

Product Datasheet - Technical Specifications



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quotations, demo/test equipment, consulting:**

Tel.: **+49 - 81 41 - 52 71-0**

FAX: **+49 - 81 41 - 52 71-129**

E-Mail: sales@meilhaus.com

Downloads:

www.meilhaus.com/en/infos/download.htm

Meilhaus Electronic GmbH | Tel. **+49 - 81 41 - 52 71-0**
Am Sonnenlicht 2 | Fax **+49 - 81 41 - 52 71-129**
82239 Alling/Germany | E-Mail sales@meilhaus.com

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PeakTech®

Prüf- und Messtechnik

 Spitzentechnologie, die überzeugt



PeakTech® 6180

**Bedienungsanleitung /
Operation manual**

**Programmierbares lineargeregeltes Netzgerät /
Programmable linear controlled
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 2004/22/EC (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.

- Do not use this instrument for high-energy industrial installation measurement.
- Prior to connection of the equipment to the mains, 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 place the equipment on damp or wet surfaces.
- Check test leads and probes for faulty insulation or bare wires before connection to the equipment.
- Replace a defective fuse only with a fuse of the original rating. Never short-circuit fuse or fuse holding.
- 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 knockover of the container)
- Do not operate the equipment near strong magnetic fields (motors, transformers etc.).
- Do not operate the meter before the cabinet has been closed and screwed safely as terminal can carry voltage.
- Please use only 4mm-safety test leads to ensure immaculate function.
- To avoid electric shock, do not operate this product in wet or damp conditions. Conduct measuring works only in dry clothing and rubber shoes, i.e. on isolating mats.
- Comply with the warning labels and other info on the equipment.
- The measurement instrument is not to be operated unattended.
- Do not subject the equipment to direct sunlight or extreme temperatures, humidity or dampness.
- Do not subject the equipment to shocks or strong vibrations.
- Keep hot soldering irons or guns away from the equipment.
- Allow the equipment to stabilize at room temperature before taking up measurement (important for exact measurements).
- Periodically wipe the cabinet with a damp cloth and mild detergent. Do not use abrasives or solvents.
- The meter is suitable for indoor use only
- Do not store the meter in a place of explosive, inflammable substances.
- Opening the equipment and service – and repair work must only be performed by qualified service personnel
- Do not place the equipment face-down on any table or work bench to prevent damaging the controls at the front.
- Do not modify the equipment in any way
- -Measuring instruments don't 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

The PeakTech 6180 is a high-performance programmable linear DC Power Supply. The outstanding features of this instrument include up to 100 programmable output steps with configurable timer, high-resolution TFT colour display, extremely low ripple and noise characteristics, comprehensive over-voltage, over-current and over-temperature protection, user friendly interface and panel layout. Furthermore, the P 6180 has a variety of standard interfaces to meet diverse test requirements.

Features

- Dual independent & separate control outputs
- Line regulation: $\leq 0.01\%+3\text{mV}$, $\leq 0.1\%+3\text{mA}$
- Load regulation: $\leq 0.01\%+3\text{mV}$, $\leq 0.2\%+3\text{mA}$
- Low ripple noise: $\leq 300\mu\text{Vrms}$ / 2mVpp
- Four operating modes: independent, parallel, series, plus-minus
- Up to 100 output steps programmable
- High resolution and accuracy
- 3,9" inch TFT LCD (480x320 pixels)
- Interfaces: USB 2.0 Device + Host, RS232

Safety Terms

The following terms may appear in this manual:



Warning:

Warning indicates the conditions or practices that could result in injury or loss of life.



Caution:

Caution indicates the conditions or practices that could result in damage to this product or other property.

Terms on the Product

The following terms may appear on this product:

Danger: It indicates an injury or hazard may immediately happen.

Warning: It indicates an injury or hazard may be accessible potentially.

Caution: It indicates a potential damage to the instrument or other property might occur.

Safety Symbols

The following symbols may appear on the product or in this manual:



Hazardous Voltage



Refer to Manual



Protective Earth Terminal



Chassis Ground



Public Ground



NOTE:

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. Quick Start

This chapter will deal with the following topics mainly:

- Front/Rear Panel Overview
- User Interface Overview
- How to Implement General Inspection
- How to Implement Power-On Check
- How to Implement Output Inspection
- Instruction of the four Working Modes
- Instruction of the System Menu Operation

