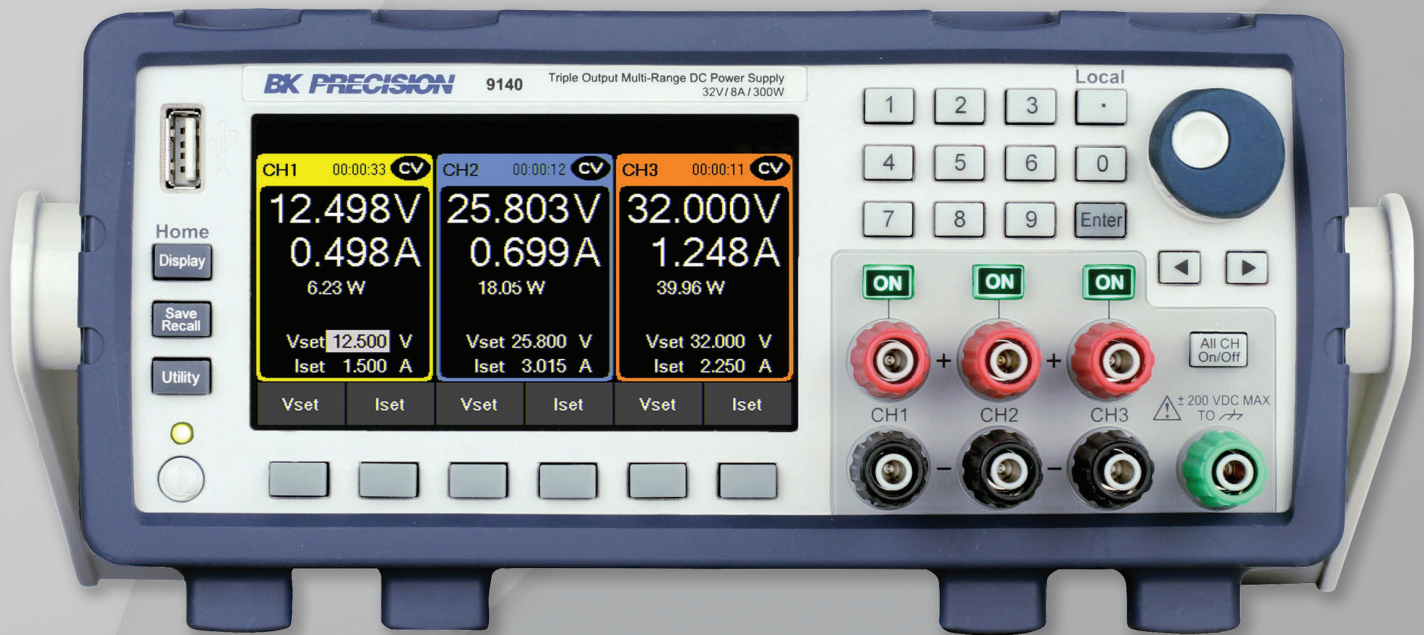


BK PRECISION

2023

Power Supply Selection Guide



Power Solutions from B&K Precision

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

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ElectriKit



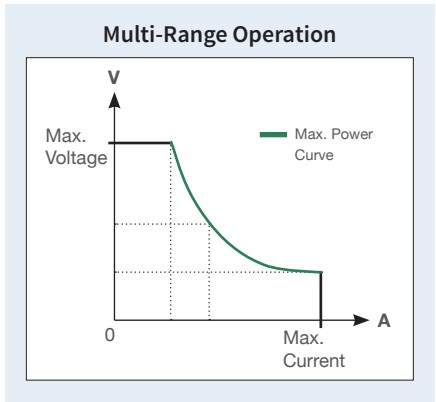
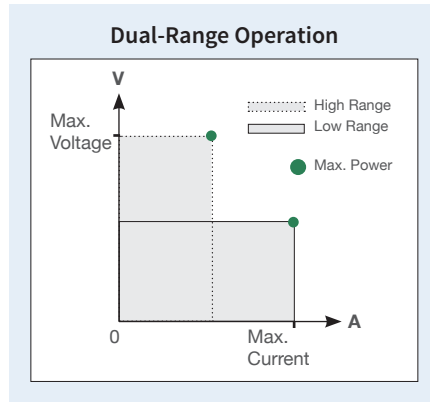
A helpful tool for electricians, technicians, engineers, students, hobbyists and anyone dealing with electrical power.

