B K PRECISION 2023 Power Supply Selection Guide User Guide

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B K PRECISION 2023 Power Supply Selection

Product Information

The 2023 Power Supply Selection Guide is a comprehensive guide provided by B&K Precision. B&K Precision is a trusted brand that has been offering reliable test and measurement instruments for over seven decades. Power supplies are one of their most popular product categories. The guide helps users confidently select power supplies from a wide range of options. These options include low-power (12 W) benchtop power supplies to high-power (5100 W) ATE-ready solutions and more. The guide lists various selection criteria to consider when choosing a power supply. These criteria include total output power, voltage and current ranges, ripple & noise, number of output channels, interfaces, form factor, programming resolution and accuracy, list mode, and transient response time. In addition to the power supply selection guide, the guide also mentions the ElectriKit tool. The ElectriKit is a helpful tool for electricians, technicians, engineers, students, hobbyists, and anyone dealing with electrical power. It offers features such as calculating DC power and single or three-phase AC true power, reactive power, and apparent power. It also includes calculators for delta-wye transformation, voltage drop, AWG size, THD, horsepower, and battery life. Furthermore, it provides an ampacity table for insulated conductors per NEC Table 310.16.

Product Usage Instructions

- Start by using the power supply selection criteria listed in the guide to determine your specific requirements.
- Refer to the table of contents to find the relevant section for the criteria you are considering.
- Review the information provided for each criterion and compare it to your needs.
- Consider factors such as total output power, voltage and current ranges, ripple & noise, number of output channels, interfaces, form factor, programming resolution and accuracy, list mode, and transient response time.
- Use the information in the guide to narrow down your options and find the power supply that best meets your requirements.
- If you require additional assistance or have specific questions, reach out to B&K Precision’s global service and

support team.

- Additionally, utilize the ElectriKit tool for calculations related to DC power, AC power, voltage drop, AWG size, THD, horsepower, and battery life.
- Follow any additional instructions provided in the specific product's user manual when using the selected power supply.

For more than seven decades B&K Precision has provided reliable test and measurement instruments with global service and support. Power supplies are one of our most
popular product categories and this guide will help you confidently select from a wide range of low-power (12 W) benchtop to high-power (5100 W) ATE-ready solutions and more.

Finding the right power supply
Start by viewing common selection criteria listed below.

Common power supply selection criteria

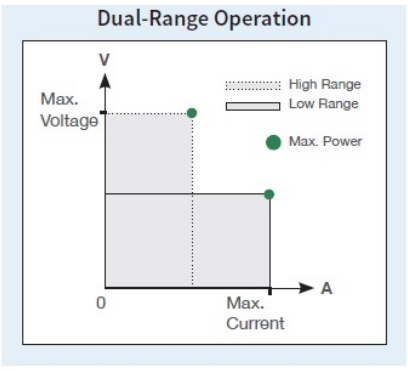
- Total output power
- Voltage and current ranges
- Ripple & noise
- Number of output channels
- Interfaces
- Form factor
- Programming resolution and programming accuracy
- List mode
- Transient response time

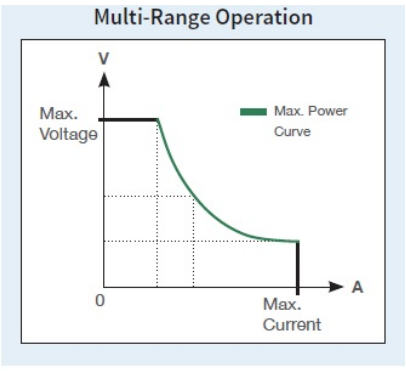
ElectriKit
A helpful tool for electricians, technicians, engineers, students, hobbyists and anyone dealing with electrical power.

Key Features

- Calculate DC power and single or three-phase AC true power, reactive power, and apparent power
- Delta-wye transformation, voltage drop, AWG size, THD, horsepower, and battery life calculators
- Ampacity table for insulated conductors per NEC Table 310.16

Dual-Range and Multi-Range





Also referred to as “autoranging”, multi-range power supplies provide more flexibility than traditional power supplies by extending the operating range beyond a single maximum power point. These supplies can provide any combination of higher voltage or higher current along a maximum power curve. This design helps save both bench space and cost by eliminating the need for having multiple power supplies on the bench or buying more power than necessary.

Model		Max Power	Max Voltage	Max Current	Range	Ripple & Noise	List Mode	Interfaces				
								USB	RS232	GPIB	RS485	LAN
Dual-range	BCS6401	90 W	± 9 V, ± 15 V	5 A, 3 A	Dual	≤ 1 mVrms / ≤ 3 mVpp	●	●	–	–	–	●
	9171B	100 W	10 V, 20 V	10 A, 5 A	Dual	≤ 0.35 mVrms / ≤ 3 mVpp	●	●	O	O	O	O
	9172B	105 W	35 V, 70 V	3 A, 1.5 A	Dual	≤ 0.5 mVrms / ≤ 5 mVpp	●	●	O	O	O	O
	1737	120 W	30 V, 60 V	3 A, 2 A	Dual	≤ 1 mVrms	–	–	●	–	–	–
	9181B	144 W	18 V, 36 V	8 A, 4 A	Dual	≤ 0.35 mVrms / ≤ 3 mVpp	●	●	O	O	O	O
	9173B	200 W	10 V, 20 V x 2	10 A, 5 A x 2	Dual	≤ 0.35 mVrms / ≤ 3 mVpp	●	●	O	O	O	O
	9182B	200 W	10 V, 20 V	20 A, 10 A	Dual	≤ 0.35 mVrms / ≤ 3 mVpp	●	●	O	O	O	O
	9184B	200 W	100 V, 200 V	2 A, 1 A	Dual	≤ 1.5 mVrms / ≤ 15 mVpp	●	●	O	O	O	O
	9174B	210 W	35 V, 70 V x 2	3 A, 1.5 A x 2	Dual	≤ 0.5 mVrms / ≤ 5 mVpp	●	●	O	O	O	O
	9183B	210 W	35 V, 70 V	6 A, 3 A	Dual	≤ 0.5 mVrms / ≤ 5 mVpp	●	●	O	O	O	O
	9185B	210 W	400 V, 600 V	0.5 A, 0.35 A	Dual	≤ 4.5 mVrms / ≤ 45 mVpp	●	●	O	O	O	O
	1747	300 W	35 V, 60 V	10 A, 5 A	Dual	≤ 1 mVrms	–	–	●	–	–	–
	9110	100 W	60 V	5 A	Multi	≤ 2 mVrms	–	–	–	–	–	–
	9111	180 W	60 V	8 A	Multi	≤ 5 mVrms	–	–	–	–	–	–
	9201B	200 W	60 V	10 A	Multi	≤ 8 mVpp	●	●	●	–	–	–