3.1. Front/Rear Panel and User Interface

3.1.1. Front Panel

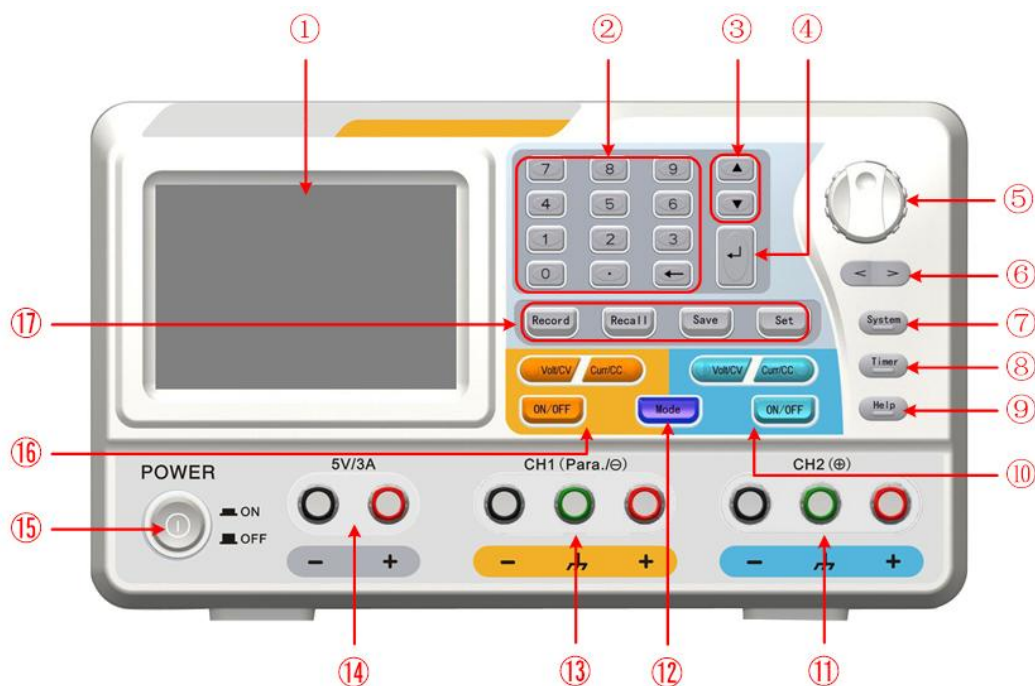


Figure 3-7 Front panel overview

| | | |
|---|--------------------------------------|---|
| ① | LCD | Display of the user interface |
| ② | Numeric keys area | Parameter input, include the numeric keys, decimal point and backspace key. |
| ③ | Up and down direction key | Select menu or change the parameter |
| ④ | Enter key | Enter menu or confirm the parameter entered |
| ⑤ | Knob | Select menu or change the parameter, pressing it has the same effect as pressing the enter key |
| ⑥ | Left and right direction key | Select menu or move the cursor |
| ⑦ | System key | Enter the system menu |
| ⑧ | Timer key | Enter/exit timer status |
| ⑨ | Help key | View the built-in help |
| ⑩ | Channel 2 control area | Blue Volt/CV key: Set the output voltage of Channel 2 Blue Curr/CC key: Set the output current of Channel 2 Blue ON/OFF key: Enable/disable the output of Channel 2 |
| ⑪ | Output terminals of Channel 2 | Channel 2 output connectors |
| ⑫ | Mode key | Switch the working mode between Independent, Parallel, Series and Plus-minus |
| ⑬ | Output terminals of Channel 1 | Channel 1 output connectors |
| ⑭ | 5V output terminals | Output fixed 5V , max output current is 3A |
| ⑮ | Power button | Turn on/off the instrument |
| ⑯ | Channel 1 control area | Orange Volt/CV key: Set the output voltage of Channel 1 Orange Curr/CC key: Set the output current of Channel 1 Orange ON/OFF key: Enable/disable the output of Channel 1 |
| ⑰ | Function keys | Record key: Record the current output data as a txt file and save to USB disk Recall key: Recall the stored settings file Save key: Save the current setting parameters Set key: Enter/exit the setting interface of timing output |

Instructions for panel key indicator

| | |
|--------------------|--|
| ON/OFF key | The indicator will be lighted after you turn on the channel |
| Volt/CV key | The indicator will be lighted when the channel is in Constant Voltage output mode; blinking indicates you are setting the output voltage through the input box |
| Curr/CC key | The indicator will be lighted when the channel is in Constant Current output mode; blinking indicates you are setting the output current through the input box |

3.1.2. Rear Panel



Figure 3-8 Rear panel overview

| | | |
|---|------------------------|--|
| ① | USB Host port | Connect as a "host device" with an external USB device, such as a USB flash drive. |
| ② | USB Device port | Connect as a "slave device" with an external USB device, such as a PC. |
| ③ | COM port | Connect the instrument with external equipment via serial port |
| ④ | Power socket | AC input connector |
| ⑤ | Fuse | Use the specified fuse according to the mains voltage |
| ⑥ | Power switch | Switch between 110V and 220V |
| ⑦ | Fan | Fan inlet |

3.1.3. User Interface

The figures below are the interfaces in Timer mode; you can consult the following instructions for the interfaces in Normal status too.

Normal - Mode

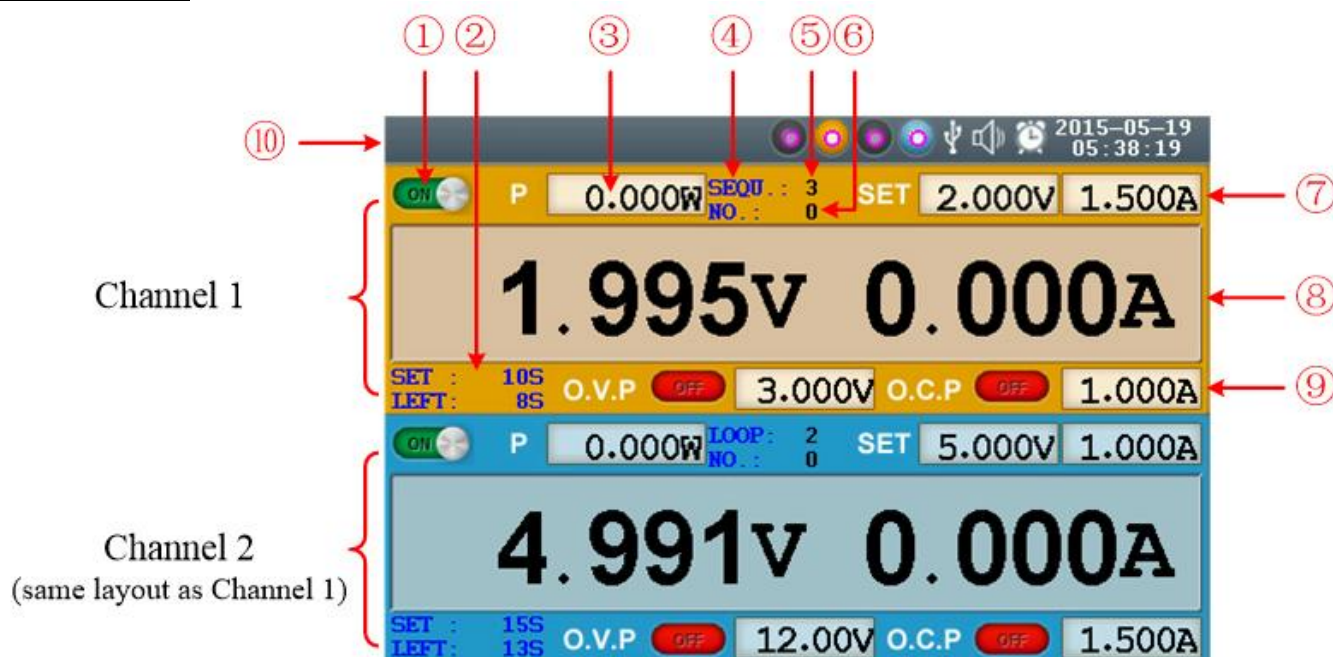


Figure 3-9 User interface in Independent mode

| | |
|---|--|
| ① | Output status of Channel 1 |
| ② | Specified time and left time of current output when the timing output of Channel 1 is on |
| ③ | Actual output value of power for Channel 1 |
| ④ | Timing output mode of Channel 1 (Sequence / Loop) |
| ⑤ | Timer range of Channel 1 |
| ⑥ | The parameter number of the current output when the timing output of Channel 1 is on. |
| ⑦ | Set values of voltage and current for Channel 1 |
| ⑧ | Actual output values of voltage and current for Channel 1 |
| ⑨ | Status and set values of O.V.P and O.C.P for Channel 1 in current status |
| ⑩ | Status icons, see "Status Icons" for more details |