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 | GPIO | 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 | ● | ● | ○ | ○ | ○ | ○ |
| | 9172B | 105 W | 35 V, 70 V | 3 A, 1.5 A | Dual | ≤ 0.5 mVrms / ≤ 5 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 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 | ● | ● | ○ | ○ | ○ | ○ |
| | 9173B | 200 W | 10 V, 20 V x 2 | 10 A, 5 A x 2 | Dual | ≤ 0.35 mVrms / ≤ 3 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 9182B | 200 W | 10 V, 20 V | 20 A, 10 A | Dual | ≤ 0.35 mVrms / ≤ 3 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 9184B | 200 W | 100 V, 200 V | 2 A, 1 A | Dual | ≤ 1.5 mVrms / ≤ 15 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 9174B | 210 W | 35 V, 70 V x 2 | 3 A, 1.5 A x 2 | Dual | ≤ 0.5 mVrms / ≤ 5 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 9183B | 210 W | 35 V, 70 V | 6 A, 3 A | Dual | ≤ 0.5 mVrms / ≤ 5 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| | 9185B | 210 W | 400 V, 600 V | 0.5 A, 0.35 A | Dual | ≤ 4.5 mVrms / ≤ 45 mVpp | ● | ● | ○ | ○ | ○ | ○ |
| 1747 | 300 W | 35 V, 60 V | 10 A, 5 A | Dual | ≤ 1 mVrms | - | - | ● | - | - | - | |
| Multi-range | 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 | ● | ● | ● | - | - | - |
| | 9140 | 300 W | 32 V x 3 | 8 A x 3 | Multi | ≤ 1 mVrms / ≤ 5 mVpp | ● | ● | - | ○ | - | ☆ |
| | 9141 | 300 W | 60 V x 3 | 4 A x 3 | Multi | ≤ 2 mVrms / ≤ 10 mVpp | ● | ● | - | ○ | - | ☆ |
| | 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 | ● | ● | ● | ○ | ● | - |
| | 9116/B | 1200 W | 150 V | 30 A | Multi | ≤ 60 mVpp | ● | ● | ● | ○ | ● | - |
| | MR3K160120 | 3000 W | 160 V | 120 A | Multi | ≤ 48 mVrms / ≤ 120 mVpp | ● | ● | ● | ● | ● | ☆ |
| | MR160120 | 5000 W | 160 V | 120 A | Multi | ≤ 48 mVrms / ≤ 160 mVpp | ● | ● | ● | ● | ● | ☆ |
| | MR25080 | 5000 W | 250 V | 80 A | Multi | ≤ 85 mVrms / ≤ 500 mVpp | ● | ● | ● | ● | ● | ☆ |
| | MR50040 | 5000 W | 500 V | 40 A | Multi | ≤ 75 mVrms / ≤ 600 mVpp | ● | ● | ● | ● | ● | ☆ |
| MR100020 | 5000 W | 1000 V | 20 A | Multi | ≤ 120 mVrms / ≤ 700 mVpp | ● | ● | ● | ● | ● | ☆ | |

"●" Standard "○" Optional "☆" LXI-compliant LAN standard

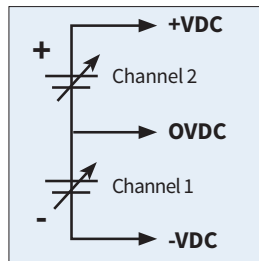
Dual and Triple Output

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 | | Transient Response Time (for a load change from 50 to 100% of rated output current) | Adjustable Slew Rate |
|----------------|-----------|----------------|----------------|---------------------------------------|---------------------------------------|---|----------------------|
| | | | | Rise Time Full Load (ms)/No Load (ms) | Fall Time Full Load (ms)/No Load (ms) | | |
| 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 |

ATE System Power Solutions (cont.)