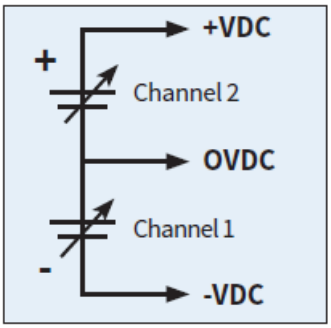
Multi-range	9140	300 W	32 V x 3	8 A x 3	Multi	≤ 1 mVrms / ≤ 5 mVpp	●	●	–	O	–	✩
	9141	300 W	60 V x 3	4 A x 3	Multi	≤ 2 mVrms / ≤ 10 mVpp	●	●	–	O	–	✩
	9202B	360 W	60 V	15 A	Multi	≤ 15 mVpp	●	●	●	–	–	–
	9205B	600 W	60 V	25 A	Multi	≤ 20 mVpp	●	●	●	–	–	–
	9206B	600 W	150 V	10 A	Multi	≤ 50 mVpp	●	●	●	–	–	–
	9115/B/-AT	1200 W	80 V	60 A	Multi	≤ 60 mVpp	●	●	●	O	●	–
	9116/B	1200 W	150 V	30 A	Multi	≤ 60 mVpp	●	●	●	O	●	–
	MR3K160120	3000 W	160 V	120 A	Multi	≤ 48 mVrms / ≤ 120 mVpp	●	●	●	●	●	✩
	MR160120	5000 W	160 V	120 A	Multi	≤ 48 mVrms / ≤ 160 mVpp	●	●	●	●	●	✩
	MR250080	5000 W	250 V	80 A	Multi	≤ 85 mVrms / ≤ 500 mVpp	●	●	●	●	●	✩
	MR500040	5000 W	500 V	40 A	Multi	≤ 75 mVrms / ≤ 600 mVpp	●	●	●	●	●	✩
	MR100020	5000 W	1000 V	20 A	Multi	≤ 120 mVrms / ≤ 700 mVpp	●	●	●	●	●	✩

Dual and Triple Output

Dual & triple output power supplies give users the flexibility to configure multiple channels to meet their application needs.
Each output can be used independently, or connected in series, or parallel with other channels to increase voltage or current. This also allows for various output configurations such as positive and negative outputs for powering bipolar circuits and devices.

Common Features & Benefits

- Independent, floating and electrically isolated outputs
- Series or parallel operation to produce higher voltage or current output
- Display and adjust voltage and current settings for multiple channels simultaneously



Bipolar output configuration

The independent and isolated outputs can be used to create positive and negative outputs between channels 1 and 2. This feature is useful for powering bipolar circuits and devices.

Model	Power	CH1		CH2		CH3		Standard Interfaces
		Voltage	Current	Voltage	Current	Voltage	Current	
1652	44 W	24 V	500 mA	24 V	500 mA	5 V	4 A	N/A
BCS6401	90 W	± 15 V	5 A	15 V	5 A	–	–	USB, LAN
1760A	92 W	30 V	2 A	30 V	2 A	6.5 V	5 A	N/A
1670A	98 W	30 V	3 A	12 V	500 mA	5 V	500 mA	N/A
1671A	158 W	30 V	5 A	12 V	500 mA	5 V	500 mA	N/A
9129B	195 W	30 V	3 A	30 V	3 A	5 V	3 A	USB (virtual COM via included USB to TTL adapter)
9130C	195 W	30 V	3 A	30 V	3 A	5 V	3 A	RS232, USB
9173B	200 W	10 V / 20 V	10 A / 5 A	10 V / 20 V	10 A / 5 A	–	–	USB (RS232, RS485, analog control, GPIB, LAN, digital I/O)-opt.
1672	207 W	32 V	3 A	32 V	3 A	5 V	3 A	N/A
9174B	210 W	35 V / 70 V	3 A / 1.5 A	35 V / 70 V	3 A / 1.5 A	–	–	USB (RS232, RS485, analog control, GPIB, LAN, digital I/O)-opt.
1761	242 W	35 V	3 A	35 V	3 A	6.5 V	5 A	N/A
1762	266 W	60 V	2 A	60 V	2 A	6.5 V	5 A	N/A
9131C	375 W	30 V	6 A	30 V	6 A	5 V	3 A	RS232, USB
9132C	375 W	60 V	3 A	60 V	3 A	5 V	3 A	RS232, USB
9140	300 W	32 V	8 A	32 V	8 A	32 V	8 A	USB, LAN, GPIB-opt.
9141	300 W	60 V	4 A	60 V	4 A	60 V	4 A	USB, LAN, GPIB-opt.
1673	399 W	32 V	6 A	32 V	6 A	5 V	3 A	N/A

ATE System Power Solutions

- Up to 5100 W with voltage and current configurations up to 1000 V, 120 A
- Flexible I/O interfaces such as GPIB, LAN, USB, RS232, and analog control
- Programmability via SCPI commands, LabVIEW drivers, or application software allow for remote initiation and operation
- High programming accuracy combined with precise built-in measurements
- Comprehensive protection features such as OVP, OCP, and OTP to safeguard your DUT

Designed for easy integration into automated test equipment systems, our compact XLN, 9115/B, and MR series DC power supplies offer the power density, speed, and accuracy needed to meet today's system design challenges.

