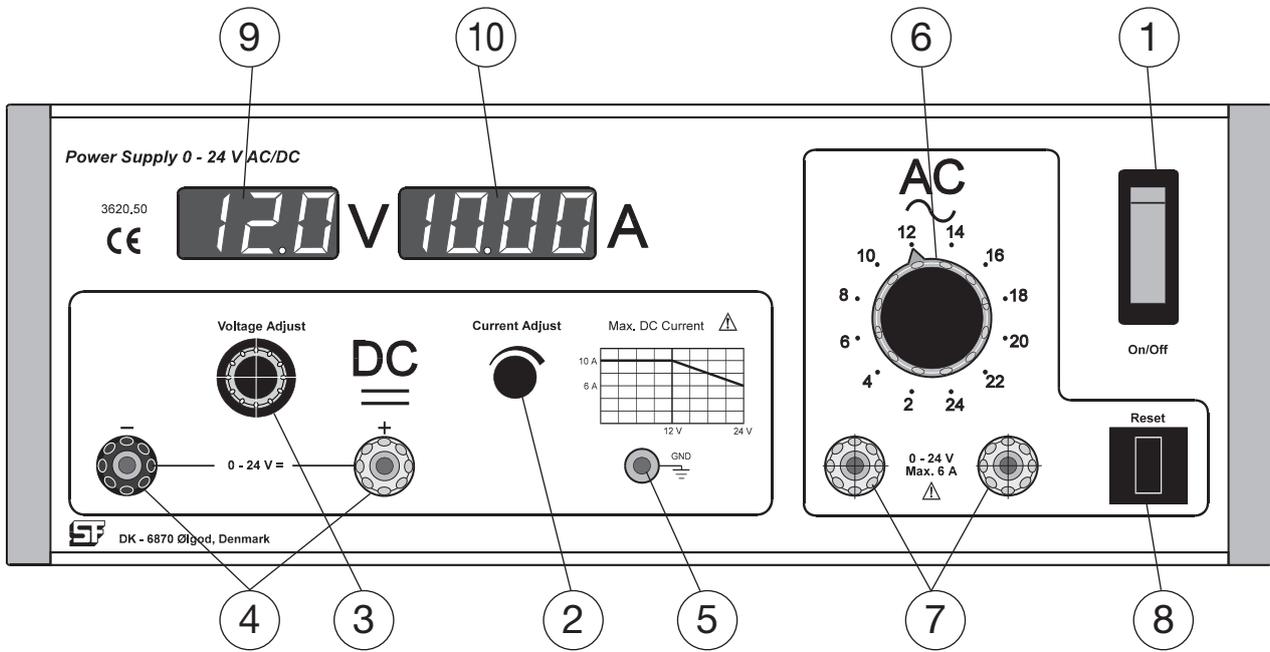


# Manual for 3620.50/51 Power Supply

16.12.10

AE 3620.50/51



## Description

This laboratory power supply can supply both direct and alternating current from 0 to 24 volts. The AC and DC sections are galvanically separated and can both be used at the same time. The supply adheres to CE-standards and is supplied with a safety transformer fulfilling EN 60742, and provided that a power cable with ground is used is a SELV/PELV power supply.

The direct current section is designed as a switched mode voltage regulator with the advantage of very low power loss due to heat. This section yields a maximum of 10 amperes up to 12 volts. The maximum current output then falls off linearly to 6 A at 24 V. Both current and voltage can be varied continuously.

The alternating current section is based upon an ordinary turn-transformer which ensures that the AC output has the same frequency as the AC line input. The AC section supplies up to 6 A, and the voltage can be regulated in 2 V steps.

Both the DC and the AC sections are overload protected.



## WARNING

The power supply is provided with a power cord with a ground connection. For safety reasons the supply should always be connected to a power outlet with a ground connection for the plug. The apparatus should only be opened for servicing by qualified service personnel.

## Operation

The power supply should be connected to the mains power supply by means of the grounded power cord which is supplied.

### Item 1:

The mains power switch has a built in light to indicate that the power is turned on.

Note that the front panel of the power supply is divided into three sections: a framed area for the DC section, a framed area for the AC section and a readout area for the DC section.

**Direct current section (DC):**

Note that it is not the readout voltage which determines the maximum current draw for the power supply, but the mechanical adjustment of the current and voltage regulating knobs (see items 2 and 3).

**Item 2:**

The current regulation knob. Product no. 3520.50 does not have an adjustment knob can be adjusted using a screwdriver (an appropriate size is supplied with the product). Product no. 3520.51 has an adjustment knob. The power supply can supply a maximum of 10 A up to a voltage of 12 V. Then the maximum current value falls off linearly until it reaches 6 A at 24 V.