| Model | Interfaces | | | | | | | Rackmount Kit | Form Factor |
|----------------|------------|-------|-------|----------------|------|-----|-------------|---------------|-------------|
| | USB | RS232 | RS485 | Analog Control | GPIB | LAN | Digital I/O | | |
| 9171B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 2U |
| 9172B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 2U |
| 9240 | ● | - | - | - | ○ | ☆ | ● | ○ | 2U |
| 9241 | ● | - | - | - | ○ | ☆ | ● | ○ | 2U |
| 9181B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 2U |
| 9173B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9182B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9184B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9242 | ● | - | - | - | ○ | ☆ | ● | ○ | 2U |
| 9174B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9183B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9185B | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 3U |
| 9140 | ● | - | - | - | ○ | ☆ | ● | ○ | 2U |
| 9141 | ● | - | - | - | ○ | ☆ | ● | ○ | 2U |
| 9115/B/-AT | ● | ● | ● | ● | ○ | - | - | ● | 1U |
| 9116/B | ● | ● | ● | ● | ○ | - | - | ● | 1U |
| XLN3640 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN6024 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN8018 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN10014 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN15010 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN30052 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| XLN60026 (-GL) | ● | - | ● | ● | ○ | ○ | - | ○ | 1U |
| PVS60085MR | ● | ● | ● | ● | ● | ● | - | ○ | 2U |
| MR3K160120 | ● | ● | ● | ● | ● | ☆ | - | ○ | 2U |
| MR160120 | ● | ● | ● | ● | ● | ☆ | - | ○ | 2U |
| MR25080 | ● | ● | ● | ● | ● | ☆ | - | ○ | 2U |
| MR50040 | ● | ● | ● | ● | ● | ☆ | - | ○ | 2U |
| MR100020 | ● | ● | ● | ● | ● | ☆ | - | ○ | 2U |
| PVS10005 | ● | ● | ● | ● | ● | ● | - | ○ | 2U |
| PVS60085 | ● | ● | ● | ● | ● | ● | - | ○ | 2U |

"●" Standard "○" Optional "☆" LXI-compliant LAN standard

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 | | | | | | Rackmount 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 | - | ● | - | - | - | - | - | - |
| BCS6401 | 90 W | ± 15 V | 5 A | ≤ 1 mVrms | ≤ 0.02% + 3 mV | < 0.05% + 2 mA | 1 mV | 100 nA | ● | - | - | - | - | - | ● | ○ |
| 9171B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9172B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9240 | 120 W | 32 V | 8 A | ≤ 1 mVrms / ≤ 5 mVpp | 0.03% + 4 mV | 0.1% + 5 mA | 1 mV | 1 mA | ● | - | - | - | ○ | ☆ | ○ | ○ |
| 9241 | 120 W | 60 V | 4 A | ≤ 2 mVrms / ≤ 10 mVpp | 0.03% + 8 mV | 0.1% + 3 mA | 1 mV | 1 mA | ● | - | - | - | ○ | ☆ | ○ | ○ |
| 9181B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| BCS6402 | 150 W | ± 30 V | 5 A | ≤ 1 mVrms | ≤ 0.02% + 3 mV | < 0.05% + 3 mA | 1 mV | 100 nA | ● | - | - | - | - | - | ● | ○ |
| 1698B | 200 W | 60 V | 3.3 A | ≤ 30 mVpp | 1.5% + 2 counts | 1.5% + 2 counts | 10 mV | 1 mA | ● | - | ● | - | - | - | - | - |
| 9201B | 200 W | 60 V | 10 A | ≤ 8 mVpp | ≤ 0.03% + 5 mV | ≤ 0.1% + 10 mA | 1 mV | 0.1 mA | ● | ● | - | - | - | - | - | ○ |
| 9242 | 200 W | 60 V | 10 A | ≤ 2 mVrms / ≤ 10 mVpp | 0.03% + 8 mV | 0.1% + 3 mA | 1 mV | 1 mA | ● | - | - | - | ○ | ☆ | ○ | ○ |
| 9182B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9173B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1696B | 200 W | 20 V | 10 A | ≤ 30 mVpp | 1.5% + 2 counts | 1.5% + 2 counts | 10 mV | 1 mA | ● | - | ● | - | - | - | - | - |
| 1697B | 200 W | 40 V | 5 A | ≤ 30 mVpp | 1.5% + 2 counts | 1.5% + 2 counts | 10 mV | 1 mA | ● | - | ● | - | - | - | - | - |
| 9184B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9183B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9174B | 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 | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 9185B | 210 W | 400 V, 600 V | 0.5 A, 0.35 A | ≤ 4.5 mVrms / ≤ 45 mVpp | ≤ 0.05% + 100 mV | ≤ 0.1% + 0.1 mA | 20 mV | 0.01 mA | ● | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1685B | 300 W | 60 V | 5 A | ≤ 50 mVpp | ± 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 mVpp | 0.03% + 4 mV | 0.1% + 5 mA | 1 mV | 1 mA | ● | - | - | - | ○ | ☆ | ○ | ○ |
| 9141 | 300 W | 60 V x 3 | 4 A x 3 | ≤ 2 mVrms / ≤ 10 mVpp | 0.03% + 8 mV | 0.1% + 3 mA | 1 mV | 1 mA | ● | - | - | - | ○ | ☆ | ○ | ○ |

