



# PeakTech 6227 Laboratory Switching Mode Power Supply Instruction Manual

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# ***PeakTech®***

Unser Wert ist messbar

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**6227 Laboratory Switching Mode Power Supply**



**PeakTech® 6227**  
**Operation Manual**  
**Laboratory Switching Mode Power Supply**

## **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/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.

- Check the mains voltage setting before connecting the device.
- Connect the mains plug of the equipment only to a mains outlet with an earth connection.
- The instrument must be set up so that the power plug can be removed from the socket easily.
- Prior to connection of the equipment to the mains outlet, check that the available mains voltage corresponds to the voltage setting of the equipment.
- Do not place the equipment on damp or wet surfaces.
- Do not cover the ventilation slots of the cabinet to ensure that the 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).
- Replace a defective fuse only with a fuse of the original rating. Never short-circuit fuse or fuse holding.
- Check test leads and probes for faulty insulation or bare wires before connection to the equipment.

- Never touch the tips of the test leads or probe.
- Comply with the warning labels and other info on the equipment.
- Do not subject the equipment to direct sunlight or extreme temperatures, humidity, or dampness.
- Do not subject the equipment to shocks or strong vibrations.
- Do not operate the equipment near strong magnetic fields (motors, transformers, etc.).
- Keep hot soldering irons or guns away from the equipment.
- Allow the equipment to stabilize at room temperature before taking up measurements (important for exact measurements).
- Periodically wipe the cabinet with a damp cloth and mild-detergent. Do not use abrasives or solvents.
- The device 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.
- Do not store the meter in a place of explosive, inflammable substances.
- 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 service – and repair work must only be performed by qualified service personnel
- Laboratory power supplies are no battery chargers and do not have special protection against reverse voltage and false polarity. Do not use it for charging batteries!
- Do not operate the device to power inductive loads, such as electric motors, which act as a generator during overrun and thus can produce a reverse voltage!
- Electronic devices should only be operated by qualified personnel-

### **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.

### **Introduction**

The DC power supply P 6227 is equipped with a high-quality code potentiometer to achieve high stability of the DC voltage and the DC output. It is a constant voltage power supply, which provides a freely adjustable output voltage between 0V and 60V DC.

The output current adapts to the output voltage and can be up to 6A at 25V DC or only 2.5A at 60V DC. If the voltage is regulated via 25V DC, the maximum current drops continuously up to 60V DC, so regulation follows the output voltage. The coarse and fine adjustment can be switched as required by pressing a button. The voltage gradation is precise with 1 V or 10 mV and the current setting in 100 mA or 1 mA steps.

The model also has two 5V / 1A USB interfaces, which are used e.g. can be used to power single-board computers and development boards.

- Modern laboratory power supply in switching power supply technology
- 4-digit color LCD display for current and voltage
- Voltage and current presetting
- Main output can be switched on and off
- USB outputs can be switched on and off
- Coarse (1V / 100mA) and fine adjustment (10mV / 1mA)
- Temperature-controlled fan
- Constant current and short circuit proof

