

**BK PRECISION®**

# **INSTRUCTION MANUAL**

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Models 1665 / 1666 / 1667 Bench Switching DC Power Supplies

## Limited One-Year Warranty

B&K Precision Corp. warrants to the original purchaser that its product and the component parts thereof, will be free from defects in workmanship and materials for a period of one year from the date of purchase.

B&K Precision Corp. will, without charge, repair or replace, at its' option, defective product or component parts. Returned product must be accompanied by proof of the purchase date in the form a sales receipt.

To obtain warranty coverage in the U.S.A., this product must be registered by completing and mailing the enclosed warranty card to B&K Precision Corp., 22820 Savi Ranch Parkway Yorba Linda, CA 92887 within fifteen (15) days from proof of purchase.

**Exclusions : This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alternations or repairs. It is void if the serial number is alternated, defaced or removed.**

B&K Precision Corp. shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific rights and you may have other rights, which vary from state-to-state.

**Model Number:** \_\_\_\_\_



**Date Purchased:** \_\_\_\_\_

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# CONTENTS

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- |    |                                     |            |
|----|-------------------------------------|------------|
| 1. | SAFETY INSTRUCTIONS AND PRECAUTIONS | Page 1     |
| 2. | INTRODUCTION                        | Page 2     |
| 3. | SPECIFICATIONS                      | Page 3     |
| 4. | CONTROLS AND INDICATORS             | Page 4 - 6 |
| 5. | OPERATION PROCEDURES                | Page 7     |

**Model 1665 only :V meter max. display**   
**Above 19.99 output voltage, V meter display** 

## SAFETY INSTRUCTIONS & PRECAUTIONS

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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 lightning 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 60 Vdc. 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.

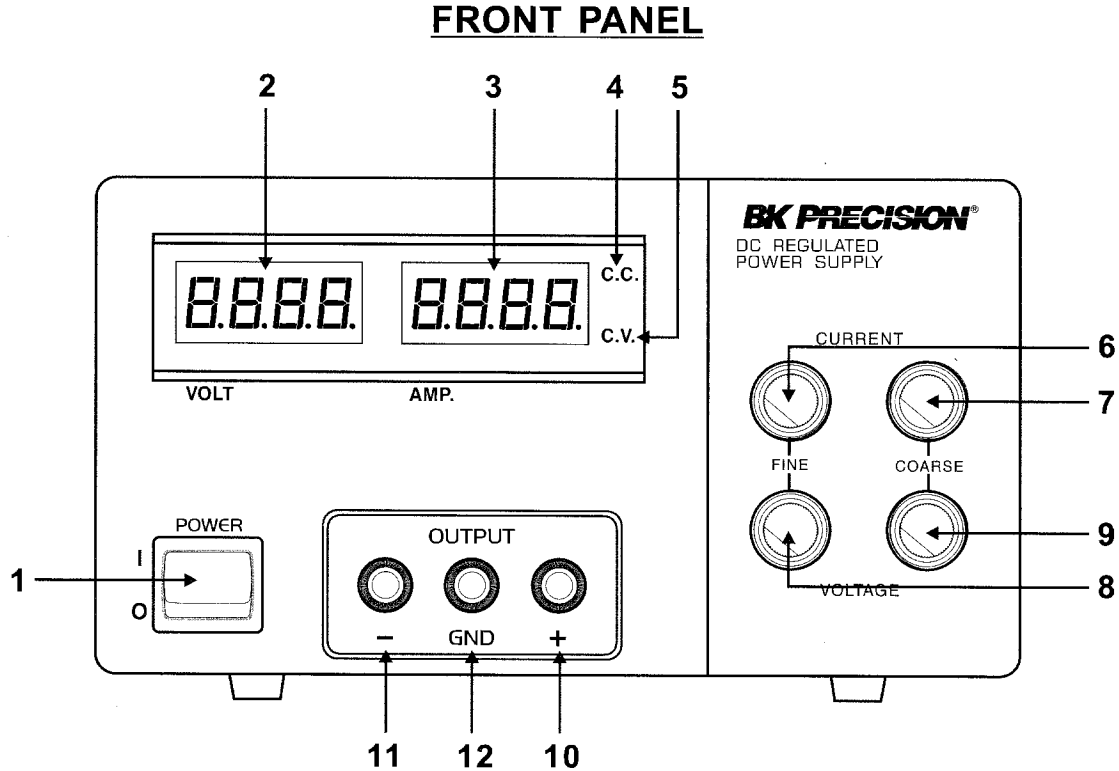
Current limiting control with automatic crossover of constant voltage (CV) and constant current (CC) indicators make this series ideal for research and development work in laboratories.