Parallel /Series Mode

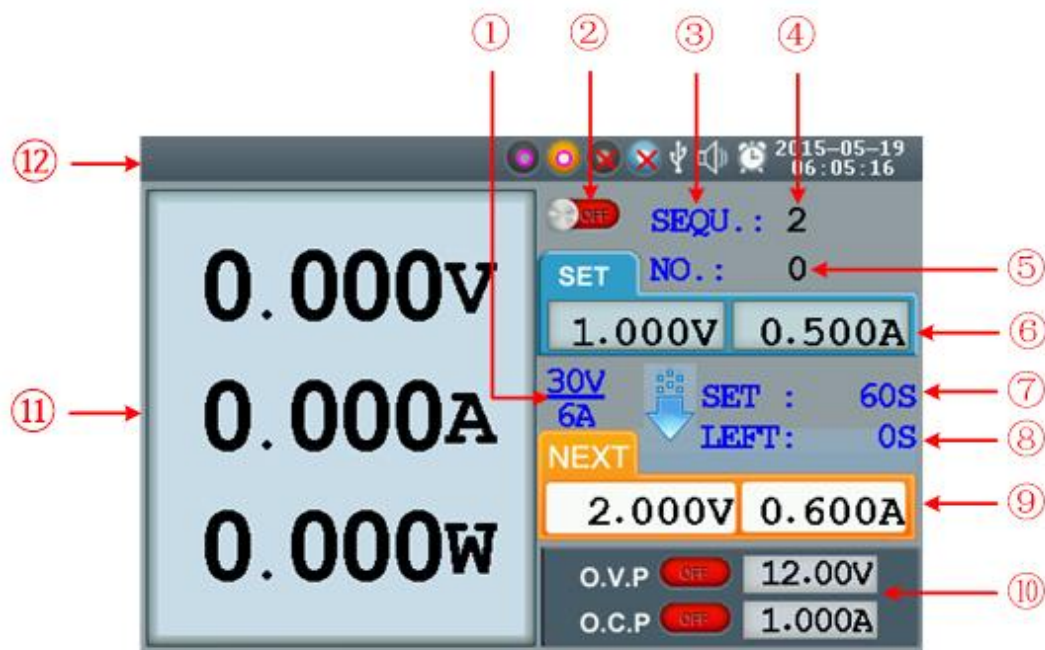


Figure 3-10 User interface in Parallel/Series mode

| | |
|---|---|
| ① | Maximum ratings of voltage and current |
| ② | Channel status |
| ③ | Output mode of timing output (Sequence / Loop) |
| ④ | Timer range |
| ⑤ | The parameter number of the current output when the timing output is on |
| ⑥ | Specified values of voltage and current |
| ⑦ | Specified time of current output when the timing output of is on |
| ⑧ | Left time of current output when the timing output of is on |
| ⑨ | Specified values of voltage and current that will be output at the next fixed times when the timing output of is on |
| ⑩ | Status and set values of O.V.P and O.C.P in current status |
| ⑪ | Actual output values of voltage , current and power |
| ⑫ | Status icons, see "Status Icons" for more details |

Plus-minus Mode

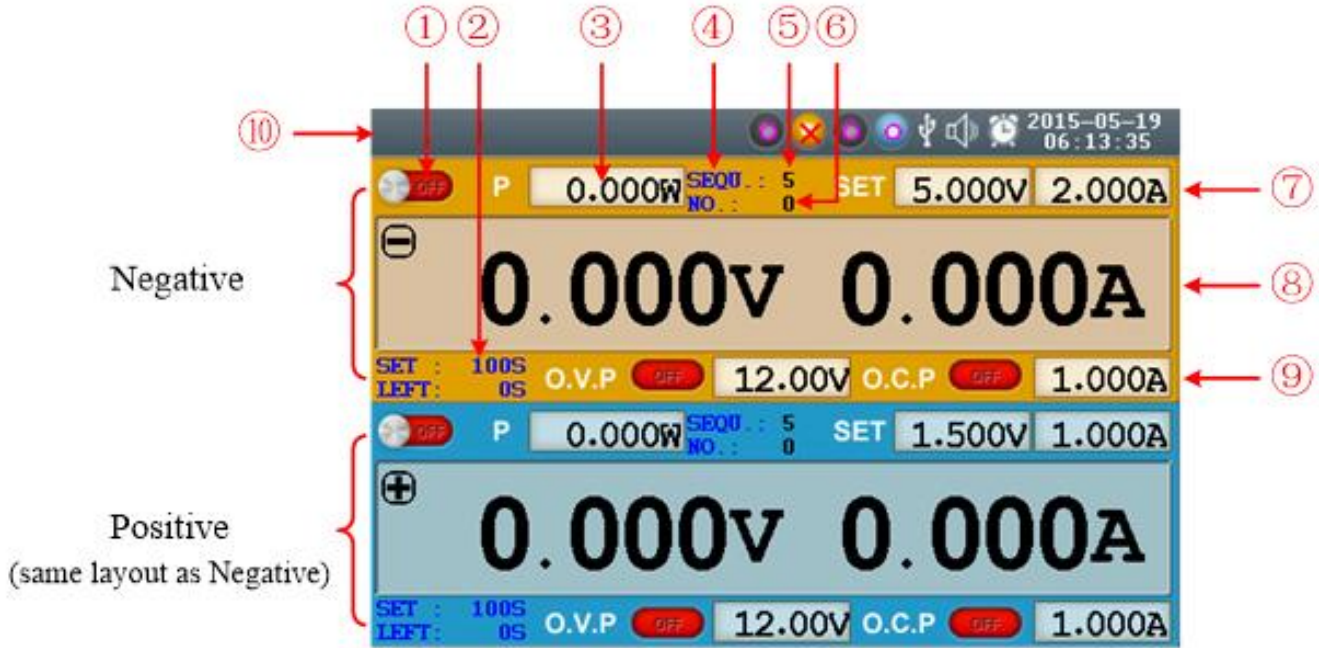












Figure 3-11 User interface in Plus-minus mode

| | |
|---|--|
| ① | Output status of Negative (same as Positive) |
| ② | Specified time and left time of current output when the timing output of Negative is on |
| ③ | Actual output value of power for Negative |
| ④ | Timing output mode of Negative (Sequence / Loop, same as Positive) |
| ⑤ | Timer range of Negative (same as Positive) |
| ⑥ | The parameter number of the current output when the timing output of Negative is on (same as Positive) |
| ⑦ | Set values of voltage and current for Negative |
| ⑧ | Actual output values of voltage and current for Negative |
| ⑨ | Status and set values of O.V.P and O.C.P for Negative in current status |
| ⑩ | Status icons, see "Status Icons" on for more details |