Model	**Max Power**	**Max Voltage**	**Max Current**	**Response Time** **Rise Time Full Load (ms)/ No Load (ms)**	**Fall Time Full Load (ms)/ Load (ms)**	**Transient Response Time (for a load change from 50 to100% of rated output current)**	**Adjustable Slew Rate**
9171B	100 W	10 V, 20 V	10 A, 5 A	≤ 8 / ≤ 8	≤ 8 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 2.5 V/ms
9172B	105 W	35 V, 70 V	3 A, 1.5 A	≤ 10 / ≤ 10	≤ 10 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 7 V/ms
9240	120 W	32 V	8 A	≤ 10 / ≤ 10	≤ 10 / ≤ 250	≤ 0.5 ms for output to recover within 0.5% of its rated output	0.001 to 3.2 V/ms
9241	120 W	60 V	4 A	≤ 20 / ≤ 20	≤ 20 / ≤ 250	≤ 0.5 ms for output to recover within 0.5% of its rated output	0.001 to 3.2 V/ms
9181B	144 W	18 V, 36 V	8 A, 4 A	≤ 8 / ≤ 8	≤ 8 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 4.5 V/ms
9173B	200 W	10 V, 20 V x 2	10 A, 5 A x 2	≤ 8 / ≤ 8	≤ 8 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 2.5 V/ms
9182B	200 W	10 V, 20 V	20 A, 10 A	≤ 8 / ≤ 8	≤ 8 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 2.5 V/ms

9184B	200 W	100 V, 200 V	2 A, 1 A	≤ 30 / ≤ 30	≤ 30 / ≤ 250	≤ 100 µs for output to recover to within 50 mV	0.001 to 6.666 V/ms
9242	200 W	60 V	10 A	≤ 20 / ≤ 20	≤ 20 / ≤ 250	≤ 0.5 ms for output to recover within 0.5% of its rated output	0.001 to 3.2 V/ms
9174B	210 W	35 V, 70 V x 2	3 A, 1.5 A x 2	≤ 10 / ≤ 10	≤ 10 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 7 V/ms
9183B	210 W	35 V, 70 V	6 A, 3 A	≤ 10 / ≤ 10	≤ 10 / ≤ 250	≤ 50 µs for output to recover to within 15 mV	0.001 to 7 V/ms
9185B	210 W	400 V, 600 V	0.5 A, 0.35 A	≤ 40 / ≤ 40	≤ 40 / ≤ 250	≤ 100 µs for output to recover to within 120 mV	0.001 to 15 V/ms
9140	300 W	32 V x 3	8 A x 3	≤ 10 / ≤ 10	≤ 10 / ≤ 250	≤ 0.5 ms for output to recover within 0.5% of its rated output	0.005 to 3.2 V/ms
9141	300 W	60 V x 3	4 A x 3	≤ 20 / ≤ 20	≤ 20 / ≤ 250	≤ 0.5 ms for output to recover within 0.5% of its rated output	0.005 to 3.2 V/ms
9115/B/-AT	1200 W	80 V	60 A	–	–	–	–
9116/B	1200 W	150 V	30 A	–	–	–	–
XLN3640 (-GL)	1440 W	36 V	40 A	≤ 15 / ≤ 15	≤ 15 / ≤ 1000	≤ 1 ms	0.01 to 2.4 V/ms
XLN6024 (-GL)	1440 W	60 V	24 A	≤ 20 / ≤ 20	≤ 20 / ≤ 1000	≤ 1 ms	0.01 to 3 V/ms
XLN8018 (-GL)	1440 W	80 V	18 A	≤ 25 / ≤ 25	≤ 25 / ≤ 1000	≤ 1 ms	0.01 to 3.2 V/ms
XLN10014 (-GL)	1440 W	100 V	14.4 A	≤ 30 / ≤ 30	≤ 30 / ≤ 1000	≤ 1 ms	0.01 to 3.3 V/ms
XLN15010 (-GL)	1560 W	150 V	10.4 A	≤ 100 / ≤ 100	≤ 100 / ≤ 1000	≤ 2 ms	0.01 to 1 V/ms
XLN30052 (-GL)	1560 W	300 V	5.2 A	≤ 100 / ≤ 100	≤ 100 / ≤ 2000	≤ 2 ms	0.01 to 3.3 V/ms
XLN60026 (-GL)	1560 W	600 V	2.6 A	≤ 100 / ≤ 100	≤ 100 / ≤ 3000	≤ 2 ms	0.01 to 6.6 V/ms
PVS60085MR	3000 W	600 V	8.5 A	≤ 100 / ≤ 100	≤ 150 / ≤ 3000	≤ 0.5 ms for output to recover within 0.5% of its rated output	0 to 6 V/ms
MR3K160120	3000 W	160 V	120 A	≤ 30 / ≤ 30	≤ 80 / ≤ 10000	≤ 1.5 ms	–
MR160120	5000 W	160 V	120 A	≤ 30 / ≤ 30	≤ 50 / ≤ 10000	≤ 1.5 ms	–