**Model 1665 only :V meter max. display**   
**Above 19.99 output voltage, V meter display**

### 3. Technical Specifications of models 1665, 1666, and 1667

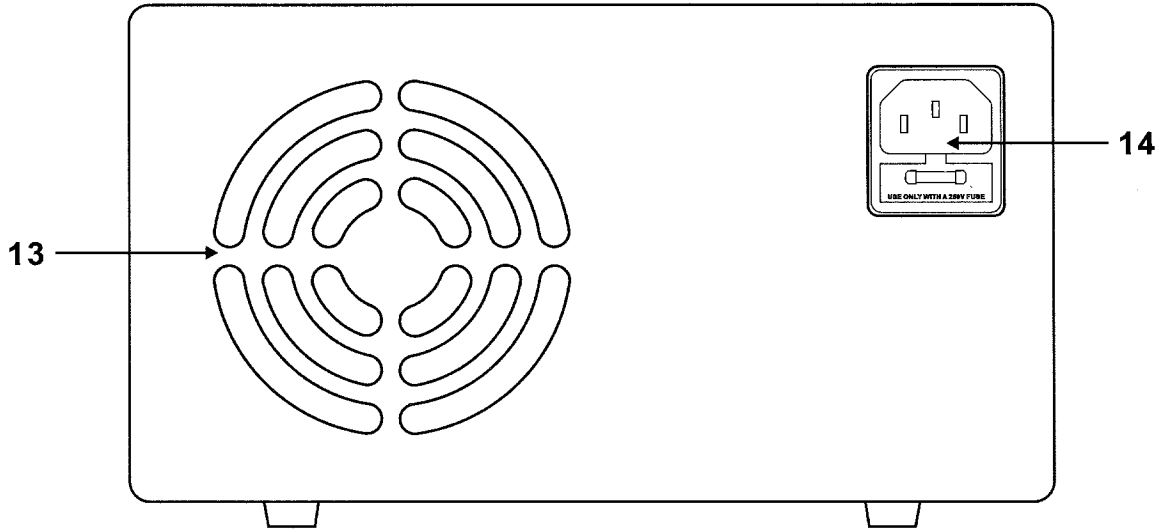
Specifications	1665	1666	1667
Output Voltage:	1-19VDC	1-40VDC	1-60VDC
Output Voltage Control:	Fine & Coarse	Fine & Coarse	Fine & Coarse
Output Current:	0-10A	0-5A	0-3.3A
Ripple & Noise (P-P):	20mV	20mV	20mV
Load Regulation:	0.5% + 200mV	0.5%+200mV	0.5% +200mV
Line Regulation:	50mV	50mV	50mV
Input Voltage:	100 - 240 VAC, 50Hz / 60Hz		
Meter Type:	Digital LED		
Voltmeter Range:	Auto-Range 3 1/2digit LED	Auto-Range 3digit LED	Auto-Range 3digit LED
Ammeter Range:	Auto-Range 3 1/2digit LED	Auto-Range 3digit LED	Auto-Range 3digit LED
Voltmeter Accuracy:	1% + 2 counts		
Ammeter Accuracy:	0.5% + 2 counts		
Indicators:	CC & CV		
Cooling System:	thermostatic control fan		
Protection Devices:	Over Voltage, Short Circuit, Over Temperature		
Approvals:	CE		
Dimension (WxHxD):	8" x 4.5" x 11"	( 205 x 115 x 275 mm )	
Weight:	6.6lbs.	( 3 Kg )	

4. CONTROLS AND INDICATORS



**4. CONTROLS AND INDICATORS**

**REAR PANEL**





## Front Panel

1. **Power Switch** -- Turns the power supply ON/OFF.
2. **DC Voltmeter (LED Display)\*** -- Indicates 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. OPERATION PROCEDURES**

**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 you 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.

## Service Information

**Warranty Service** : Please return the product in the original packaging with proof of purchase to the below address. Clearly state in writing the performance problem and return any leads, connectors and accessories that you are using with the device.

**Non-Warranty Service** : Return the product in the original packaging to the below address. Clearly state in writing the performance problem and return any leads, connectors and accessories that you are using with the device. Customers not on open account must include payment in the form of a money order or credit card. For the most current repair charges contact the factory before shipping the product.

Return all merchandise to B&K Precision Corp. with pre-paid shipping. The flat-rate repair charge includes return shipping to locations in North America. For overnight shipments and non-North America shipping fees contact B&K Precision Corp.

### **B&K Precision Corporation**

22820 Savi Ranch Parkway

Yorba Linda, CA 92887

Phone : 714- 237-9220

Facsimile : 714-237-9214

Email : [service@bkprecision.com](mailto:service@bkprecision.com)

**Include with the instrument your complete return shipping address, contact name, phone number and description of problem.**

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22820 Savi Ranch Parkway  
Yorba Linda, California 92887  
USA  
[www.bkprecision.com](http://www.bkprecision.com)