Data Sheet

Single Output Programmable DC Power Supplies

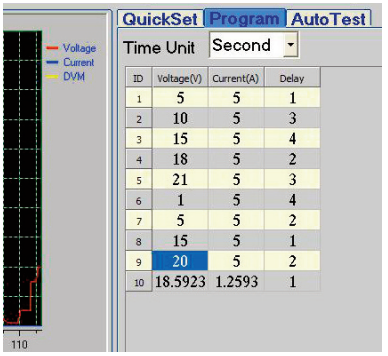
Models 9150, 9151, 9152 & 9153

B&K Precision® models 9150, 9151, 9152 and 9153 are high performance linear-regulated programmable DC power supplies that provide excellent performance and features not found in other supplies in this price category. The 9150 series are designed for applications in design verification, production or university labs that require high yet clean and reliable power, combined with excellent resolution, accuracy and fast transient response time.

- Excellent display resolution
- Low ripple and low noise due to linear regulation
- Outstanding temperature stability
- Fast transient response time (<120 µs)
- SCPI compatible command set, programmable via USB (virtual com)
- Closed case calibration
- List mode operation for increased throughput. Download and execute command sequences from non-volatile memory
- For bench use or rack mountable
- Very quiet due to intelligent fan speed control, making the supply suitable for lab bench use
- Over voltage protection

Application Software

The included Application Software supports front panel emulation and allows users to generate simple test sequences without the need to write source code.



ID	Voltage(V)	Current(A)	Delay
1	5	5	1
2	10	5	3
3	15	5	4
4	18	5	2
5	21	5	3
6	1	5	4
7	5	5	2
8	15	5	1
9	20	5	2
10	18.5923	1.2593	1

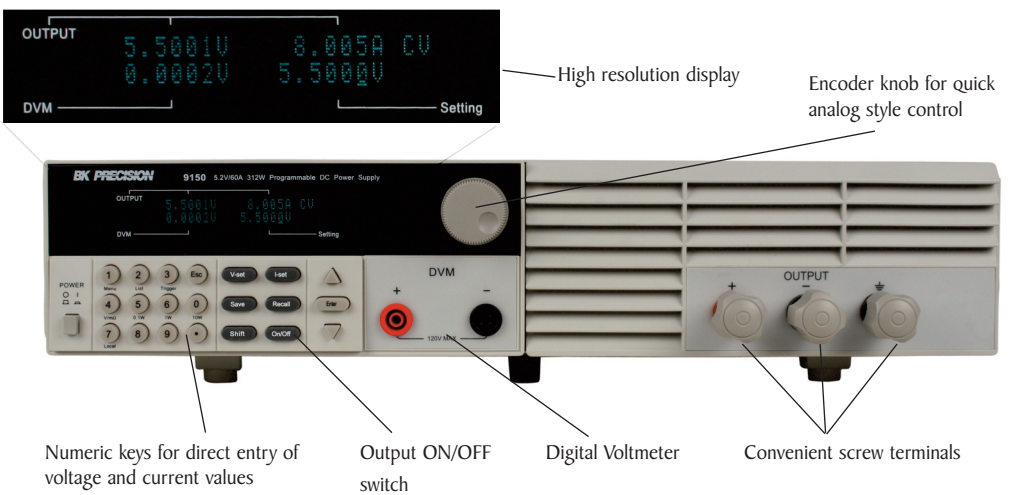
Screen shot of test sequence section

Models	9150	9151	9152	9153
Output Voltage	0-5.2 V	0-20 V	0-30 V	0-60 V
Output Current	0-60 A	0-27 A	0-18 A	0-9 A

Front Panel Operation

The numeric keys and rotary knob provide a convenient interface for setting output levels quickly and precisely. Voltage and Current can be set to a maximum resolution of 0.5 mV (0.1 mV for 9150) and 0.1 mA (1 mA for 9150) respectively. Up to 50 parameters can be stored and recalled from internal memory.

Additionally, the power supply comes with a built-in 5 1/2 digit Voltmeter and high resolution Milliohm meter supporting 4 wire measurements.