Status Icons

| Symbol | Bedeutung |
|---|-------------------------------------|
|  | Connect as a slave device with PC |
|  | Recording the current output |
|  | A USB device is detected |
|  | Current working mode is Independent |
|  | Current working mode is Parallel |
|  | Current working mode is Series |
|  | Current working mode is Plus-minus |
|  | The buzzer is on |
|  | The buzzer is off |
|  | The system is in Timer Mode |

3.2. General Inspection

After you get a new PeakTech 6180 Series power supply, it is recommended that you make a check on the instrument according to the following steps:

| | |
|---|---|
| 1. Check whether there is any damage caused by transportation. | If it is found that the packaging carton or the foamed plastic protection cushion has suffered serious damage, do not throw it away first till the complete device and its accessories succeed in the electrical and mechanical property tests. |
| 2. Check the Accessories | The supplied accessories have been already described in the "Appendix A: Enclosure" of this Manual. You can check whether there is any loss of accessories with reference to this description. If it is found that there is any accessory lost or damaged, please get in touch with the distributor of PeakTech responsible for this service. |
| 3. Check the complete Instrument | If it is found that there is damage to the appearance of the instrument, or the instrument cannot work normally, or fails in the performance test, please get in touch with the PeakTech's distributor responsible for this business. If there is damage to the instrument caused by the transportation, please keep the package. |

3.2.1. AC Power Input Setting

PeakTech 6180 adopts 110V/220V AC power source. Users should regulate the voltage position of the **Power Switch** according to the standards in their own country (see Figure 3-8) at the rear panel and use an appropriate fuse.


| Voltage | Fuse |
|---------|-------------|
| AC110V | 125 V, F5 A |
| AC220V | 250 V, F3 A |

To change the input voltage setting of the instrument, do the following steps:

- (1) Turn off the power button at the front panel and remove the power cord.
- (2) Check if the fuse installed before leaving factory (250 V, F3 A) can match with the selected voltage setting; if not, pry the cover open using a straight screwdriver (see ⑤ in Figure 3-0), change the fuse.
- (3) Move the Power Switch to the right voltage position.

3.2.2. Power On

- (1) Connect the instrument to the AC supply using the supplied power cord.

| | |
|---|---|
|  | Warning: To avoid electric shock, the instrument must be grounded properly. |
|---|---|

- (2) Press down the power button at the front panel, the orange and blue key is lighted; the screen shows the boot screen.
- (3) Press any key to enter.

3.3. Output Inspection

Output inspection is to ensure that the instrument can achieve its rated outputs and properly respond to operation from the front panel. For the procedures below, it is suggested that you read the passages "4.1. Turn On/Off the Channel Output" and "4.2. Set the Output Voltage/Current".

Voltage Output Inspection

The following steps verify basic voltage functions without load:

- (1) When the instrument is under no load, power it on; make sure that the output current setting value of each working mode is non-zero.
- (2) Turn on the channel output. The **ON/OFF** and **Volt/CV** key is lighted, which indicates the channel you opened is in Constant Voltage output mode.
- (3) In each working mode, set some different voltage values; check if the actual voltage value displayed is close to the set voltage value, and check if the actual current value displayed is nearly zero.
- (4) Check if the output voltage can be adjusted from zero to the maximum rating.

Current Output Inspection

The following steps check basic current functions with a short across the power supply's output:

- (1) Power on the instrument.
- (2) Connect a short across (+) and (-) output terminals with an insulated test lead. Use a wire size sufficient to handle the maximum current.
- (3) Set the output voltage to the maximum rating.
- (4) Turn on the channel output. The **ON/OFF** and **Curr/CC** key is lighted, which indicates the channel you opened is in Constant Current output mode.
- (5) In each working mode, set some different current values; check if the actual current value displayed is close to the set current value, and check if the actual voltage value displayed is nearly zero.
- (6) Check if the output current can be adjusted from zero to the maximum rating.

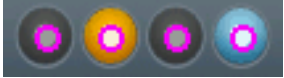



Turn off the channel output and remove the short wire from the output terminals.

3.4. Working Mode

The PeakTech 6180 was designed with four working modes: Independent, Parallel, Series and Plus-minus. Press the **Mode** key to switch between the four working modes. For the instructions of the user interfaces in the four working mode, please see "3.1.3. User Interface".

