

# REGULATED DC POWER SUPPLY

Model nos. 650.676 and 650.679

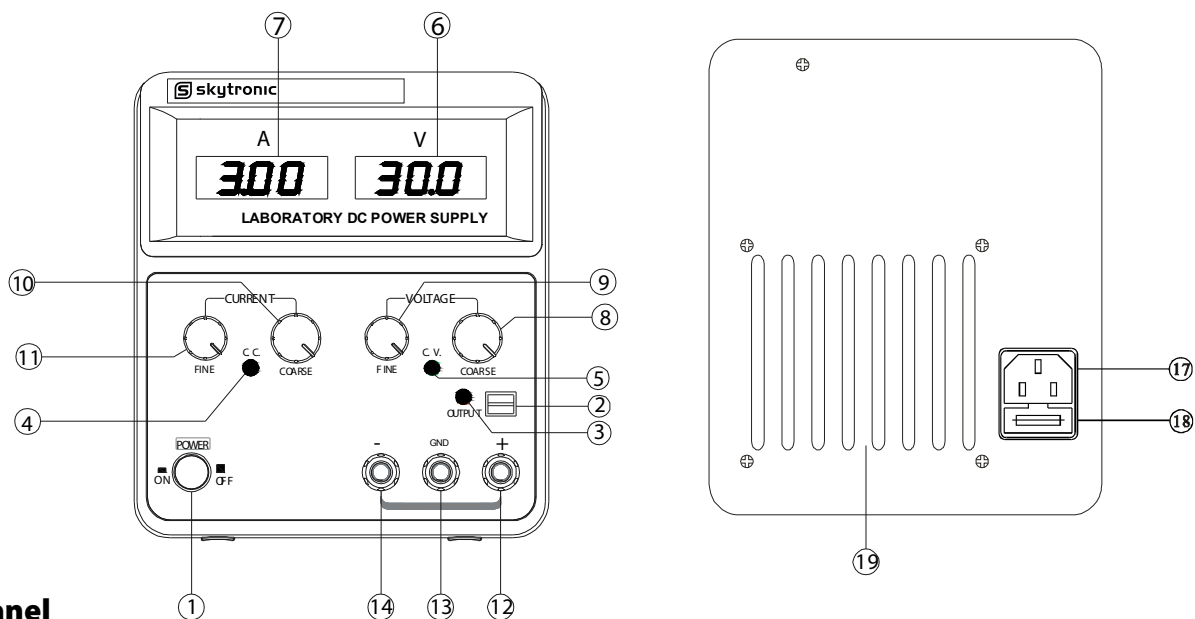


## INTRODUCTION

These regulated DC power supply are designed to provide the required voltage and current source in laboratory, university and production lines.

The output voltage is continuously adjustable between 0 to rating voltage. The load current may have any value from 0 to rating current. Voltage and Current are adjusted by means of a coarse and fine potentiometer. Both outputs can accurately read on voltmeter and ammeter LED displays.

Both stability and ripple are extremely good to meet the requirements of modern circuit design. The unit can be used as either constant voltage or current source. They have output standby function, a four digit LED display and overload protection circuits.



### Front Panel

- |                              |   |
|------------------------------|---|
| 1. Power switch:             | ON/OFF the power  |
| 2. Output standby:           | After power on, there are no voltage cross the terminals. Press this button, output LED on, unit has power out. Repress this button, output LED off, output voltage cross the terminals is zero, unit is on standby mode. |
| 3. Output standby indicator: | See above.  |
| 4. C.C. indicator            | Lights when the supply is in the constant current operation.  |
| 5. Voltmeter:                | Lights when the supply is in the constant voltage operation.  |
| 6. Ammeter:                  | Indicates the output voltage.   |
| 7. Voltage Coarse:           | Indicates the output current.   |
| 8. Voltage Fine:             | For coarse adjustment of the output voltage.  |
| 9. Current Coarse:           | For fine adjustment of the output voltage.  |
| 10. Current Fine:            | For coarse adjustment of the output current.  |
| 11. "+"                      | For fine adjustment of the output current.  |
| 12. "GND" terminal:          | Output terminal: positive polarity (red)  |
| 13. "-" Output terminal:     | Earth and chassis ground (green)  |
|                              | Negative polarity (black)   |

### Rear panel

- |                   |                  |
|-------------------|------------------|
| 17. Power Socket: | IEC mains inlet. |
| 18. Fuse holder:  |                  |
| 19. Fan           |                  |

# OPERATING INSTRUCTIONS

## Precaution

1. AC input should be within the range of line voltage  $220 \pm 10\%$  50Hz.
2. To avoid electrical shock this product must be earthed.
3. Do not use the unit in a place where ambient temperature exceeds  $40^{\circ}\text{C}$ . The heat sink located at rear of  $40^{\circ}\text{C}$  the supply must have sufficient air space for radiation.
4. This unit is a floating DC power supply. If the output has to be connected to ground, please short the "+" or "-" terminal to GND.

## Setting Current Limit

1. Determine the maximum safe current for the device to be powered
2. Temporarily short the "+" and "-" terminals of the power supply together with a test lead.
3. Rotate the COARSE VOLTAGE control away from zero sufficiently for the CC indicator to light.
4. Read the current value on the Ammeter, adjust the CURRENT control for the desired current limit.
5. The current limit (overload protection) now has been preset. Do not change the CURRENT control setting after this step.
6. Remove the short lead between the "+" and "-" terminals.

## Setting Constant Voltage

1. Turn the power switch on, the CV indicator light.
2. Rotate the Coarse and Fine voltage control to the desired voltage.
3. Press Output standby button, the output standby indicator light, then the terminals have voltage output.

## MAINTENANCE

**WARNING: The following instructions are for use by qualified personnel only. To avoid electrical shock, do not perform any servicing other than contained in the operating instruction unless you are qualified to do so.**

1. If the fuse blows, the CV or CC indicators will not light and the power supply will not operate. The fuse should not normally open unless a problem has developed in the unit. Try to determine and correct the cause of the blown fuse, then replace only with a fuse of the correct rating and type. The fuse is located on the rear panel.
2. In constant voltage mode, if the output voltage is less than preset value and CC indicator light, it is over current protection. Unit automatically changed to constant current mode. Should check the load or increase current set value.
3. In constant current mode, if the output current is less than preset value and CV indicator light, the unit automatically changed into constant voltage mode. Should check the load or increase the preset voltage value.

Model	<b>650.676</b> Series 0-30V/3A	<b>650.679</b> Series 0-60V/5A
<b>Constant Voltage Operation</b>		
Line regulation	CV<0.01% + 3mV	CV<0.01% + 5mV
Load regulation	CV<0.01% + 5mV	CV<0.02% + 5mV
Ripple & Noise	CV<1mV (rms)	CV<2mV (rms)
<b>Constant Current Operation</b>		
Line regulation	CC<0.2% + 3mA	CC<0.2% + 3mA
Load regulation	CC<0.2% + 3mA	CC<0.2% + 5mA
Ripple & Noise		CC<3mA
Display accuracy	Three LED <1% + 2d	Three LED <1% + 2d
Recover time	<100S	<100S
Dims	270 x 158 x 130mm	270 x 158 x 130mm
Weight	3.8kg	5.4kg