MR25080	5000 W	250 V	80 A	≤ 30 / ≤ 30	≤ 55 / ≤ 8000	≤ 1.5 ms	–
MR50040	5000 W	500 V	40 A	≤ 30 / ≤ 30	≤ 40 / ≤ 10000	≤ 1.5 ms	–
MR100020	5000 W	1000 V	20 A	≤ 30 / ≤ 30	≤ 50 / ≤ 10000	≤ 1.5 ms	–
PVS10005	5000 W	1000 V	5 A	≤ 250 / ≤ 250	≤ 250 / ≤ 5000	≤ 0.5 ms for output to recover within 0.5% of its rated output	0 to 4 V/ms
PVS60085	5100 W	600 V	8.5 A	≤ 100 / ≤ 100	≤ 100 / ≤ 3000	≤ 0.5 ms for output to recover within 0.5% of its rated output	0 to 6 V/ms

Model	Interfaces							Rackmount Kit	Form Factor
	USB	RS232	RS485	Analog Control	GPIB	LAN	Digital I/O		
9171B	●	O	O	O	O	O	O	O	2U
9172B	●	O	O	O	O	O	O	O	2U
9240	●	–	–	–	O	✩	●	O	2U
9241	●	–	–	–	O	✩	●	O	2U
9181B	●	O	O	O	O	O	O	O	2U
9173B	●	O	O	O	O	O	O	O	3U
9182B	●	O	O	O	O	O	O	O	3U
9184B	●	O	O	O	O	O	O	O	3U
9242	●	–	–	–	O	✩	●	O	2U
9174B	●	O	O	O	O	O	O	O	3U
9183B	●	O	O	O	O	O	O	O	3U
9185B	●	O	O	O	O	O	O	O	3U
9140	●	–	–	–	O	✩	●	O	2U
9141	●	–	–	–	O	✩	●	O	2U
9115/B/-AT	●	●	●	●	O	–	–	●	1U
9116/B	●	●	●	●	O	–	–	●	1U

XLN3640 (-GL)	●	–	●	●	O	O	–	O	1U
XLN6024 (-GL)	●	–	●	●	O	O	–	O	1U
XLN8018 (-GL)	●	–	●	●	O	O	–	O	1U
XLN10014 (-GL)	●	–	●	●	O	O	–	O	1U
XLN15010 (-GL)	●	–	●	●	O	O	–	O	1U
XLN30052 (-GL)	●	–	●	●	O	O	–	O	1U
XLN60026 (-GL)	●	–	●	●	O	O	–	O	1U
PVS60085MR	●	●	●	●	●	●	–	O	2U
MR3K160120	●	●	●	●	●	✩	–	O	2U
MR160120	●	●	●	●	●	✩	–	O	2U
MR25080	●	●	●	●	●	✩	–	O	2U
MR50040	●	●	●	●	●	✩	–	O	2U
MR100020	●	●	●	●	●	✩	–	O	2U
PVS10005	●	●	●	●	●	●	–	O	2U
PVS60085	●	●	●	●	●	●	–	O	2U

Programmable less than 300 W

These DC power supplies offer high speed and accuracy combined with advanced features such as DUT protection, list mode, and full programmability. Many supplies offer a SCPI compatible command set and come with LabVIEW drivers.

Model	Power	Max Voltage	Max Current	Ripple & Noise	Programming Accuracy		Programming Resolution		Interfaces						Rack mount Kit
					Voltage	Current	Voltage	Current	USB	RS232	RS485	Analog Control	GPIB	LAN	

1739	30 W	30 V	1 A	< 1 mVrms	0.5% + 2 digits	0.5% + 2 digits	10 mV	0.1 mA	–	●	–	–	–	–	–
BCS 6401	90 W	± 15 V	5 A	≤ 1 mVrms	≤ 0.02 % + 3 mV	< 0.05 % + 2 mA	1 mV	100 nA	●	–	–	–	–	●	O
9171 B	100 W	10 V, 20 V	10 A, 5 A	≤ 0.35 mVrms / ≤ 3 mVpp	≤ 0.05 % + 5 mV	≤ 0.1% + 2 mA	1 mV	1 mA	●	O	O	O	O	O	O
9172 B	105 W	35 V, 70 V	3 A, 1.5 A	≤ 0.5 mVrms / ≤ 5 mVpp	≤ 0.05 % + 10 mV	≤ 0.1% + 1 mA	2 mV	0.1 mA	●	O	O	O	O	O	O
9240	120 W	32 V	8 A	≤ 1 mVrms / ≤ 5 mVpp	0.03% + 4 mV	0.1% + 5 mA	1 mV	1 mA	●	–	–	–	O	✩	O
9241	120 W	60 V	4 A	≤ 2 mVrms / ≤ 10 mVpp	0.03% + 8 mV	0.1% + 3 mA	1 mV	1 mA	●	–	–	–	O	✩	O
9181 B	144 W	18 V, 36 V	8 A, 4 A	≤ 0.35 mVrms / ≤ 3 mVpp	≤ 0.05 % + 5 mV	≤ 0.1% + 2 mA	1 mV	1 mA	●	O	O	O	O	O	O
BCS 6402	150 W	± 30 V	5 A	≤ 1 mVrms	≤ 0.02 % + 3 mV	< 0.05 % + 3 mA	1 mV	100 nA	●	–	–	–	–	●	O
1698 B	200 W	60 V	3.3 A	≤ 30 mVpp	1.5% + 2 counts	1.5% + 2 counts	10 mV	1 mA	●	–	●	–	–	–	–

