INSTRUCTION MANUAL

BK PRECISION®

Model 1665/1666/1667

BENCH SWITCHING DC POWER SUPPLIES

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1. SAFETY INSTRUCTIONS

1. Do not use this apparatus near water.
2. Clean only with dry cloth.
3. Do not block any ventilation openings.
4. Do not install unit near any heat source or heating emitting devices.
5. Prevent the power cord from being walked on or pinched.
6. Unplug this unit during lighting storms or when unused for long periods of time.

PRECAUTIONS

1. The unit must be used within its specified range.
2. The rated input voltages can be found on the rating label at the back the unit.
3. Before plugging into the AC supply, check with the rating label.
4. Refer all servicing to manufacturer.

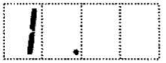
WARNING
Model 1667 has maximum output voltage up to 60Vdc. It may be hazardous to touch metal part of the output terminals. User must avoid touching live metal part of the output terminals.

2. **INTRODUCTION**

These Laboratory Grade Switching DC Power Supplies were built with coarse and fine output voltage and current limiting controls.

Current limiting control with automatic crossover of constant voltage (CV) and constant current (CC) indicators make this series ideal for research and development work in laboratories.

Model 1665 only: V meter max. display 

Above 19.99 output voltage, V meter display 

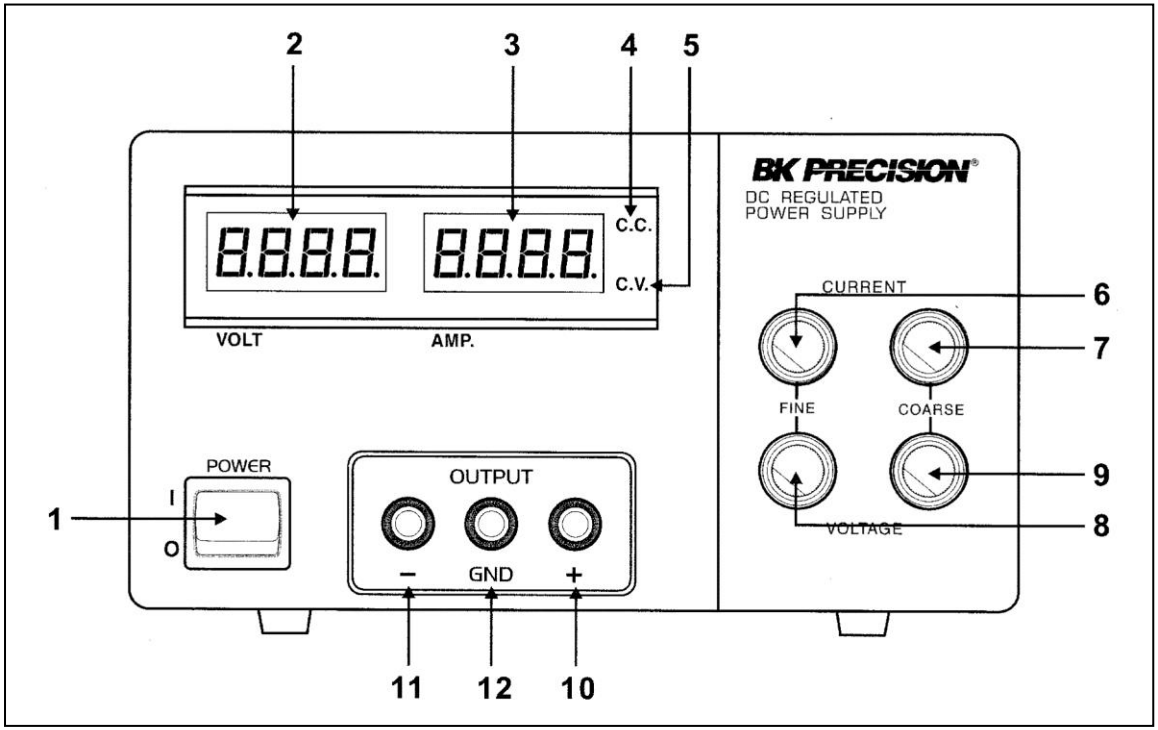
3. SPECIFICATIONS

Specifications	**1665**	**1666**	**1667**
Output Voltage:	1-19.99VDC	1-40VDC	1-60VDC
Output Voltage Control:	Fine & Coarse	Fine & Coarse	Fine & Coarse
Output Current:	0-10A	0-5A	0-3.3A
Ripple & Noise (P-P):	20mV	20mV	20mV
Load Regulation:	0.5% + 200mV	0.5%+200mV	0.5% +200mV
Line Regulation:	50mV	50mV	50mV
Input Voltage:	100 - 240 VAC, 50Hz / 60Hz		
Meter Type:	Digital LED		
Voltmeter Range:	10 mV	100 mV	100 mV
Ammeter Range:	10 mA	10 mA	10 mA
Voltmeter Accuracy:	1% + 2 counts		
Ammeter Accuracy:	0.5% + 2 counts		
Indicators:	CC & CV		
Cooling System:	Thermostatic control fan		
Protection Devices: Approvals:	CE		
Dimension (WxHxD):	8" x 4.5" x 11" (205 x 115 x 275 mm)		
Weight:	6.6lbs (3 Kg)		