Technical data subject to change
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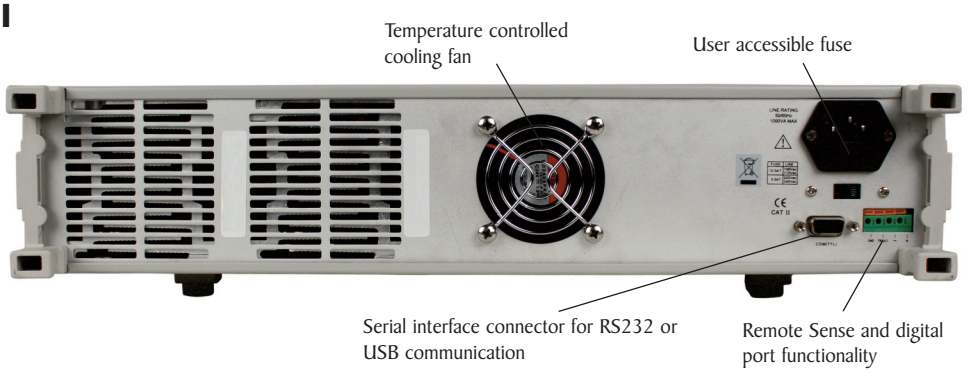
B&K PRECISION
ELECTRONIC TEST INSTRUMENTS

▲ Rear panel



Remote Interface

The power supplies can be remotely controlled from any PC through a USB (virtual com) interface, allowing the user to program and monitor all parameters through easy to use SCPI commands. The power supplies come with a USB to TTL serial converter. The average command processing time is 35 ms.

Extra Features

The 9150 series' digital port offers a variety of configurations. The port provides Digital Input, external Trigger and Remote Inhibit (RI) functionality.

The RI mode can be used for turning several power supplies On/Off simultaneously. External triggering can be used in combination with List mode.

Specifications	9150	9151	9152	9153
Output ratings (0 °C~40 °C)	0 - 5.2 V 0 - 60 A	0 - 20 V 0 - 27 A	0 - 30 V 0 - 18 A	0 - 60 V 0 - 9 A
Load regulation ±(% of output+offset)	<0.01% + 2 mV <0.1% + 10 mA	<0.01% + 1 mV <0.1% + 5 mA		<0.01% + 1 mV <0.1% + 2 mA
Line regulation ±(% of output+offset)	<0.02% + 0.1 mV <0.1% + 1 mA	<0.02% + 1 mV <0.01% + 1 mA		<0.02% + 1 mV <0.01% + 0.1 mA
Programming resolution	0.1 mV 1 mA	1 mV 1 mA		1 mV 0.1 mA
Readback/meter resolution	0.1 mV 1 mA	0.1 mV 0.1 mA		0.1 mV 0.1 mA
Front panel setting resolution	0.1 mV 1 mA	0.5 mV 1 mA		0.5 mV 1 mA
Programming accuracy 12 months (25 °C ± 5 °C) ±(% of output+offset)	<0.02%+2 mV <0.1%+30 mA	<0.02%+6 mV <0.1%+15 mA		<0.02%+12 mV <0.05%+10 mA
Readback/ meter accuracy 12 months (25 °C ± 5 °C) ±(% of output+offset)	<0.02%+1.5 mV <0.05%+15 mA	<0.02%+3 mV <0.05%+10 mA		<0.02%+6 mV <0.05%+5 mA
Ripple & noise (20 Hz ~20 MHz)	≤4 mVp-p 15 mArms	≤4 mVp-p 5 mArms		≤5 mVp-p 3 mArms
Temperature coefficient, (0 °C~40 °C) ±(% of output+offset)	<0.02%+2 mV <0.1%+30 mA	<0.02%+5 mV <0.1%+15 mA		<0.02%+10 mV <0.05%+5 mA
Readback temperature coefficient, ±(% of output+offset)	<0.02%+2 mV <0.1%+20 mA	<0.02%+5 mV ≤0.05%+10 mA		<0.02%+10 mV ≤0.05%+5 mA
Transient response (for a change from 0 to 50% of maximum rated current)	100 μs for output to recover to within 75 mV	120 μs for output to recover to within 75 mV	100 μs for output to recover to within 50 mV	50 μs for output to recover to within 50 mV
DVM accuracy	0~12V range: 0.02%+2mV 0~40V range: 0.02%+3mV			
DVM resolution	0~12V range: 0.1mV 0~40V range: 1mV			
Milliohm meter accuracy	0.1% (for voltage and current ≥10% of full scale) 0.3% (for voltage and current ≥3% of full scale)			
AC input	115 V/220 VAC ± 10%, 47 to 63 Hz			
Weight	63.9 lbs, (29 kg)			
Dimensions (W x H x D)	16.88" x 3.47" x 18.06" (429 x 88 x 459 mm)			
Three-Year Warranty				
Standard accessories	User manual, power cord, USB to TTL serial converter, application software installation disk, and certificate of calibration			
Optional accessories	IT-E151 rack mount kit			