If one wishes to limit the maximum current which can be supplied it can be done as follows:

Short circuit the two output terminals (item 4). Turn the voltage regulating knob (item 3) all the way up. Now adjust the current regulating knob (item 2) until the desired maximum value for the given experiment is reached. Now the current will not exceed this value no matter how the voltage knob (item 3) is adjusted.

**Item 3:**

The regulating knob for direct current. Continuously variable from 0-24 V.

**Item 4:**

The DC voltage output terminals are 4 mm safety-type female jack terminals.

**Item 5:**

The ground terminal is also a 4 mm safety-type female jack terminal. This connection is also connected to ground provided the supply is connected to a power outlet with a plug having ground connection

**Alternating current section (AC):**

When the current draw at maximum voltage is large, then the output voltage can fall slightly below the rated 24 volt maximum value.

**Item 6:**

The regulating knob for alternating current output. Variable in the 0-24 V range at 2 V increments. The scale is calibrated at 4 V.

**Item 7:**

The AC voltage output terminals are 4 mm safety-type female jack terminals.

**Item 8:**

Heat overload circuit breaker. The AC-section can supply up to 6 amperes. When overloaded the circuit breaker button will pop out and the current output will be cut off. After about 45 seconds the circuit breaker button can be pushed in, and the power supply will again be ready for use.

**Item 9:**

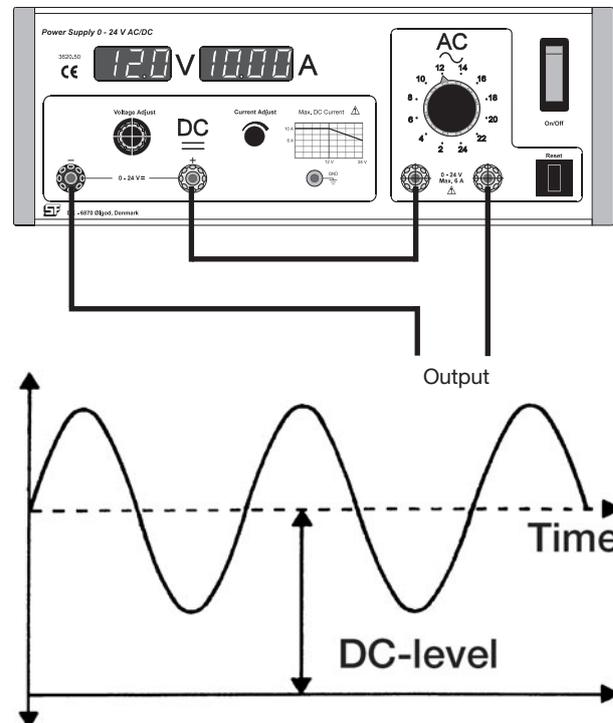
Digital display. The voltage on the output terminals is shown to one decimal accuracy.

**Item 10:**

Digital display. The current output is shown to two decimal places.

**Elevated AC-level:**

If the power supply is connected to the load as shown in the illustration below, then the zero-level will be raised to a higher level. The zero-level position can be adjusted by means of the DC voltage output knob, while the amplitude of the AC signal can be adjusted using the AC voltage output knob. If a function generator type 2501.50 is connected instead of the AC section as shown here, then an elevated AC level with variable frequency can be achieved.

**Example of a combined AC - DC output signal:**

**Specifications**

Input voltage (230 VAC): 200-241 VAC, 50 Hz.

Input current (230 VAC): 1,3 A.

Fuses: 2 x 4 AT.

Transformer protection:

Thermal circuit breaker at 120 °C.

Maximum absorbed power: 350 W.

**DC:**

Output voltage, continuously variable:  
0-24 VDC.

Output current, continuously variable:  
0-10 A for 0-12 V, 0-10/6 A for 12/24 VDC  
linear decrease.

Protection: Electronic.

Ripple and noise: < 25 mV Vpp.

Digital readout: 1% +/- 2 LSD.

**AC:**

Output voltage regulation in 2 V steps:  
0-24 V.

Output current: 0 - 6 A.

Protection: Thermal circuit breaker 6 A.

Size: 297 x 225 x 118 mm.

Mass: 7,6 kg.

**Spare parts:**

The rear plate of the power supply is provided with a fuse holder to protect against incorrect input voltage. There is easy access to fuse replacement.

Extra fuses have part number: 4090.13

**Maintenance:**

The power supply does not require special maintenance.

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