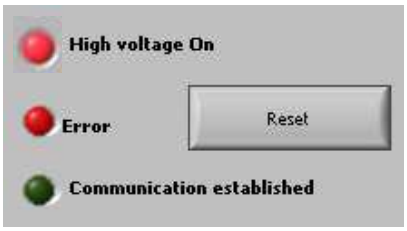

Figure 6: High voltage switched on

6 Using automatic operation

An on/off cycle for the plasma generator can be produced in the automatic operation tab (Figure 7). The flanks can be produced under the "On" and "Off" input boxes. During automatic operation, the plasma can no longer be switched on/off using the "High voltage On/Off" button (Figure 1). The high voltage is only controlled using the "Start automatic operation" button.

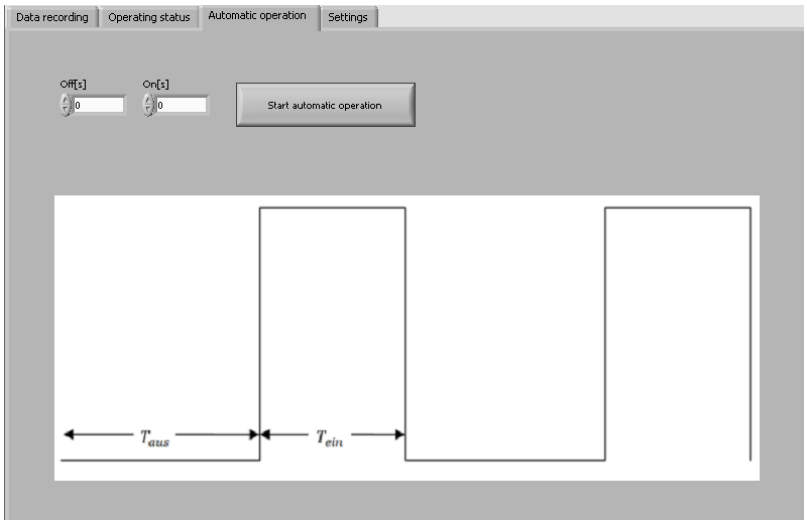

Figure 7: Automatic operation

7 Activating data recording in the trend diagram

The received data, such as power, voltage and current, can be saved and illustrated in three trend diagrams. There is a "Data recording start/stop" button in the "Data recording" tab in the bottom left. Pressing this button starts data recording.

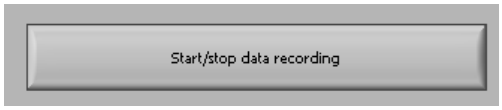

Figure 8: Data export function

Note!
If data recording is deactivated and the activated again, all old data is lost. A new recording period starts. If necessary, export the data beforehand (chapter 8).

8 Data export

You can put the data saved in the trend diagram into intermediate storage at any time.

- Click on the "Export data" button (Data recording tab)
- Select where you want to save to
- Name the file as follows: "<File name>.csv".
  Example: "PS2000.csv".

The file produced is a CSV file which can be processed using spreadsheet programs.

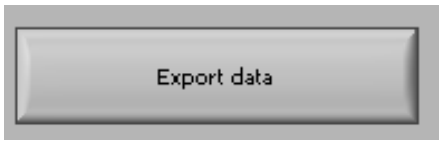

Figure 9: Data export function

9 Using an MFC

This software also permits an MFC to be used with the PS2000. To do this, select the "Settings" tab and activate the MFC (Figure 10) by clicking on the "On/Off" button. The displays under "Input parameters" are now active.

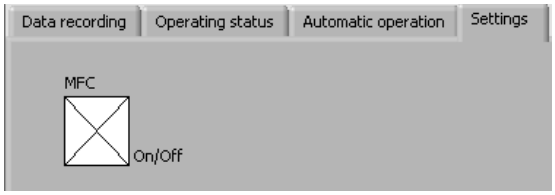

Figure 10: Activating MFC

10 Reading out the operating status

In order to read out the operating status, the "Operating status" tab must be activated as shown in Figure 11. Now click on the "Query data" button. The current operating parameters of the connected PS2000 are displayed.

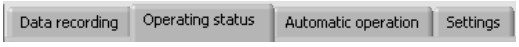

Figure 11: Operating status tab active

11 Troubleshooting

In the event of an error, the red "Error" status display lights up (see Figure 12). You can query the error status (error code) via the operating status (see chapter 10 and Figure 13).

Note!

If an error occurs, consult the operating instructions for the PS2000. If the cause of the error is not obvious, the error message can also be acknowledged using the Reset button. If the error occurs again, please contact the technical service department.

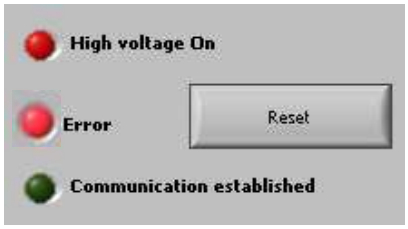

Figure 12: Error

Figure 13: Error status

12 Closing the program

To close the program, please always use the "Close program" button, as shown in Figure 14. Failure to do so will mean that bus communication is not closed correctly and re-initialisation will not be possible.

Figure 14: Closing program

13 Overview of faults and errors

Fault / error	Cause	Rectification
Mains unit master switch lit up (PS2000 housing)	Fuse defective	Fuse in machine needs replacing -> Contact the customer service
	Power connector incorrectly connected	Check the mains unit connection
	No / incorrect voltage supply	Check the mains voltage supply.
"Error" LED lit up (PS2000 housing)	There is an error, the machine is not ready	Read out the error using "Request data" and acknowledge
		Problem cannot be fixed: Contact customer service
"Communication established" LED not lit up (PS2000 housing)	Problem with bus connection	Check whether the CAN bus cable is connected correctly Then restart the software
		Check whether the node number on the rear of the PS2000 is set to 10 Then restart the PS2000 and the software
		Problem cannot be fixed: Contact customer service
Bus connection interrupted window appears	Problem with bus connection	Also refer to "Communication established" LED not lit up
Gas flow display not working	No communication with the mass flow controller (MFC)	Activate MFC again via settings If this still doesn't resolve the problem: Restart software

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