9201 B	200 W	60 V	10 A	≤ 8 mVpp	≤ 0.03 % + 5 mV	≤ 0.1% + 10 mA	1 mV	0.1 mA	●	●	–	–	–	–	O
9242	200 W	60 V	10 A	≤ 2 mVrms / ≤ 10 mVpp	0.03% + 8 mV	0.1% + 3 mA	1 mV	1 mA	●	–	–	–	O	✩	O
9182 B	200 W	10 V, 20 V	20 A, 10 A	≤ 0.35 mVrms / ≤ 3 mVpp	≤ 0.05 % + 5 mV	≤ 0.1% + 5 mA	1 mV	1 mA	●	O	O	O	O	O	O
9173 B	200 W	10 V, 20 V x 2	10 A, 5 A x 2	≤ 0.35 mVrms / ≤ 3 mVpp	≤ 0.05 % + 5 mV	≤ 0.1% + 2 mA	1 mV	1 mA	●	O	O	O	O	O	O
1696 B	200 W	20 V	10 A	≤ 30 mVpp	1.5% + 2 counts	1.5% + 2 counts	10 mV	1 mA	●	–	●	–	–	–	–
1697 B	200 W	40 V	5 A	≤ 30 mVpp	1.5% + 2 counts	1.5% + 2 counts	10 mV	1 mA	●	–	●	–	–	–	–
9184 B	200 W	100 V, 200 V	2 A, 1 A	≤ 1.5 mVrms / ≤ 15 mVpp	≤ 0.05 % + 50 mV	≤ 0.1% + 1 mA	10 mV	0.1 mA	●	O	O	O	O	O	O
9183 B	210 W	35 V, 70 V	6 A, 3 A	≤ 0.5 mVrms / ≤ 5 mVpp	≤ 0.05 % + 10 mV	≤ 0.1% + 2 mA	2 mV	0.2 mA	●	O	O	O	O	O	O
9174 B	210 W	35 V, 70 V x 2	3 A, 1.5 A x 2	≤ 0.5 mVrms / ≤ 5 mVpp	≤ 0.05 % + 10 mV	≤ 0.1% + 1 mA	2 mV	0.1 mA	●	O	O	O	O	O	O

9185 B	210 W	400 V, 600 V	0.5 A, 0.35 A	≤ 4.5 mV rms / ≤ 45 m Vpp	≤ 0.05 % + 100 m V	≤ 0.1% + 0.1 mA	20 mV	0.01 mA	●	O	O	O	O	O	O
1685 B	300 W	60 V	5 A	≤ 50 mV pp	± 0.2 % + 3 counts	± 0.2% + 3 counts	800 mV	10 mA	●	–	–	●	–	–	–
9140	300 W	32 V x 3	8 A x 3	≤ 1 mVrms / ≤ 5 mV pp	0.03% + 4 mV	0.1% + 5 mA	1 m V	1 m A	●	–	–	–	O	✩	O
9141	300 W	60 V x 3	4 A x 3	≤ 2 mVrms / ≤ 10 m Vpp	0.03% + 8 mV	0.1% + 3 mA	1 m V	1 m A	●	–	–	–	O	✩	O

Programmable (320 W to 5100 W)

Model	Power	Max Voltage	Max Current	Ripple & Noise	Programming Accuracy		Programming Resolution		Interfaces						Rackmount Kit
					Voltage	Current	Voltage	Current	USB	RS232	RS485	Analog Control	GPIB	LAN	
9103	320 W	42 V	20 A	≤ 8 mVrms / ≤ 80 mV pp	± 0.2 % + 0.05	± 0.2 % + 0.05	20 mV	10 m A	●	–	–	●	–	–	–
9104	320 W	84 V	10 A	≤ 8 mVrms / ≤ 80 mV pp	± 0.2 % + 0.05	± 0.2 % + 0.05	20 mV	10 m A	●	–	–	●	–	–	–

1688B	360 W	18 V	20 A	≤ 50 mV pp	± 0.2 % + 3 counts	± 0.2 % + 3 counts	800 mV	100 mA	●	–	–	●	–	–	–
1687B	360 W	36 V	10 A	≤ 50 mV pp	± 0.2 % + 3 counts	± 0.2 % + 3 counts	800 mV	100 mA	●	–	–	●	–	–	–
1902B	900 W	60 V	15 A	≤ 5 mVrms / ≤ 100 mVpp	± 0.2 % + 3 counts	± 0.2 % + 3 counts	800 mV	10 mA	●	–	–	●	–	–	–
1900B	960 W	16 V	60 A	≤ 5 mVrms / ≤ 50 mV pp	± 0.2 % + 3 counts	± 0.2 % + 3 counts	800 mV	10 mA	●	–	–	●	–	–	–
1901B	960 W	32 V	30 A	≤ 5 mVrms / ≤ 50 mV pp	± 0.2 % + 3 counts	± 0.2 % + 3 counts	800 mV	10 mA	●	–	–	●	–	–	–
9115/B/-AT	1200 W	80 V	60 A	≤ 60 mV pp	0.02% + 30 mV	0.1% + 60 mA	1 mV	1 mA	●	●	●	●	O	–	●
9116/B	1200 W	150 V	30 A	≤ 60 mV pp	0.05% + 30 mV	0.2% + 30 mA	3 mV	1 mA	●	●	●	●	O	–	●
XLN3640 (-GL)	1440 W	36 V	40 A	≤ 5 mVrms / ≤ 60 mVpp	0.05% + 10 mV	0.05% + 10 mA	1 mV	1 mA	●	–	●	●	●	●	O
XLN6024 (-GL)	1440 W	60 V	24 A	≤ 6 mVrms / ≤ 70 mVpp	0.05% + 15 mV	0.05% + 18 mA	1.5 mV	1 mA	●	–	●	●	●	●	O

