PeakTech®

Prüf- und Messtechnik

Spitzentechnologie, die überzeugt

PeakTech® 6075

Bedienungsanleitung / Operation Manual

Labornetzgerät / Laboratory Power Supply

1. Safety Precautions

This product complies with the requirements of the following European Community directives: 2014/30/EU (Electromagnetic Compatibility) and 2014/35/EU (Low Voltage) as amended by 2014/32/EU (CE-Marking).

To ensure safe operation of the equipment and eliminate the danger of serious injury due to short circuits (arcing), the following safety precautions must be observed.
Damages resulting from failure to observe these safety precautions are exempt from any legal claims whatever.

* Prior to connection of the equipment to the mains outlet, check that the available mains voltage corresponds to the voltage setting of the equipment.
* Connect the mains plug of the equipment only to a mains outlet with earth connection.
* Do not practice device unattended.
* The instrument must be set up so that the power plug can be removed from the socket easily.
* Do not place the equipment on damp or wet surfaces.
* Do not subject the equipment to direct sunlight or extreme temperatures, extreme humidity or dampness.
* Replace a defective fuse only with a fuse of the original rating. Never short circuit fuse or fuse housing
* Conduct measuring works only in dry clothing and in rubber shoes, i. e. on isolating mats.
* Comply with the warning labels and other info on the equipment
* Do not cover the ventilation slots of the cabinet to ensure that air is able to circulate freely inside.
* Do not insert metal objects into the equipment by way of the ventilation slots
* Do not place water-filled containers on the equipment (danger of short-circuit in case of knock over of the container)
* Do not operate the equipment near strong magnetic fields (motors, transformer etc.)
* Do not subject the equipment to shocks or strong vibrations
* Allow the equipment to stabilize at room temperature before taking up measurement (important for exact measurements)
* The meter is suitable for indoor use only.
* Do not operate the meter before the cabinet has been closed and screwed safely as terminal can carry voltage.
* Periodically wipe the cabinet with a damp cloth and mid detergent. Do not use abrasives or solvents.
* Do not store the meter in a place of explosive, inflammable substance.
* Do not modify the equipment in any way
* Do not place the equipment face-down on any table or work bench to prevent damaging the controls at the front.
* Opening the equipment and any service- and repair work must be performed by qualified service personal. Repair work should be performed in the presence of a second person trained to administer first aid, if needed.
* **- Measuring instruments do not belong to children hands-**

Cleaning the cabinet
Prior to cleaning the cabinet, withdraw the mains plug from the power outlet. Clean only with a damp, soft cloth and a commercially available mild household cleanser. Ensure that no water gets inside the equipment to prevent possible shorts and damage to the equipment.

2. Introduction

Digitally controlled, high-precision DC power supply with variable voltage and Current setting. An advanced microprocessor controls the generation, display, control and protection of output voltage and current. This technology improves the accuracy of the generation and control of the output voltage and current and it also facilitates the operation and the reading of the values.

Henceforth should be emphasized that the voltage can be fixed over the whole range, making the convenience is increasing and unnecessary, inaccurate, steps can be prevented.

Caution!
The PeakTech® 6075 provides a keylock function. Please read chapter 5.5 on page 17 for more detailed information.

Caution!
Laboratory Power Supplies are not designed for charging batteries. Any use of this type can cause serious damage to the device, which are exempt from any legal claims whatever.

3. Technical Data

Adjustable Outputs:

Output voltage:	2 x 0 ~ 30 V adjustable
Output current:	2 x 0 ~ 5 A adjustable
Line regulation: (0-100% Load)	CV ≤ 0,01% + 1mV CC ≤ 0,02% + 1mA
Load regulation: (0-100% load)	CV ≤ 0,01% + 5mV CC ≤ 0,02% + 5mA
Ripple & Noise: (100% load)	CV ≤ 1.0 mV_{rms} CC ≤ 6.0 mA_{rms}

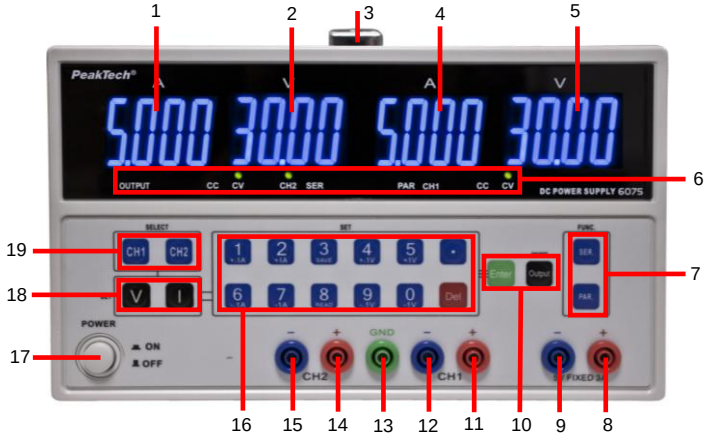
Fixed Voltage Output:

Output voltage:	5 V +/-2,5%
Output current:	3 A
Line regulation: (0-100% Load)	CV ≤ 0,01% + 1mV
Load regulation: (0-100% load)	CV ≤ 0,1%
Ripple & Noise: (100% load)	CV ≤ 0.5 mV_{rms}

General:

Input Voltage:	115/230 V AC; 50/60 Hz switchable externally
Overload protection:	Constant current and short circuit protection
Voltage indication accuracy:	± 0,5% + 5 digits
Current indication accuracy:	± 0,5% + 5 digits
Betriebstemperatur	0°C … +40°C; < 80% RH
Dimensions (W x H x D):	135 x 165 x 275 mm
Weight:	9 kg
Accessories:	Power cable and manual

4. Controls and description of front-panel



1	LED Output current indicator (SLAVE)
2	LED Output Voltage indicator (SLAVE)
3	Handle grip
4	LED Output current indicator (MASTER)
5	LED Output Voltage indicator (MASTER)
6	Indicators for operation mode: - C.V.: Constant voltage indication - C.C.: Constant current indication - Output: Output is enabled and the set output voltage/current will be outputted - SER: Power Supply in serial mode - PAR: Power Supply in parallel mode
7	Function keys SER: Power Supply in serial mode PAR: Power Supply in parallel mode
8	(+) – Output terminal (Output of fixed voltage 5V)
9	(-) – Output terminal (Output of fixed voltage 5V)
10	Function keys Output: Enable/Disable output Enter: Confirmation key
11	(-) – Output terminal (MASTER)
12	(+) – Output terminal (MASTER)
13	GND – Output terminal (Chassis)
14	(+) – Output terminal (SLAVE)
15	(-) – Output terminal (SLAVE)
16	Keypad for direct entry of output - voltage and current values Del: Correction key when entering the - voltage and current values using the keypad
17	Power switch
18	Function keys V (voltage) and I (current) V: voltage value input I: current value input
19	Selects the reference controlled output (CH1 / CH2)

5. Operation

5.1. Adjusting the output voltage

Direct entry

Proceed as described to adjust the output voltage:

1.) Switch on the device.
2.) To select the desired output press "CH1" key for MASTER and "CH2" key for SLAVE.
3.) Press the [V] key. The LED display indicates 00.00 and the first digit flashes.
4.) Press the appropriate number keys to enter the desired voltage value.
5.) If an incorrect entry be carried out, use the [Del] key (Correction key), the previous entry is rejected and you can repeat your entry.
6.) Pressing the [Enter] button will confirm and save the entry.

Example 1:
Setting 5.99V

1.) Press the [V]-key.
2.) Sequentially, press the number keys [0] [5] [9] [9] and then [ENTER] to save the entry or …
3.) Press the [V]-key and then sequentially the number keys [5] [.] [9] [9] and then press the [ENTER] key to confirm and save the entry.

Example 2:
Setting 29.99 V

1.) Press the [V]-key.
2.) Sequentially, press the number keys [2] [9] [9] [9] and then [ENTER] to save the entry or …
3.) Press the [V]-key and then sequentially the number keys [2] [9] [.] [9] [9] and then press the [ENTER] key to confirm and save the entry.

Entering the output voltage in 0.1V / 1V steps

Additionally, it is possible to change the output voltage using the numeric keys 4 and 9 to change the voltage value in +/- 0.1V steps.
If the keys were pressed and hold, the output voltage will change the voltage level continuously in 0.1V steps.

Use the number keys 5 and 0, the voltage value can change by +/- 1V.
If the keys were pressed and hold, the output voltage will change the voltage level continuously in 1V steps.

5.2. Adjusting the output current

Direct entry

Proceed as described to adjust the output current:

1.) Switch on the device.
2.) Press the [I] key. The LED display indicates 0.000 and the first digit flashes.
3.) By pressing the appropriate number keys to enter the desired current value.
4.) If an incorrect entry be carried out, use the [Del] key (Correction key), the previous entry is rejected and you can repeat your entry.
5.) Pressing the [Enter] button will confirm and save the entry.

