B+K PRECISION®
ELECTRONIC TEST INSTRUMENTS

Models 9120A, 9121A, 9122A, 9123A & 9124

Single Output Programmable DC Power Supplies

Data Sheet

Single Output Programmable DC Power Supplies

Models 9120A, 9121A, 9122A, 9123A & 9124

B+K Precision® models 9120A, 9121A, 9122A, 9123A and 9124 are laboratory grade Programmable DC Power Supplies providing great performance and features not found in other supplies in this price category. The 9120 series are designed to meet the needs of today's applications in R&D design verification, production testing or university labs that require clean and reliable power, high resolution and accuracy and fast transient response time.

- **Excellent display resolution**
- **Low ripple and low noise**
- **Outstanding temperature stability**
- **Fast transient response time (<20ms)**
- **SCPI compatible**
- **Front and Rear Output Terminals**
- **Closed case calibration**
- **Compact size for bench use or rack mountable (2U x 1/2U size)**
- **List mode operation for increased throughput. Download and execute command sequences from non-volatile memory**

Front Panel Operation

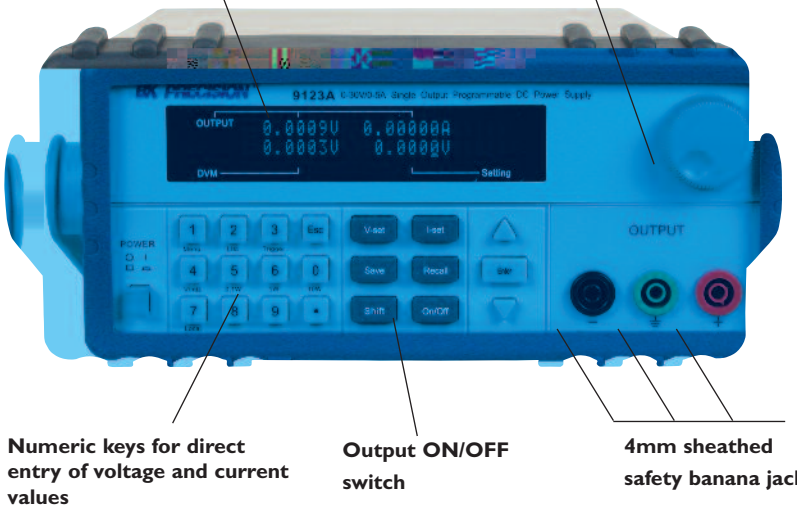
The numeric keys and rotary knob provide a convenient interface for setting output levels quickly and precisely. Voltage and Current can be set to a maximum resolution of 0.5mV (2mV for 9124) and 0.1mA respectively. Up to 50 parameters can be stored and recalled from internal memory.



9123A

election Chart models

	9120A	9121A	9122A	9123A	9124
Output Voltage	0-32V	0-20V	0-60V	0-30V	0-72V
Output Current	0-3A	0-5A	0-2.5A	0-5A	0-1.2A



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Specifications subject to change without notice

Remote Interface

The power supplies can be remotely controlled from any PC with USB or RS232 interface, allowing the user to program and monitor all parameters through easy to use SCPI commands. The power supplies come with a RS232 to TTL serial converter cable. A USB to serial converter cable is available as option. Additionally, model 9123A can be controlled via GPIB interface and includes a GPIB to TTL conversion adapter cable.

Extra Features

The 9120 series' digital port offers a variety of configurations. The port can operate in Digital I/O, external Trigger and DFI/RI (Discrete Fault Indicator/Remote Inhibit) mode. The RI feature can be used for turning several power supplies On/Off simultaneously. External triggering can be used in combination with List mode.

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

Additionally, the power supply comes with a built-in 51/2 digit DVM and high resolution milliohm meter supporting 4 wire measurements.

pecifications

models

	9120A	9121A	9122A	9123A	9124
Output Ratings (0 °C~40 °C)	0 ~32V 0~3A	0 ~20V 0~5A	0 ~60V 0~2.5A	0 ~30V 0~5A	0~72V 0~1.2A
Load Regulation ±(%of output+offset)	<0.01%+2mV <0.05%+1mA		<0.01%+2mV <0.05%+0.5mA	<0.01%+2mV <0.05%+1.5mA	<0.01%+2mV <0.05%+0.3mA
Line Regulation ±(%of output+offset)	<0.01%+1mV <0.05%+0.1mA		<0.01%+2mV ≤ 0.05%+0.05mA	<0.01%+1mV ≤ 0.05%+0.1mA	<0.01%+1mV ≤ 0.05%+0.05mA
Programming resolution	0.1mV 0.1mA		0.5mV 0.1mA	0.1mV 0.1mA	0.1mV 0.05mA
Readback/ Meter resolution	0.1mV 0.01mA	0.1mV 0.05mA	0.5mV 0.05mA	0.1mV 0.05mA	0.5mV 0.01mA
Front panel setting resolution	0.5mV 0.1mA		0.1mV 0.1mA	0.5mV 0.1mA	2mV 0.1mA
Programming accuracy, 12months (25 °C ± 5 °C) ±(%of output+offset)	<0.03%+3mV <0.05%+2mA		≤ 0.03%+6mV ≤ 0.05%+1.5mA	≤ 0.03%+3mV ≤ 0.05%+2.5mA	≤ 0.03%+6mV ≤ 0.05%+1mA
Readback/ Meter accuracy 12months (25 °C ± 5 °C) ±(%of output+offset)	<0.02%+3mV <0.05%+2mA		≤ 0.02%+6mV ≤ 0.05%+1.5mA	≤ 0.02%+2.5mV ≤ 0.05%+2.5mA	≤ 0.02%+5mV ≤ 0.05%+1mA
Ripple & Noise (20Hz ~20MHz)	≤ 4mVp-p ≤ 3mArms	≤ 3mVp-p ≤ 3mArms	≤ 5mVp-p ≤ 3mArms	≤ 4mVp-p ≤ 4mArms	≤ 5mVp-p ≤ 3mArms
Temperature coefficient, (0 °C~40 °C) ±(% of output+offset)	<0.02%+3mV <0.05%+2mA		≤ 0.02%+6mV <0.05%+1mA	≤ 0.02%+3mV <0.05%+2mA	≤ 0.02%+5mV <0.05%+0.5mA
Readback temperature coefficient, ±(% of output+offset)	<0.02%+3mV <0.05%+2mA		≤ 0.02%+6mV ≤ 0.05%+1mA	≤ 0.02%+3mV ≤ 0.05%+2mA	≤ 0.02%+5mV ≤ 0.05%+0.5mA
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)				
State Storage Memory	50 user configurable memory locations				
Operating Temperature	0 to 40 °C, <75% R.H.				
Storage Temperature	-20 to 70 °C, <85% R.H				
Power Requirements	115V/220VAC ± 10%, 47 to 63Hz				
Weight	19.8 lbs, (9 kg)		21.2 lbs, (9.6 kg)		19.8 lbs, (9 kg)
Dimensions	8.45in(W) x 3.8in(H) x 13.9in(D) 214.5mm(W) x 88.2mm (H) x 354.6mm (D)				

Accessories

One Year Warranty

Supplied: User manual, line cord, RS232 communication cable, Software Installation disk. Model 9123A also includes GPIB to TTL Serial Converter cable IT-E135

Optional: IT-E132 USB to TTL Serial Converter cable , IT-E151 rack mount kit,TL 5A (5A test leads), TL 30 (30A test leads), TLPS (Power supply test lead kit)



The 9120 series uses 4mm sheathed banana jacks that accept sheathed or shrouded banana plugs and meet the latest international safety standards.