XLN8018 (-GL)	1440 W	80 V	18 A	≤ 7 mVrms / ≤ 80 mVpp	0.05% + 20 mV	0.05% + 7 mA	2 mV	1 mA	●	–	●	●	●	●	O
XLN10014 (-GL)	1440 W	100 V	14.4 A	≤ 8 mVrms / ≤ 80 mVpp	0.05% + 25 mV	0.05% + 6 mA	2.5 mV	1 mA	●	–	●	●	●	●	O
XLN15010 (-GL)	1560 W	150 V	10.4 A	≤ 10 mVrms / ≤ 100 mVpp	0.05% + 75 mV	0.1% + 30 mA	10 mV	1 mA	●	–	●	●	●	●	O
XLN30052 (-GL)	1560 W	300 V	5.2 A	≤ 25 mVrms / ≤ 150 mVpp	0.05% + 150 mV	0.1% + 15.6 mA	10 mV	1 mA	●	–	●	●	●	●	O
XLN60026 (-GL)	1560 W	600 V	2.6 A	≤ 50 mVrms / ≤ 300 mVpp	0.05% + 300 mV	0.1% + 7.8 mA	10 mV	1 mA	●	–	●	●	●	●	O
PVS60085MR	3000 W	600 V	8.5 A	≤ 100 mVrms / ≤ 500 mVpp	400 mV	0.03% + 3.5 mA	10 mV	0.2 mA	●	–	●	●	●	●	O
MR3K160120	3000 W	160 V	120 A	≤ 48 mVrms / ≤ 120 mVpp	160 mV	360 mA	10 mV	7.5 mA	●	●	●	●	●	✩	O
MR160120	5000 W	160 V	120 A	≤ 48 mVrms / ≤ 160 mVpp	160 mV	360 mA	10 mV	7.5 mA	●	●	●	●	●	✩	O
MR25080	5000 W	250 V	80 A	≤ 85 mVrms / ≤ 500 mVpp	100 mV	60 mA	10 mV	5 mA	●	●	●	●	●	✩	O

MR50040	5000 W	500 V	40 A	≤ 75 mVrms / ≤ 600 mVpp	300 mV	50 mA	20 mV	2 mA	●	●	●	●	●	✩	O
MR100020	5000 W	1000 V	20 A	≤ 120 mVrms / ≤ 700 mVpp	500 mV	25 mA	100 mV	1 mA	●	●	●	●	●	✩	O
PVS10005	5000 W	1000 V	5 A	≤ 100 mVrms / ≤ 600 mVpp	700 mV	0.03% + 2 mA	0.1 V	0.1 mA	●	–	●	●	●	●	O
PVS60085	5100 W	600 V	8.5 A	≤ 100 mVrms / ≤ 500 mVpp	400 mV	0.03% + 3.5 mA	10 mV	0.2 mA	●	–	●	●	●	●	O

Basic and Education

These DC power supplies offer the best in simplicity with their easy-to-use functions. All supplies can be controlled from the front panel only, and many models come with analog or digital meters. Ideal for students, hobbyists, service and repair personnel, and other users looking for low-cost options without all the extras.

Model	Max Power	Voltage Range	Current Range	No. of Outputs	Type	Display (Meter)
1513	12 W	3.3/4.5/6/7.5/9/12 V (fixed)	1 A	1	Battery Eliminator	None
1621A	90 W	0 to 18 V	0 to 5 A	1	CV/CC Mode Supply	Dual 3-digit LED
1623A	90 W	0 to 60 V	0 to 1.5 A	1	CV/CC Mode Supply	Dual 3-digit LED
1627A	90 W	0 to 30 V	0 to 3 A	1	CV/CC Mode Supply	Dual 3-digit LED

1735A	90 W	0 to 30 V	0 to 3 A	1	CV/CC Mode Supply	Dual 4-digit LED
1760A	92 W	0 to 30 V (A&B), 4 to 6.5 V (C)	0 to 2 A (A&B), 5 A (C)	3	CV/CC Mode Supply	Dual 4-digit LED
1670A	98.5 W	0 to 30 V (A), 12 V (B), 5 V (C)	0 to 3 A (A), 500 mA (B), 500 mA (C)	3	CV/CC Mode Supply	Dual 3-digit LCD
9110	100 W	0 to 60 V	0 to 5 A	1	Multi-Ranging CV/CC Mode Supply	Dual 4-digit LED
1550	108 W	1 to 36 V	0 to 3 A	1	CV/CC Mode Supply	LCD
1715A	120 W	0 to 60 V	0 to 2 A	1	CV/CC Mode Supply	Dual 4-digit LED
1671A	158.5 W	0 to 30 V (A), 12 V (B), 5 V (C)	0 to 5 A (A), 500 mA (B), 500 mA (C)	3	CV/CC Mode Supply	Dual 3-digit LCD
9111	180 W	0 to 60 V	0 to 8 A	1	Multi-Ranging CV/CC Mode Supply	Dual 4-digit LED
1667	198 W	0 to 60 V	0 to 3.3 A	1	CV/CC Mode Supply	Dual 3-digit LED
1665	200 W	0 to 20 V	0 to 10 A	1	CV/CC Mode Supply	Dual 3 1/2-digit LED
1666	200 W	0 to 40 V	0 to 5 A	1	CV/CC Mode Supply	Dual 3-digit LED
1672	207 W	0 to 32 V (A&B), 5 V (C)	0 to 3 A (A&B), 3 A (C)	3	CV/CC Mode Supply	Quad 3-digit LED
1743B	210 W	35 V	0.25	1	CV/CC Mode Supply	Dual 4-digit LED
1761	242 W	0 to 35 V (A&B), 2 to 6.5 V (C)	0 to 3 A (A&B), 5 A (C)	3	CV/CC Mode Supply	Dual 4-digit LED
1762	266 W	0 to 60 V (A&B), 2 to 6.5 V (C)	0 to 2 A (A&B), 5 A (C)	3	CV/CC Mode Supply	Dual 4-digit LED
1745A	350 W	35 V	10 A	1	CV/CC Mode Supply	Dual 4-digit LED
1673	399 W	0 to 32 V (A&B), 5 V (C)	0 to 6 A (A&B), 3 A (C)	3	CV/CC Mode Supply	Quad 3-digit LED