Example 1:
Setting 1.599 A

1.) Press the [I]-key.
2.) Sequentially press, the number keys [1][5][9][9] and then [ENTER] to save the entry or …
3.) Press the [I]-key and then sequentially the number keys [1] [.] [5] [9] [9] and then press the [ENTER] key to confirm and save the entry.

Example 2:
Setting 4.999 A

1.) Press the [I]-key.
2.) Sequentially press, the number keys [4][9][9][9] and then [ENTER] to save the entry or …
3.) Press the [I]-key and then sequentially the number keys [4] [.] [9] [9] [9] and then press the [ENTER] key to confirm and save the entry.

Entering the output current in 0.1A / 1A steps

Additionally, it is possible to change the output current using the numeric keys 4 and 9 to change the current value in +/- 0.1A steps.
If the keys were pressed and hold, the output current will change the voltage level continuously in 0.1A steps.

Use the number keys 5 and 0, the current value can change by +/- 1A.
If the keys were pressed and hold, the output current will change continuously in 1A steps.

5.3. Dual Power Supply use in SERIES Mode

1.) Press [SER] button (SER light on), then it is in series mode.

2.) Changes in voltage - and current values of the master output are taken over by the slave output. The output voltage at the slave output is automatically synchronized to the set value. When connected in series outputs the maximum output voltage is 60 V.

3.) In the SER- mode (series operation), connect your circuit to the output sockets "-" CH2 [15] and "+" CH1 [11].

4.) Select the master channel (CH1) to adjust the output voltage and output current. The slave output is automatically synchronized to the master output.

5.4. Dual Power Supply in Parallel Mode

1.) Press the [PAR] button, the LED will light (PAR) and the unit is now in the parallel mode.

2.) Changes in voltage - and current values of the master output are taken from the slave output. The output voltage at the slave output is automatically synchronized to the set value. In parallel outputs of the maximum output current is 10 A.

3.) In the PAR-mode (parallel operation) connect your circuit to the output sockets "-" CH1 [12] and "+" CH1 [11].

4.) Select the master channel (CH1) to adjust the output voltage and output current. The slave output is automatically synchronized to the master output.

5.5. Additional functions

1.) Output button
- Press [Output] to activate the output and outputting the set values.
- or press [Output] to disable the output. (Default setting: output is disabled after turning the unit on).

2.) Key lock
The device has a key lock which the accidentally change the output voltage - or prevents the output current.
- To activate the key lock, the [.] - Button for 3 seconds and hold. You will hear a confirmation tone.
- To deactivate the key lock again, - press and hold again for 3 seconds [.] until a confirmation tone is emitted.

3.) Correction key [Del]
- If it comes to an incorrect entry, while entering the voltage - or current value and the [Enter] button is not pressed, then the actual entry could be rejected by pressing the [Del] key. The display switches back to the beginning of 0.000 (first digit flashes).

6. CAUTION

- In the event of a short circuit at the output the current will limit at the value set by the current controls, however the unit should be turned off and the short circuit removed before continuing use.

- The mains power must be switched off before servicing and servicing should be referred to a qualified person.

- The unit should be stored in a dry and well ventilated place and the power cord removed if storing for long periods.

- If the unit is not a long time in use, unplug the power connector from the device