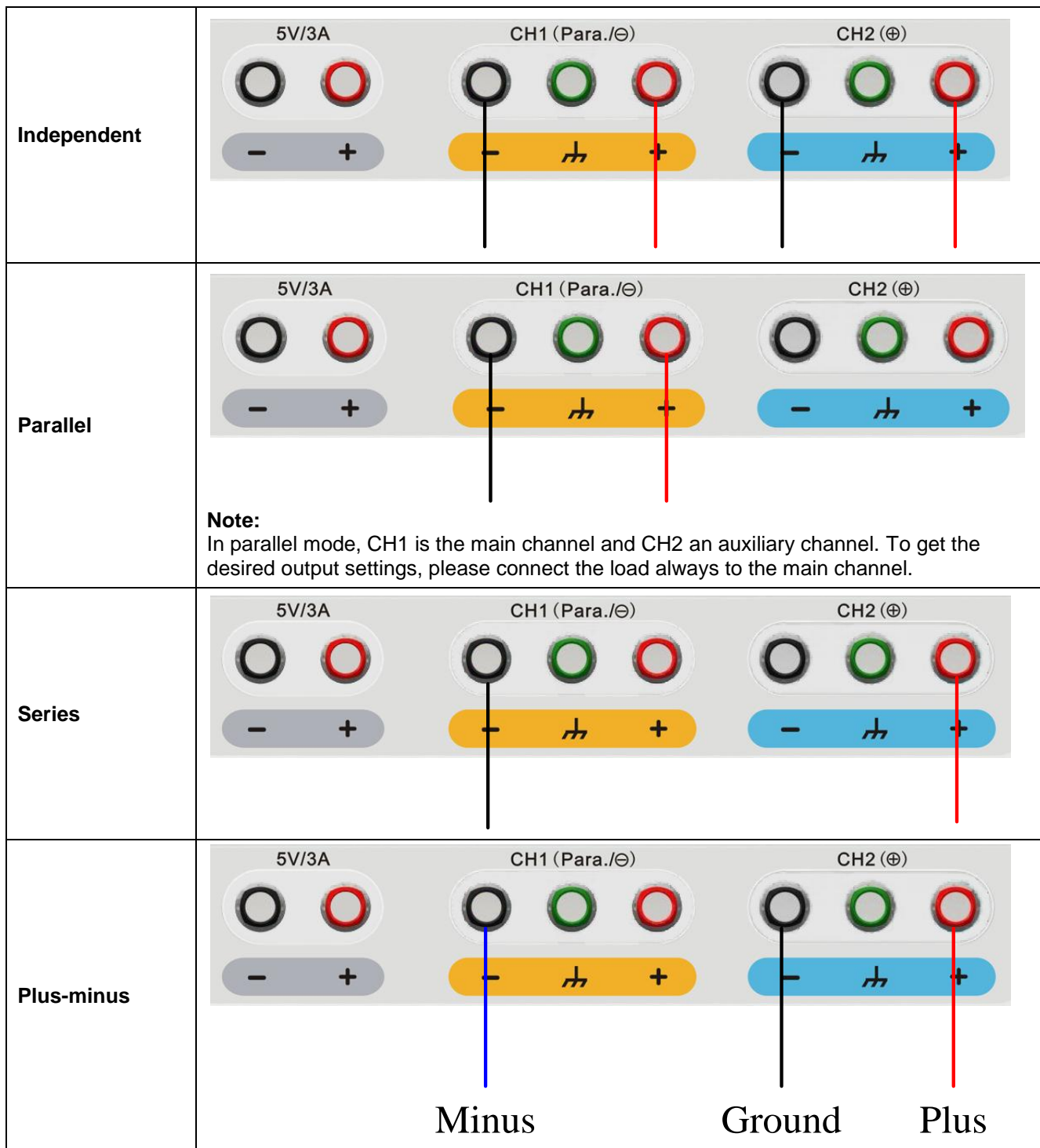
3.4.1. Icons and Ratings

The status icons and voltage/current ratings of the four mode are listed below.

| | Normal | Parallel | Series | Plus-minus |
|------------------------|---|---|--|---|
| Status Icons |  |  |  |  |
| Voltage rating | 0...30V | 0...30V | 0...60V | 0...±30V |
| Current ratings | 0.02...3A | 0.1...6A | 0.02...3A | 0.02...3A |

The 5V output terminals always output fixed 5V during the instrument is powered on, the max output current is 3A.

3.4.2. Connections










3.5. System Menu Operation


(1) Display the menu

Press **System** key, the System menu is shown on the screen.

(2) Choose a menu item

- Press  /  direction key or turn the knob to move around the menu items.
- Press any one of the  direction key, the  key or the knob to enter the submenu; to return to main menu, press the  direction key.
- In the submenu, press  /  direction key or turn the knob to move around the submenu items.

(3) Enter the menu

Press the  key or the knob to enter the selected menu item.

(4) Exit the menu

Press **System** key to close the menu or the pop-up box.

Note:

In this document, [**System** → **CH1** → **O.V.P**] means:

Enter the **CH1** item in System menu, and then choose the **O.V.P** submenu.

4. Front Panel Operation

This chapter will deal with the following topics mainly:

- How to Turn On/Off the Channel Output
- Set the Output Voltage/Current
- Over Voltage/Current Protection
- Timing Output
- Save/Recall/ Record Functions
- System Settings
- How to Use Built-in Help

4.1. Turn On/Off the Channel Output

Normal - Mode

- Press the orange **ON/OFF** key to turn on/off the Channel 1 output.
- Press the blue **ON/OFF** key to turn on/off the Channel 2 output.
- The **ON/OFF** key is lighted when the corresponding channel is on.

Parallel, Series and Plus-minus Mode

- Press the orange **ON/OFF** key to turn on/off the channel output.
- The blue **ON/OFF** key is invalid.

4.2. Set the Output Voltage/Current

You can set the output voltage/current through input box. About the rated range of each mode, please refer to "3.4.1. Icons and Ratings".

Note:

The output voltage/current cannot be set in Timer status. If you want to set it, you should exit the Timer status first.

- **Normal - Mode**

- (1) Press the orange **Volt/CV** or **Curr/CC** key, the input box of Channel 1 output voltage/current will pop up.
- (2) The key light will start blinking, indicating to input, there are two methods to change the value.
Modify: Turn the knob or press the **▲** / **▼** direction key to change the value by the unit of cursor position, hold down the **▲** / **▼** direction key to change continuously. Press the **◀** / **▶** key to move the cursor.
Input: Use the numeric keys to enter a desired value, the original value will be cleared, and display the value you entered.
- (3) Press the **↵** key to confirm.

In the same way, press the blue **Volt/CV** or **Curr/CC** key to set the output voltage/current of Channel 2.

- **Parallel/Series Mode**

- (1) Press the orange **Volt/CV** or **Curr/CC** key, the input box of output voltage/current will pop up.
- (2) The operation of input box is the same as Independent mode.

- **Plus-minus Mode**

- (1) Press the orange **Volt/CV** or **Curr/CC** key, the input box of Negative output voltage/current will pop up.
- (2) The operation of input box is the same as Independent mode.

In the same way, press the blue **Volt/CV** or **Curr/CC** key to set the Positive output voltage/current.

Note:

If the input value is out of the rated range, the box prompts "ERROR"; you need to input another value within the rated range. In Series mode, the minimum rating of the current is 0.1A; in other modes 0.02A.

4.3. Over Voltage/Current Protection

When the Over Voltage Protection (O.V.P) or Over Current Protection (O.C.P) is enabled, once the output voltage/current reaches the set value of O.V.P/O.C.P, the instrument will cut off the output. The value of O.V.P/O.C.P which causes cutting off will turn red and flashing; the instrument will make a buzzing sound.

Note:

When the instrument disables the output due to protection, after you make some adjustments, the channel must be restarted to output normally.

This function can keep the power output from exceeding the load rating in order to protect the load. The O.V.P/O.C.P can be set separately for the four working mode and for different status (normal, timer). You can enable or disable these functions as required.

The parameters of the O.V.P/O.C.P set in normal status take effect in normal status. The parameters of the O.V.P/O.C.P set in timer status take effect in timer status.

Note:

In Plus-minus mode, if either of the Positive or Negative output voltage/current reaches its own O.V.P/O.C.P, the instrument will disable the output.


4.3.1. Set O.V.P

(1) Enter the O.V.P setting menu:

- **Normal – Mode**



Press the  key, enter [System → CH1 (CH2) → O.V.P].

- **Parallel, Series Mode**

Press the  key, in normal status, enter [System → O.V.P]; in timer status, enter [System → Pro Set → O.V.P].