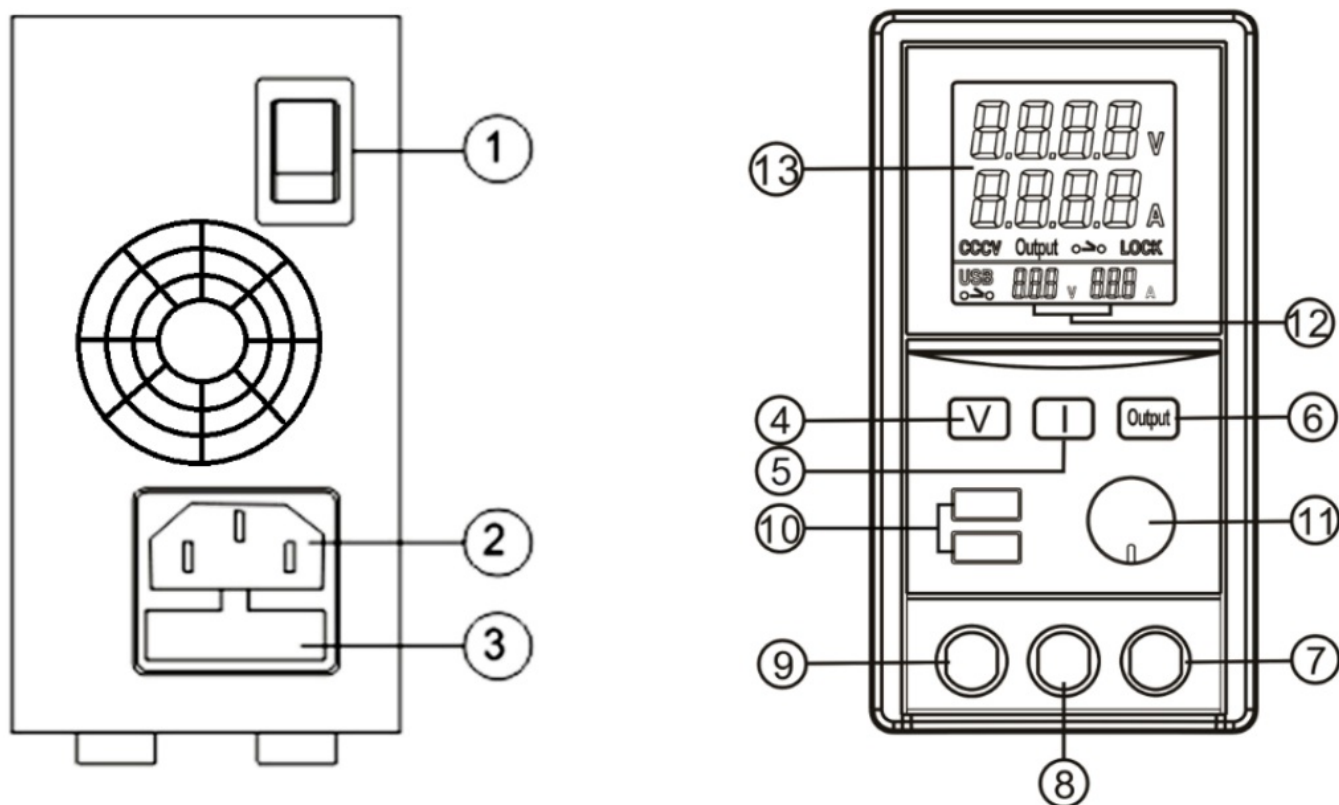
- 4mm safety sockets

## Technical Data

Operation voltage:	115 / 240 V AC (+/- 10%); 50/60 Hz switchable extern	
Protection:	constant current and short-circuit protection	
Main Display:	2 x 4-Digits Color-LCD for Voltage & Current	
Safety:	Protection Class 1; EN-61010-1	
Dimensions:	(WxHxD) 80 x 160 x 260 mm	
Weight:	1,6 kg	
Accessories:	Power cable and manual	
Output voltage:	0 ~ 60 V DC	
Output current:	0 ~ 6 A DC	$\leq 0,2\% \pm 3 \text{ mA}$
Line regulation:	$\leq 0,1\% \pm 3 \text{ mV}$	
Load regulation:	$\leq 0,05\% \pm 5 \text{ mV}$	
Ripple and noise:	$\leq 5 \text{ mV rms}$	$\leq 20 \text{ mA rms}$
Voltage indication accuracy:	$\pm 0,5 \% + 5 \text{ digits}$	
Current indication accuracy:	$\pm 0,5 \% + 5 \text{ digits}$	