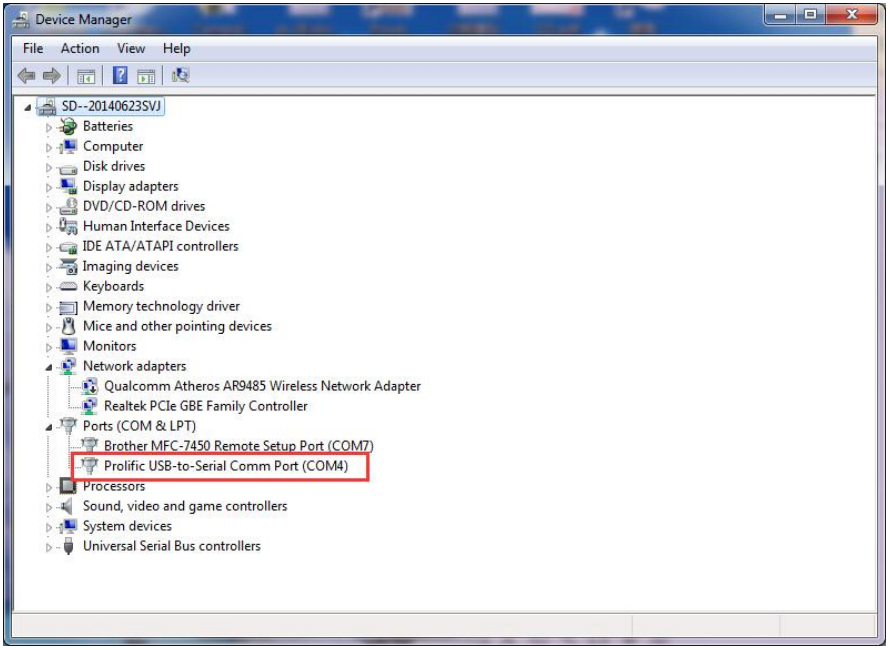
6.0 Operation under Software

6.1 Driver Installation

- **Virtual serial port driver installation**

Choose and open the "**PL2303 Driver for xxx**" folder depending your Windows system and double click the USB-to-Serial Comm Port installation program.

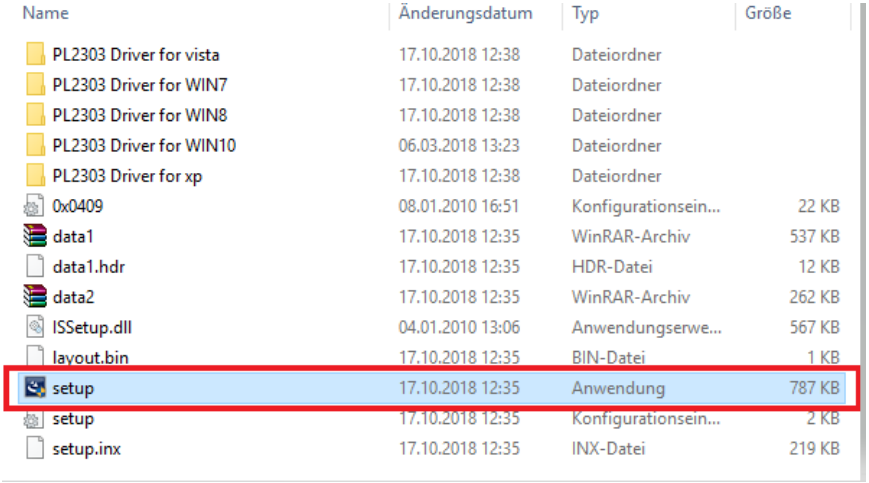
After finishing installation, connect the power supply and the computer with USB cable and switch mains power on. Check the serial port number: enter the device manager as followed. Find the serial port. **P1** shows for example that "COM4" is given the serial port number.



P1

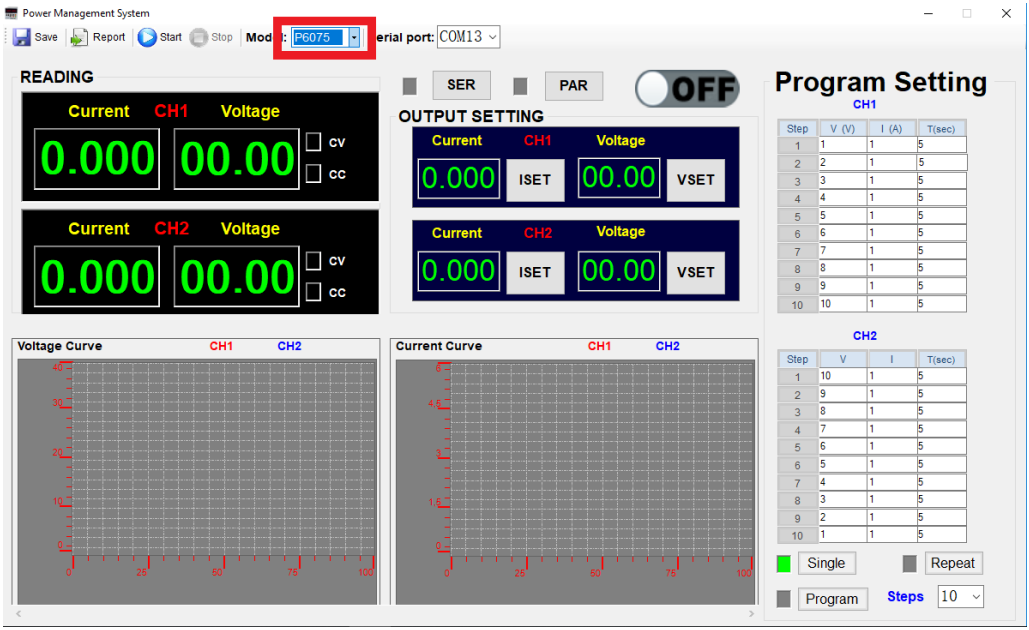
6.2 Communication software installation

Enter installation disk and double click the communication software installation program and then follow the installation guide till finish installation.