- **Plus-minus Mode**

Press the  key, enter [System → Positive (Negative) → O.V.P].

(2) A setting box pops up, press the  /  key to switch the state of the O.V.P between "ON" or "OFF", the O.V.P in current mode and status is enabled or disabled.

Note:

In Plus-minus mode, the O.V.P status of Positive and Negative will remain consistent, you can set either of them. The O.V.P value can be set separately.

Use the numeric keys to enter the O.V.P value in current mode and status. The maximum in Independent, Parallel, Plus-minus mode is 31.5V, the maximum in Series mode is 63V. Press the  key to confirm.


4.3.2. Set O.C.P

(1) Enter the O.C.P setting menu:

- **Normal Mode**


Press the  key, enter [System → CH1 (CH2) → O.C.P].

- **Parallel, Series Mode**

Press the  key, in normal status, enter [System → O.C.P]; in timer status, enter [System → Pro Set → O.C.P].


- **Plus-minus Mode**

Press the  key, enter [System → Positive (Negative) → O.C.P].

(2) A setting box pops up, press the  key to switch the state of the O.C.P between "ON" or "OFF", the O.C.P in current mode and status is enabled or disabled.

Note:

In Plus-minus mode, the O.C.P status of Positive and Negative will remain consistent, you can set either of them. The O.C.P value can be set separately.

Use the numeric keys to enter the O.C.P value in current mode and status. The maximum in Independent, Series and Plus-minus mode is 3.15A, the maximum in Parallel mode is 6.3A. Press the  key to confirm.


4.4. Timing Output

The timing output function can preset up to 100 groups of timing parameters. When you turn on the timing output, the instrument will output the pre-specified voltage, current in pre-specified time.

You can set special O.V.P/O.C.P for timer status; see "Over Voltage/Current Protection" for more details.

4.4.1. Enter/Exit Timer Status

Press  to enter/exit timer status.

The  icon identifies the system is in timer status.

4.4.2. Timer Setting

Before turning on the timing output, you should set the timer parameters, including voltage, current and output time. This function allows up to 100 groups of timer parameters.

In timer status, press the  key to enter/exit timer setting interface of the current mode.

Press the  key to switch between the corresponding timer setting interface of the four working mode.

| No. | Volt (V) | Curr (A) | Time (S) | No. | Volt (V) | Curr (A) | Time (S) |
|-----|----------|----------|----------|-----|----------|----------|----------|
| 0 | 2.000 | 1.500 | 10 | 0 | 5.000 | 1.000 | 15 |
| 1 | 1.000 | 2.000 | 6 | 1 | 2.000 | 0.000 | 0 |
| 2 | 0.000 | 0.000 | 0 | 2 | 0.000 | 0.000 | 0 |
| 3 | 0.000 | 0.000 | 0 | 3 | 0.000 | 0.000 | 0 |
| 4 | 0.000 | 0.000 | 0 | 4 | 0.000 | 0.000 | 0 |
| 5 | 0.000 | 0.000 | 0 | 5 | 0.000 | 0.000 | 0 |
| 6 | 0.000 | 0.000 | 0 | 6 | 0.000 | 0.000 | 0 |
| 7 | 0.000 | 0.000 | 0 | 7 | 0.000 | 0.000 | 0 |

Channel 1
(same layout as Channel 2)

Channel 2

Figure 5-1- Timer Setting Interface in Independent Mode

The selected parameter will be highlighted.

In Independent mode or Plus-minus mode, press orange **ON/OFF** key to select the left parameter area, press blue **ON/OFF** to select the right parameter area.

Press the **▲** / **▼** key to change the parameter item.

After selecting the parameter, use the numeric keys to enter a desired value, press the **↵** key to confirm.

Press the **◀** / **▶** key to go to the previous or next setting page.

Note:


- If the input value exceeds the rating of current working mode, the system will change it to the maximum rating automatically after pressing the **↵** key to confirm.
- In the Plus-minus mode, the values of the Negative and Positive output time remain consistent, you can set either of them.

4.4.3. Timer Range

Timer range setting denotes that you can set the last number of timer parameter group and output mode. You can find out the TimerRng submenu of system menu only in timer status. If turn on the timing output, the system will output the pre-set parameters between 0 and the set number at sequence or loop mode.

(1) In timer status:

- **Normal – Mode**




Press the  key, enter [System → CH1 (CH2) →TimerRng].

- **Parallel, Series Mode**

Press the  key, enter [System → TimerRng].

- **Plus-minus Mode**


Press the  key, enter [System → Positive →TimerRng].

The timer range setting box pops up. Use the numeric keys enter a number (0~99), press the  /  key to switch between Sequence and Loop, press the  key to confirm.

4.4.4. Turn On/Off Timing Output


In timer status:

- **Normal - Mode**

Press orange  key to turn on/off the timing output of Channel 1.

Press blue  key to turn on/off the timing output of Channel 2.

- **Parallel, Series or Plus-minus Mode**

Press orange  key to turn on/off the timing output.

Note:

In the process of timing output, closing the channel output will reset the timer; turning on the channel again will restart the timing output and the timer.


4.5. Save/Recall/Record







The PeakTech 6180 supports operations with a USB flash device and local file storage, including: store, recall and delete current setting parameters. The current data of the channel can be recorded into a txt file, which stored in USB disk. You can connect the USB disk to the ①USB Host interface in Figure 3-8. After connecting the USB disk successfully, an icon



will be shown at the top of the screen.











4.5.1. Save System Parameter

In Normal Status, press the  key to save the parameters about current working mode and the output voltage/current, the O.V.P/O.C.P of current mode. You can name the setting files. This function is not available in Timer Status.


(1) In Normal Status, press the  key to enter the function interface (press it again to exit). Press the  /  key to choose the storage location as "Local" or "UDisk". Turn the knob to change the selected character in "Save name" input box. Press the  key to add the next character. Press the  key to select the previous character. Press the  key to delete the selected character.





(2) Press the  key to store after editing the file name.

4.5.2. Recall and Delete System Parameters File

- (1) Press the  key to enter the function interface (press it again to exit). Press the  /  key to choose the storage location. Press the  key to show the list of system parameters files.
- (2) The list displays the file name and stored date. Turn the knob or press the  /  key to select a file, and then press the  key.
- (3) Two options appear on the screen: "Load" and "Delete". Turn the knob or press the  /  key to switch between the options. Press the  key to confirm.

4.5.3. Record the Output


You have to insert a USB disk before using this function. By pressing the  key, the current data of the channel can be recorded into a txt file, which is stored on USB disk.