## Operation


### 4.1. Controls and description of front-panel



#### Rear:

1. Switch: Power On/Off
2. Power Plug: AC Input Socket
3. Fuse: Closed Fuse Holder

#### Front:

4. Voltage setting: Press the key "V" (4) to enter into the voltage setting mode, use the turning knob(11) to adjust the voltage, tap the turning knob to goggle the coarse and fine adjustment.
5. Current setting: Press the key "I" (5) to enter into the current setting mode, use the turning knob(11) to adjust the current, tap the turning knob to goggle the coarse and fine adjustment.
6. Output On/Off: After setting the voltage and current, press the button "Output" to switch the output On/Off.
7. Plus Terminal: Positive(+)Red color.
8. GND Terminal: PE Green color, connected to the metal casing.
9. Minus Terminal: Negative(-)Black color.
10. USB output: Press "V" & "I" at the same time, and the "USB" symbol will flesh in the screen, then press the "Output" button to control the USB interface's output. If there is no operation for 3 seconds, the USB control mode will be exited and the USB icon will display normally.
11. Voltage/Current adjustment: In Voltage/Current setting mode, press it to switch coarse/fine adjusting mode. Turn it clockwise to increase the setting value, and counterclockwise to reduce the setting value.
12. USB display: Shows the real-time output of voltage and current from the USB interface. The displayed current value is the sum of the two USB interfaces.
13. LCD Main Displays: 4digit voltage,current meter,(CV)constant voltage mode,(CC)constant current mode, Output Terminal on/off state output  , Lock-in function on/off indicator.
14. KeyLock: press knob ④&⑥ at one time for 3seconds, the settings are locked. To unlock, press knob ④&⑥ at one time for 3seconds again, the settings are unlocked.

## 4.2 Operation

### 4.2.1 Constant voltage (CV) and constant current (CC)

The power supply acts as a constant voltage source (CV) as long as the load current is less than the preset current limit. When the load current is greater than or equal to the preset current limit, the power supply automatically switches to Constant mode, the voltage drops, (CC) is displayed on the LED display panel and it operates as a constant current source. When the load current falls below the preset current limit, the power returns to the constant voltage (CV) mode.

### 4.2.2 Presetting the current limit value (CC)

If necessary, switch off the output with the Output button (6) until the symbol appears. Press the I button (5) to select the current until one digit of the power indicator flashes. If necessary, press the rotary control (11) to change the position to be changed. Now turn the knob (11) until the desired maximum current value for your application is shown in the display. If you now switch on the output with the output button (6), the current display changes from the set maximum value to the actual value.

**Note:** A connected load only uses the actually required current, which may be less than what you set. You can not force a load to consume more power than you actually need.

### 4.2.3 Connection and operation procedures

After comparing the voltage values with the nameplate, plug in the mains plug.

Turn on the power and the LCD should come on at the same time.

The symbol (CV) should be shown on the display.

If you do not need a lower current limit, set the desired output voltage and connect your load on the jacks positive to positive and negative to negative.

Turn on the output and check if the display shows (CV).

If the display shows (CC), either your preset current limit is too low or your load requires more voltage and current. You must re-access the voltage and current requirements of your load and increase the voltage or current accordingly (CV), otherwise, the power supply will be in the CC current limit.

### 4.2.4 Overvoltage protection of the output (OVP)

This is to protect the connected load in the event of a malfunction of the output voltage control circuit. The maximum output voltage at the time of operation will not exceed 30% of the set voltage value.

## Note

1. If the power supply cannot be turned on and the mains supply is turned on, the fuse of the laboratory power supply may be triggered. Turn on the laboratory power supply, unplug the power cord and replace the fuse.  
Does the replacement of the fuse is not successful, maybe a defective device can be present. Consult your dealer to carry out an inspection.
2. If the output voltage in constant voltage mode is lower than the preset voltage and the CC indicator lights, the power supply has automatically switched to the constant current mode. Check the connected load or increase the output current.
3. If the output current in constant current mode is lower than the preset current and the CV indicator lights, the power supply has automatically switched to the constant voltage mode. Check the connected load or increase the output voltage.
4. If the output voltage in constant voltage operation is not stable or jumps, it is probably because the mains supply voltage drops below 90% of the rated value. If the problem is not caused by the mains supply voltage, contact your dealer.

## Caution !

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 stored for long periods. 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.

Do not operate the device to power inductive loads, such as electric motors, which act as generator during overrun and thus can produce a reverse voltage.

Replace fuse only with an identical fuse.

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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 calibrating the unit again, after one year.

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## Documents / Resources



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6227, Laboratory Switching Mode Power Supply, 6227 Laboratory Switching Mode Power Supply, Switching Mode Power Supply, Mode Power Supply, Power Supply

## References

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Manuals+.