1692	600 W	15 V	40 A	1	CV Mode Supply	Dual 3-digit LED
1693	900 W	15 V	60 A	1	CV Mode Supply	Dual 3-digit LED
1694	900 W	30 V	30 A	1	CV Mode Supply	Dual 3-digit LED

- CV = Constant Voltage
- CC = Constant Current

AC Power Sources

The 9800/B Series offers programmable functions and is suitable for evaluating transformers, TRIACs, SCRs, and passive components as well as production, R&D, service, and pre-compliance testing.

The 9830B Series programmable AC power sources provide high performance and low total harmonic distortion in a 3U form factor. The addition of positive and negative DC offset voltages expands the AC capabilities to operate in DC and AC+DC output coupling modes.

9800/B Series Features

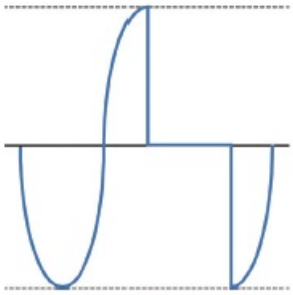
- 0 to 300 V, low distortion AC source with models delivering up to 1500 VA, 12 Arms/48 Apeak
- Displays Vrms, Irms, Ipeak, frequency, PF, apparent power, true power, and elapsed output time
- Adjustable phase angle control
- Built-in PLD and dimmer simulation
- Voltage and frequency sweep mode Pre-compliance testing for voltage dips and frequency simulation according to IEC61000-4-11 / 4-14 / 4-2

9830B Series Features

- AC, DC and AC+DC power source
- Low total harmonic distortion meets the IEC 61000-3-2 standard
- 0.98 power factor at AC input stage

- Comprehensive measurements Vrms, Arms, Vdc, +Apk, -Apk, inrush current, Hz, power factor, apparent power, reactive power, true power, and crest factor
- 3-Phase capability using 3 AC sources and the 3-Phase kit (TL983P-KIT)

Power line disturbance (PLD) simulator



PLD Waveform

The PLD simulator is an extended feature of list mode that provides the user with more control over the disturbance insertion into the waveform. This can be useful for evaluating a product's immunity performance. For instance, a user could produce common waveform disturbances like surge, sag, spikes, and dropouts at user-defined locations on the waveform.

3-Phase AC power

Connect multiple 9830B series models for split, 2 and 3 phase testing.

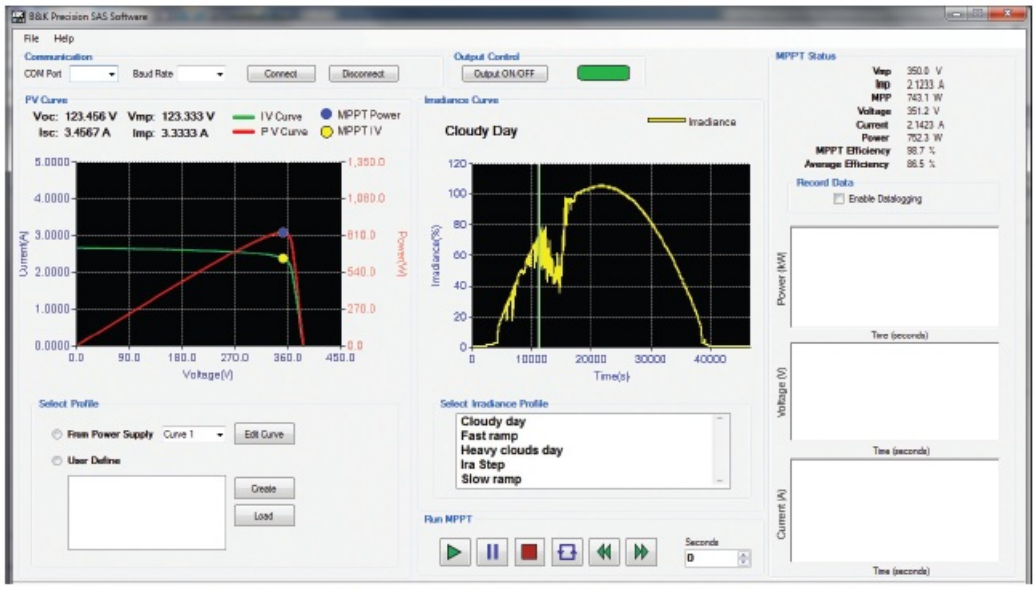
- Supports 3-phase Y configuration
- Full 0º to 360º phase control
- 45 Hz to 600 Hz operating frequency
- Up to 2000 VA / 3000 VA per phase