- (1) Press the  key; press the numeric keys to set the interval.
- (2) Press the  key to start recording. During recording, an icon  is shown on the status bar.
- (3) Press the  key again to stop recording.




4.6. System Settings

You can set the system by operating the System Menu. It is suggested that you should read the "3.5. System Menu Operation" first, so as to be familiar with the menu operation.




4.6.1. Set Language

Press the  key and enter [System →Language]; choose the desired language. The supported languages include: Chinese, English and so on.

4.6.2. Set Bright

Press the  key and enter [System →Display →Bright]. Press the  /  key or turn the knob to adjust the screen brightness (1~10).



4.6.3. Set Screen Saver Time

The screen saver will run automatically if no operation is taken for any key within the set time. Press any key to resume. Press the  key and enter [System →Display →ScrSaver]. Press the  /  key or turn the knob to adjust the screen saver time (1~99 minutes). When it is set to "00", the screen saver is disabled.

4.6.4. Set System Time

Press the **System** key and enter [System →Sys Set →SysTime]. Press the ▲ / ▼ key or turn the knob to set the selected value. Press the ◀ / ▶ key to move the cursor. Press the ↵ key to confirm.

4.6.5. Buzzer

Press the **System** key and enter [System →Sys Set →Buzzer]. Press the ↵ key to turn on/off the buzzer. When the buzzer is on, an icon  will be shown in the status bar. You will hear a key tone once a key is pressed down; when the system prompts the instrument will make a buzzing sound. When the buzzer is off, an icon  will be shown in the status bar.

4.6.6. View System Information

Press the **System** key and enter [System →SysInfo]. You can view the Serial Number, Software Version and Hardware Version.

4.6.7. Set as Default

Press the **System** key and choose [System →Default], press the ↵ key to use the factory defaults, see table below.

| Parameter | | Arbeitsmodus | | Parallel | Series | Plus-Minus | |
|--------------|--------------------|--------------|--------|----------|--------|------------|----------|
| | | CH 1 | CH 2 | | | Negative | Positive |
| Normal Modus | Voltage | 12 V | 12 V | 15 V | 15 V | 12 V | 12 V |
| | Current | 0.5 A | 0.5 A | 1.0 A | 1.0 A | 1.0 A | 1.0 A |
| | O.V.P | 12.5 V | 12.5 V | 16.0 V | 15.5 V | 12.5 V | 12.5 V |
| | O.C.P | 0.6 A | 0.6 A | 1.2 A | 1.2 A | 1.1 A | 1.1 A |
| | O.V.P/O.C.P Status | OFF | OFF | OFF | OFF | OFF | OFF |
| Timer Modus | O.V.P | 12 V | 12 V | 12 V | 12 V | 12 V | 12 V |
| | O.C.P | 1.0 A | 1.0 A | 1.0 A | 1.0 A | 1.0 A | 1.0 A |
| | O.V.P/O.C.P | OFF | OFF | OFF | OFF | OFF | OFF |

| Menupunkt | Standard-Wert |
|----------------------------------|---------------|
| Brightness (Helligkeit) | 5 |
| Screen Saver (Bildschirmschoner) | OFF |
| Buzzer (Summer) | ON |

4.7. Use Built-in Help

- (1) Press **Help** function button, the catalog will display in the screen.
- (2) Press the ▲ / ▼ key or turn the knob to choose help topic.
- (3) Press the ↵ key to view the details about the topic; press the ← key to go back to the catalog.

Press **Help** again to exit the help, or just do other operations.

5. Communication with PC

The PeakTech 6180 supports communications with a PC through USB or COM interface. You can use the software to set the parameters, control the output of the power supply, and synchronously display the actual output values on the Power Supply screen.

(1) Install the software

Install the PeakTech 6180 software on the supplied CD.

(2) Connect the instruments

Use a USB data cable to connect the USB Device port in the rear panel of the Power Supply to the USB port of a PC. Or use a data cable to connect the COM port in the rear panel of the Power Supply to the COM interface of a PC.

(3) Install the driver

When the Power Supply is turned on, a dialog will appear on the PC screen and guide you to install the USB driver. The driver is in the "USBDRV" folder under the directory where the software is installed, such as "C:\Program Files\PeakTech\USBDRV".

(4) Using the software

Run the software; click the "Menu" button in the top right corner. Choose the "Communications → Ports-Settings" to set the corresponding communication parameters. After connecting successfully, the connection information in the bottom right corner of the software will turn green. To learn about how to operate the software, you can choose "Communications → Help → Help" to open the help file.