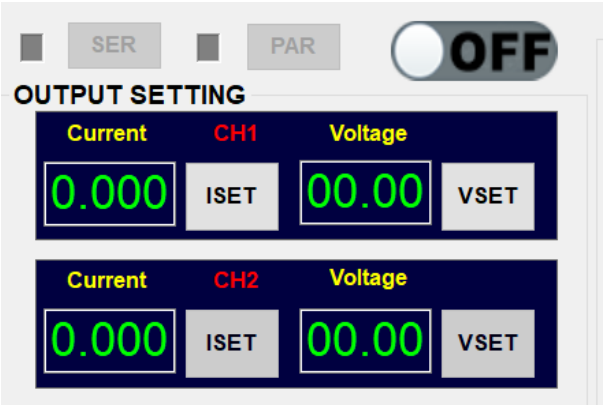


6.3 Software operation

Real-time data setup : Open the communication software  and then choose your connected model and serial port number, click the  button.



Enter the value of current and voltage into the "**OUTPUT SETTING**" frame (see.P2) and then click the **ISET/VSET** to send the value to the DC power supply. For activating the output click on the  button. The appearance of the button will change to  and the output is switched on.



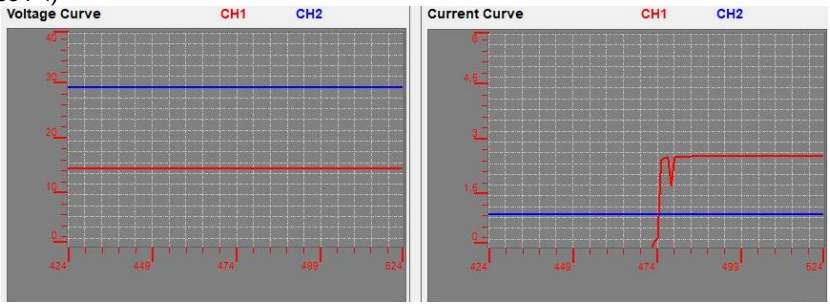
P2

Real-time data display

Real-time voltage and current and the CC/CV condition will be indicated on the “READING” frame (see P3).

P3

Data graph display: The ordinate is Voltage/Current and the abscissa is the data collection points (see P4)



P4

Data sheet check**:** Click the  button and get the sheet as followed (P5)

FormReport

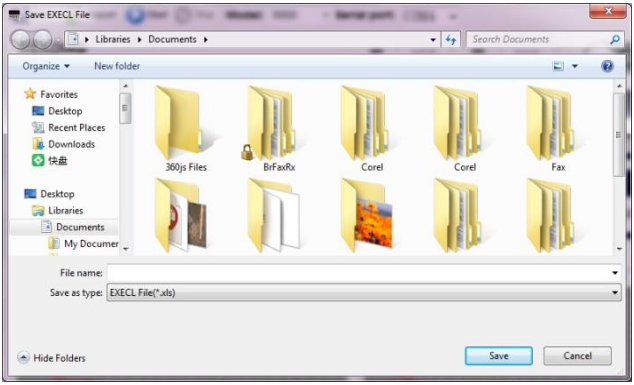
NO.	Voltage(CH1)	Current(CH1)	Voltage(CH2)	Current(CH2)	Date	Time
506	15,00	2,604	30,00	1,002	2019-03-05	16:52:26
507	15,00	2,604	30,00	1,002	2019-03-05	16:52:27
508	15,00	2,604	30,00	1,002	2019-03-05	16:52:28
509	15,00	2,604	30,00	1,002	2019-03-05	16:52:29
510	15,00	2,604	30,00	1,002	2019-03-05	16:52:30
511	15,00	2,604	30,00	1,002	2019-03-05	16:52:31

P5

Saving data

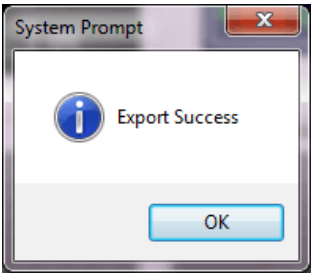
You can export the report list to an EXCEL readable file.