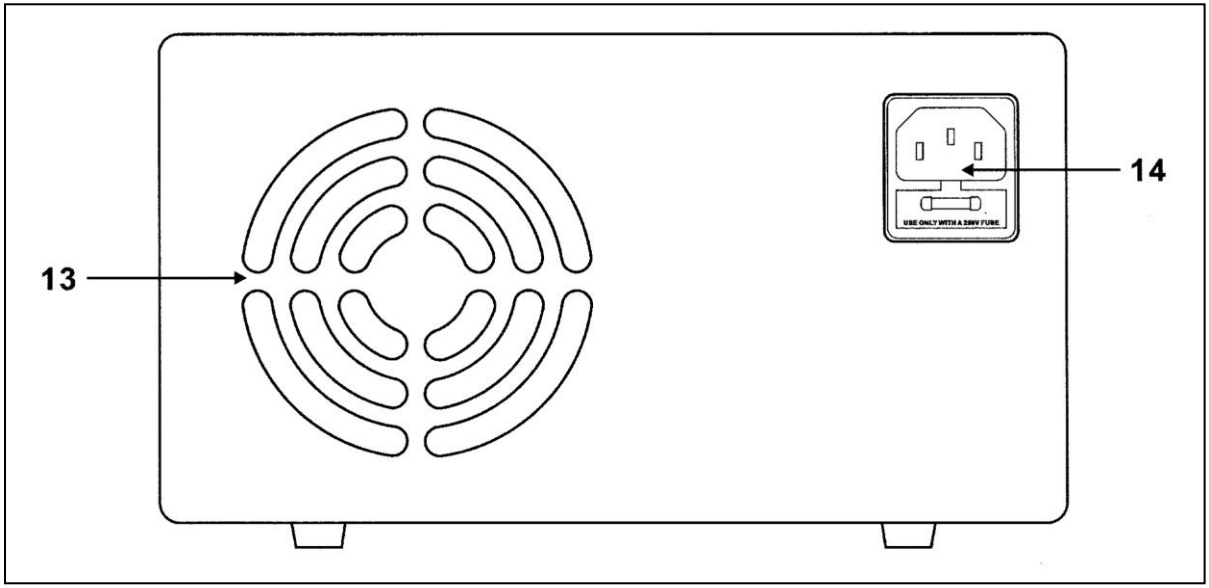
NOTE: Specifications and information are subject to change without notice.

4. CONTROLS AND INDICATORS

FRONT PANEL



REAR PANEL



Front Panel

1. **Power Switch --** Turns the power supply ON/OFF.
2. **DC Voltmeter (LED Display)* --** Indicated the present output voltage with auto range.
3. **DC Ammeter (LED display) --** Indicates the present output current with auto range.
4. **Constant Current Mode (C.C.) --** Indicator Indicates the power supply is operating in constant current mode.
5. **Constant Voltage Mode (C.V.) --** Indicator Indicates the power supply is operating in voltage mode.
6. **Current Fine Adjust --** Fine adjust knob for current limiting point and current value in constant current mode.
7. **Current Coarse Adjust --** Coarse adjust knob for current limiting point and current value in constant current mode.
8. **Voltage Fine Adjust --** Fine adjust knob for the output voltage in voltage mode.
9. **Voltage Coarse Adjust --** Coarse adjust knob for the output voltage in voltage mode.
10. **Output Terminal Positive** (+) -- Terminal for tapping of positive (-}-) output.
11. **Output Terminal Negative (-) --** Terminal for tapping of negative (-) output.
12. **GND Terminal --** Chassis ground terminal. Normally, this is connected to either the + or - terminal depending on the application.

Rear Panel

13. **Fan** -- Allow at least 80 mm space from wall.
14. **Input Socket with fuse.**

5. OPERATING PROCDURES

Output Voltage Control - It is a dual control consisting of a coarse and fine potentiometer. The final DC voltage output is the sum of both adjustments.

Current Limiter Control - It is a dual control (coarse/fine) that changes the DC current over the rated current range.

Ground Connections - For operating with negative or positive output terminal, grounded or without grounding. Connections (+ or -) are made by using the shorting plate at the terminal.

> REMARKS: When operating this supply without being grounded, high impedance leakage can exist between the power supply circuitry and the chassis ground.

Basic Mode of Operation - This power supply is designed to operate as a constant voltage source or as a constant current source. Automatic crossover to either mode of operation occurs when load conditions change as follows:

- Constant Voltage - The power supply will function as a constant voltage source as long as the load current is less than the current limiting value set by the current limit operation. When the load current is equal to or greater than the current limit set, the power supply will automatically crossover and operate as a constant source.

- Constant Voltage Automatic Crossover - The power supply will function as a constant source when the load voltage does not equal to the voltage value set by the output voltage control. When the load voltage equals to the value set by the output voltage control the power supply will automatically cross over and operate as a constant voltage source.

- Presetting Current Limiting Value - There are occasions when you will not want your load to draw too much current or want to prevent any damage, you can preset the current limiting value as follows : Short circuit the output terminals and adjust the current limit control to your desired value.

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Printed in China PN# 481-441-9-001