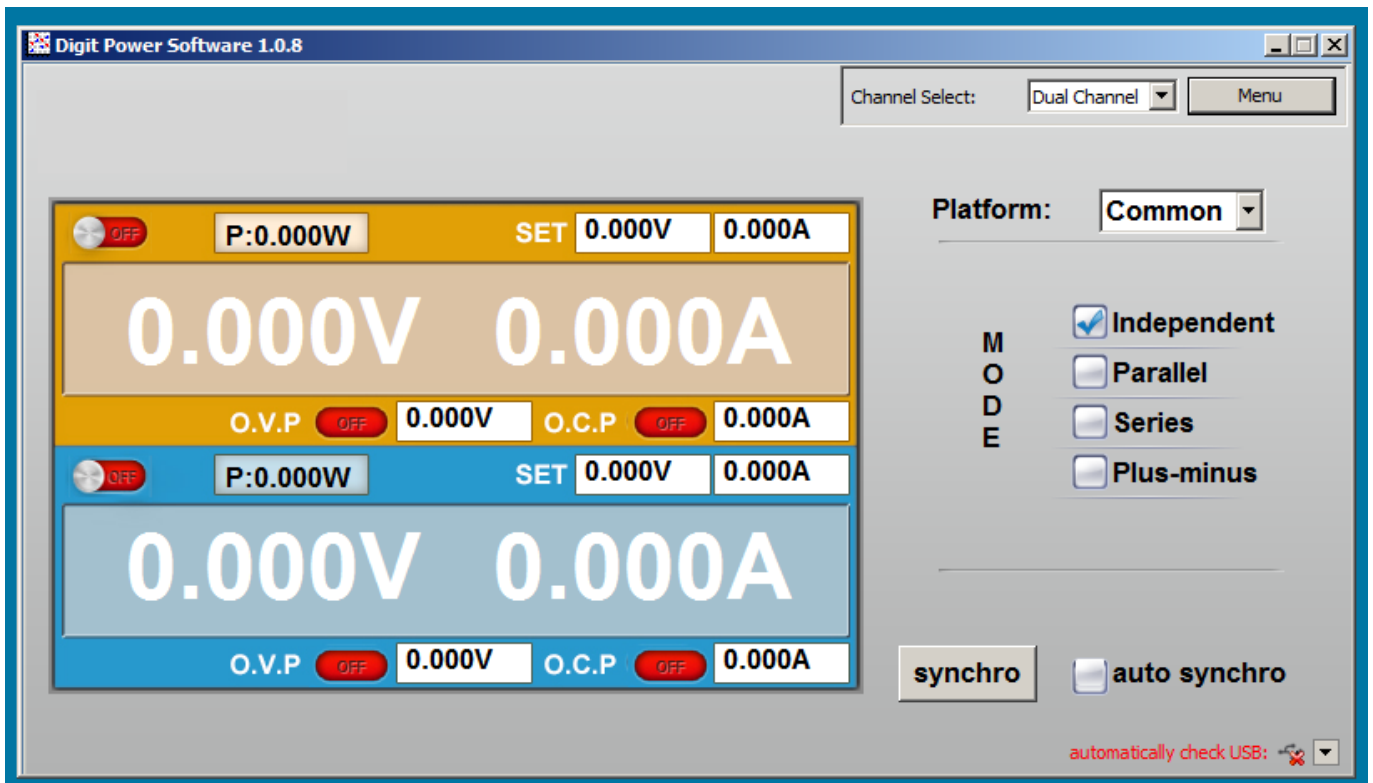


Figure 5-12: Graphical Interface of the PC Software

6. Troubleshooting

1. The instrument is powered on, but the display is still off

- Check if the power is connected properly.
- Check if the Power Switch is in the proper voltage scale.
- Check if the fuse which is below the AC Power socket is used appropriately and in good condition (the cover can be pried open with a straight screwdriver).
- Restart the instrument after the steps above.
- If the problem still exists, please contact PeakTech for our service.

2. The output is abnormal:

- Check if the output voltage is set to 0V. If so, set it to other value.
- Check if the output current is set to 0A. If so, set it to other value.
- When in timer status, check if there is any voltage/current value of timer setting is set to 0. If so, set it to other value.
- If the problem still exists, please contact PeakTech for our service.

3. Cannot identify the USB device correctly:

- Check if the USB device is in good condition.
- Check if the used USB device is a flash device, note that a hard disk cannot be supported.
- Restart the instrument and insert your USB flash device again.
- If the problem still exists, please contact PeakTech for our service.

7. Technical Specifications

The specifications below are based on the instrument having run for at least 30 minutes continuously under the specified operating temperature.

| | | Channel 1/Channel 2 | | Fixed 5V |
|--------------------------------|---------|---|---------------------------------|---|
| DC Output Ratings | Voltage | Normal/Parallel | 0 ... 30V | 5V |
| | | Series | 0 ... 60V | |
| | | Plus-minus | -30V ... 30V | |
| | Current | Normal/Series /Plus-minus | 0 ... 3A | 3A |
| Parallel | | 0 ... 6A | | |
| Line Regulation | CV | $\leq 0.01\% + 3\text{mV}$ | | $\leq 3\text{mV}$ |
| | CC | $\leq 0.1\% + 3\text{mA}$ | | |
| Load Regulation | CV | $\leq 0.01\% + 3\text{mV}$ | | $\leq 0.1\% + 3\text{mV}$ |
| | CC | $\leq 0.2\% + 3\text{mA}$ | | |
| Noise and Ripple (20Hz...7MHz) | CV | $\leq 300 \mu\text{Vrms} / 2 \text{mVpp}$ | | $\leq 300 \mu\text{Vrms} / 2 \text{mVpp}$ |
| | CC | $\leq 3\text{mArms}$ | | |
| Settings Resolution | Voltage | 1mV | | None |
| | Current | 1mA | | None |
| Settings Accuracy (25°C±5°C) | Voltage | Normal/ Plus-minus | $\leq 0.05\% + 3\text{mV}$ | None |
| | | Series/ Parallel | $\leq 0.1\% + 3\text{mV}$ | |
| | Current | $\leq 0.1\% + 3\text{mA}$ | | None |
| Readback Resolution | Voltage | 1mV (<10V) 10mV (≥10V) | | None |
| | Current | 1mA | | None |
| Readback Accuracy (25°C±5°C) | Voltage | Normal/ Plus-minus | $\leq 0.05\% + 3 \text{digits}$ | None |
| | | Series/ Parallel | $\leq 0.1\% + 3 \text{digits}$ | |
| | Current | $\leq 0.1\% + 3 \text{digits}$ | | None |

Display

| | |
|--------------------|---|
| Display Type | 3.9 inch colored LCD (Liquid Crystal Display) |
| Display Resolution | 480 (Horizontal) x 320 (Vertical) Pixels |
| Display Colors | 65536 colors, TFT screen |

Power

| | | |
|--------|--|------------|
| Supply | 110 Vac ± 10%, 220 Vac ± 10%; AC input 50/60Hz | |
| Fuse | 110V | 125 V, F5A |
| | 220V | 250 V, F3A |

Environment

| | |
|-------------------|--|
| Temperature | Working temperature: 0°C ... 40°C Storage temperature: -20°C ... 60°C |
| Relative Humidity | ≤ 90% |
| Height | Operating: 3,000 m Non-operating: 15,000 m |
| Cooling Method | Fan cooling (RPM dependent on load) |
| Dimension | 250mm×158mm×358mm (W*H*D) |
| Weight | About 10.5 kg |

8. Appendix

Appendix A: Enclosure

Standard Accessories:

- A power cord that fits the standard of the destination country
- A USB data cable
- A CD (Digit Power Software) und User Manual

Appendix B: General Care and Cleaning

General Care

Do not store or leave the instrument where the liquid crystal display will be exposed to direct sunlight for long periods of time.

Caution:

To avoid any damage to the instrument, do not expose it to any sprays, liquids, or solvents.

Cleaning

Inspect the instrument as often as operating conditions require. To clean the instrument exterior, perform the following steps:

1. Wipe the dust from the instrument surface with a soft cloth. Do not make any scuffs on the transparent LCD protection screen when cleaning the LCD screen.
2. Disconnect power before cleaning your instrument. Clean the instrument with a wet soft cloth not dripping water. It is recommended to scrub with soft detergent or fresh water. To avoid damage to the instrument, do not use any corrosive chemical cleaning agent.



Warning:

Warning: Before powering on again for operation, it is required to confirm that the instrument has already been dried completely, avoiding any electrical short circuit or bodily injury resulting from the moisture.

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This manual is according the latest technical knowing. Technical alterations 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 1 year.

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