Click the Save button then enters a name and save.(P6)



P6

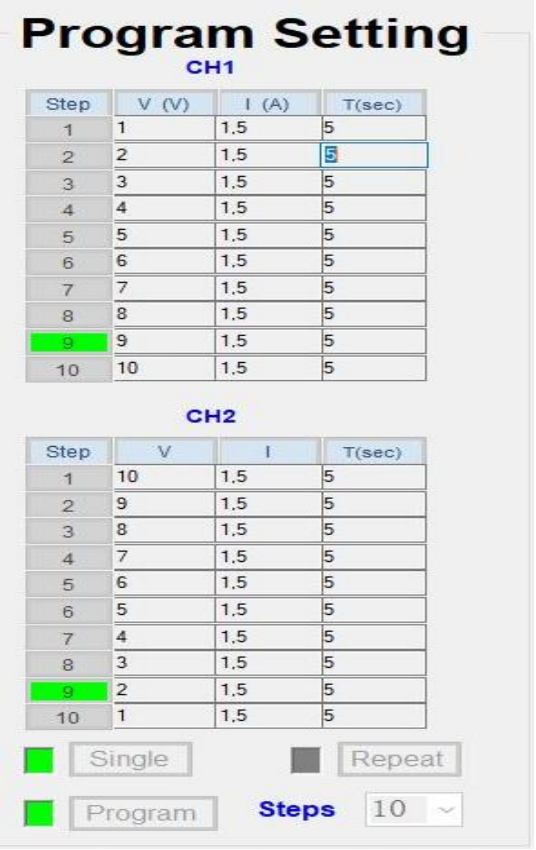
The export to an EXCEL file was successful (P7)



P7

Program Mode

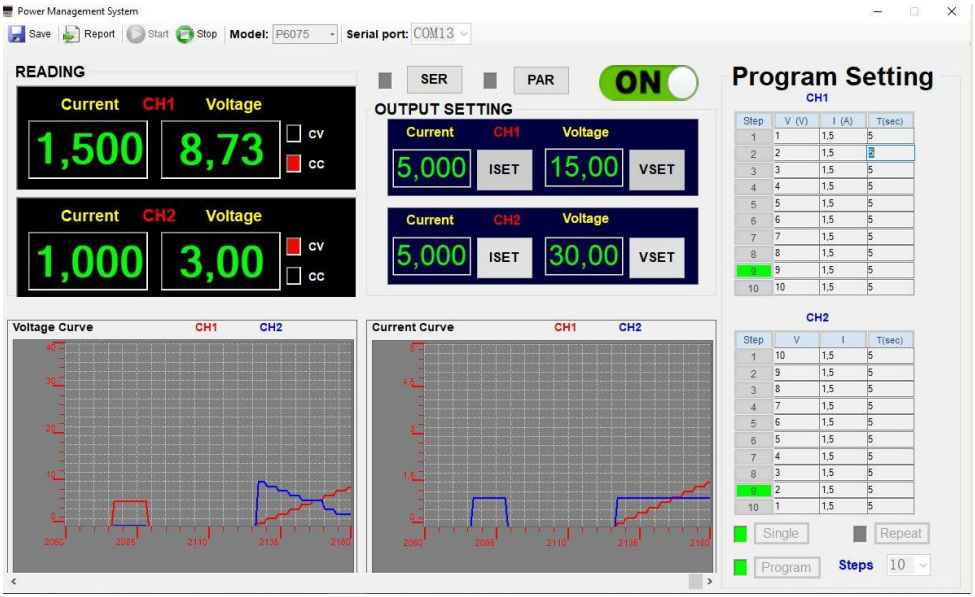
Open the communication software , and choose the corresponding model and serial port number (Shown in 6.3). **Don't click** on the Start button.
Enter the voltage, current and time in the table (P8). Choose the value of program steps you want to run and "single time" or "Repeat" mode. Choose Program .Click the Start button to run the program and activate the output ON to activate the output (P8).



P8

Program mode

The program runs



To stop the program run, click on the 

button. The output stops at the last program step. The output keeps power on.

To get power off, click on the 

button. The program keeps running. The output is switched off.

This manual considers the latest technical knowing. Technical changings which are in the interest of progress reserved.

We herewith confirm, that the units are calibrated by the factory according to the specifications as per the technical specifications.
We recommend to calibrate the unit again, after one year.

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