Model	Description	Max Power	Max Voltage (rms)	Max Current (rms)	Frequency	AC Input	Interfaces	Other Features
1604A	Isolation Transformer	155 VA	117 to 124 V	1.25 A	–	110/220 VAC ±10%, 47 to 63 Hz	–	–
9801/B	Programmable AC Power Source	300 VA	0 to 300 V	3 A at 150 V, 1.5 A at 300 V	45 Hz to 500 Hz	110/220 VAC ±10%, 47 to 63 Hz	USB, RS232, LAN, GPIB-opt.	PLD simulator, list mode, dimmer mode, and sweep function
1655A	Isolated Variable AC Power Supply	150 VA	0 to 150 V	3 A (continuous), 4 A (intermittent)	–	120 VAC, 60 Hz	–	Built-in soldering temperature control and expanded leakage scale
9803/B	Programmable AC Power Source	750 VA	0 to 300 V	6 A at 150 V, 3 A at 300 V	45 Hz to 500 Hz	120 VAC, 60 Hz	USB, RS232, LAN, GPIB-opt.	PLD simulator, list mode, dimmer mode, and sweep function
9805/B	Programmable AC Power Source	1500 VA	0 to 300 V	12 A at 150 V, 6 A at 300 V	45 Hz to 500 Hz	120 VAC, 60 Hz	USB, RS232, LAN, GPIB-opt.	PLD simulator, list mode, dimmer mode, and sweep function
9832B	Programmable AC Power Source	2000 VA	0 to 300 V	0 to 20 A	45 Hz to 1200 Hz	190 V to 250 V 47 Hz to 63 Hz	USB, RS232, GPIB, LAN	PLD simulator, list mode , 3-phase capable
9833B	Programmable AC Power Source	3000 VA	0 to 300 V	0 to 30 A	45 Hz to 1200 Hz	190 V to 250 V 47 Hz to 63 Hz	USB, RS232, GPIB, LAN	PLD simulator, list mode , 3-phase capable

Solar, Automotive, and LED Applications

Solar Array Simulation (SAS) software
The I-V curve of solar cells can be influenced by various weather conditions such as clouds or rain. The SAS control software allows users to set I-V parameters to simulate static and dynamic MPPT efficiencies under

different conditions.



Compatible with PVS Series and MR Series power supply models

- Variety of input parameters (Voc/Isc/Vmp/Imp/FF/FFv/FFi)
- Monitors real-time voltage, current, power, MPPT efficiency, and average MPPT efficiency
- Simulate I-V curve under different weather conditions during a day
- User-definable irradiance profile
- Generate an I-V curve with up to 1024 data points
- Curve generation based on Sandia Labs and EN50530 test standards

Built-in simulations compliant to automotive test standards
In order to ensure electronic systems used in a vehicle are able to function in an automotive environment, automotive component manufacturers test electronic modules to industry standards. The 9115B-AT provides automotive power test waveforms compliant to DIN 40839 and ISO 16750-2 standards that can simulate common test conditions for electrical and electronic devices installed in automobiles.

DIN40839 / ISO7637

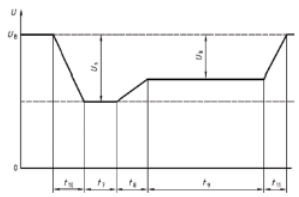


Fig. 1 - Motor startup curve

ISO16750-2

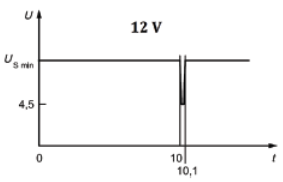


Fig. 2 - Short voltage drop test

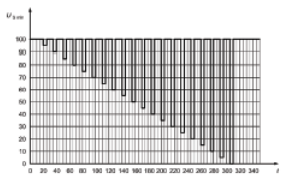


Fig. 3 - Reset behavior voltage drop test

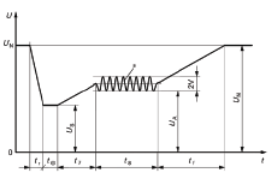


Fig. 4 - Starting profile test

Remote Communication Tools

For many of B&K Precision's programmable power supplies, the following remote communication tools are available:

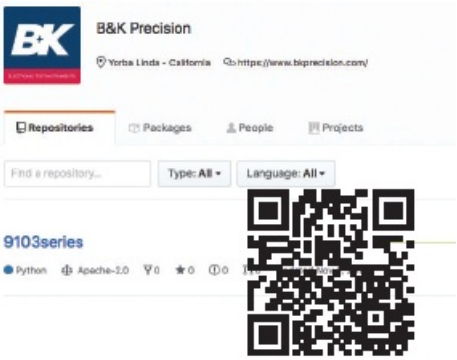
- PC applications for front panel emulation, test sequencing, or logging measurement data
- Built-in web server to configure, control, or monitor power supplies via a web browser
- NI-certified LabVIEW drivers

Additional Resources
Power Supply Guide
Download our free Power Supply Guide to learn more about different types of power supplies and the technology behind them. The guide also covers related terms, specifications, and usage examples.
https://www.bkprecision.com/supportdownloads/power-supply-guide.html

Knowledge Base
Search and find answers to frequently asked questions, plus a wealth of resources: how-to guides, technical notes and other articles. **https://bkprecision.force.com/desk/s/**

Video Library
View product overviews, demonstrations, and application videos in English, Spanish, and Portuguese.
https://www.youtube.com/user/BKPrecisionVideos/videos

GitHub
Find and share programming examples and join our online community on GitHub.
https://github.com/bkprecisioncorp



Documents / Resources

	B K PRECISION 2023 Power Supply Selection Guide [pdf] User Guide 2023 Power Supply Selection Guide, 2023, Power Supply Selection Guide, Supply Selection Guide, Selection Guide

References

- B&K Precision Corporation
- Desk
- GitHub: Let’s build from here · GitHub
- B&K Precision · GitHub
- B&K Precision Corporation