"●" Standard "○" Optional "☆" LXI-compliant LAN standard

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 | GPIO | LAN | |
| 9103 | 320 W | 42 V | 20 A | ≤ 8 mVrms / ≤ 80 mVpp | ± 0.2% + 0.05 | ± 0.2% + 0.05 | 20 mV | 10 mA | ● | - | - | ● | - | - | - |
| 9104 | 320 W | 84 V | 10 A | ≤ 8 mVrms / ≤ 80 mVpp | ± 0.2% + 0.05 | ± 0.2% + 0.05 | 20 mV | 10 mA | ● | - | - | ● | - | - | - |
| 1688B | 360 W | 18 V | 20 A | ≤ 50 mVpp | ± 0.2% + 3 counts | ± 0.2% + 3 counts | 800 mV | 100 mA | ● | - | - | ● | - | - | - |
| 1687B | 360 W | 36 V | 10 A | ≤ 50 mVpp | ± 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 mVpp | ± 0.2% + 3 counts | ± 0.2% + 3 counts | 800 mV | 10 mA | ● | - | - | ● | - | - | - |
| 1901B | 960 W | 32 V | 30 A | ≤ 5 mVrms / ≤ 50 mVpp | ± 0.2% + 3 counts | ± 0.2% + 3 counts | 800 mV | 10 mA | ● | - | - | ● | - | - | - |
| 9115/B/-AT | 1200 W | 80 V | 60 A | ≤ 60 mVpp | 0.02% + 30 mV | 0.1% + 60 mA | 1 mV | 1 mA | ● | ● | ● | ● | ○ | - | ● |
| 9116/B | 1200 W | 150 V | 30 A | ≤ 60 mVpp | 0.05% + 30 mV | 0.2% + 30 mA | 3 mV | 1 mA | ● | ● | ● | ● | ○ | - | ● |
| XLN3640 (-GL) | 1440 W | 36 V | 40 A | ≤ 5 mVrms / ≤ 60 mVpp | 0.05% + 10 mV | 0.05% + 10 mA | 1 mV | 1 mA | ● | - | ● | ● | ● | ● | ○ |
| 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 | ● | - | ● | ● | ● | ● | ○ |
| XLN8018 (-GL) | 1440 W | 80 V | 18 A | ≤ 7 mVrms / ≤ 80 mVpp | 0.05% + 20 mV | 0.05% + 7 mA | 2 mV | 1 mA | ● | - | ● | ● | ● | ● | ○ |
| 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 | ● | - | ● | ● | ● | ● | ○ |
| 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 | ● | - | ● | ● | ● | ● | ○ |
| 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 | ● | - | ● | ● | ● | ● | ○ |
| 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 | ● | - | ● | ● | ● | ● | ○ |
| PVS60085MR | 3000 W | 600 V | 8.5 A | ≤ 100 mVrms / ≤ 500 mVpp | 400 mV | 0.03% + 3.5 mA | 10 mV | 0.2 mA | ● | - | ● | ● | ● | ● | ○ |
| MR3K160120 | 3000 W | 160 V | 120 A | ≤ 48 mVrms / ≤ 120 mVpp | 160 mV | 360 mA | 10 mV | 7.5 mA | ● | ● | ● | ● | ● | ☆ | ○ |
| MR160120 | 5000 W | 160 V | 120 A | ≤ 48 mVrms / ≤ 160 mVpp | 160 mV | 360 mA | 10 mV | 7.5 mA | ● | ● | ● | ● | ● | ☆ | ○ |
| MR25080 | 5000 W | 250 V | 80 A | ≤ 85 mVrms / ≤ 500 mVpp | 100 mV | 60 mA | 10 mV | 5 mA | ● | ● | ● | ● | ● | ☆ | ○ |
| MR50040 | 5000 W | 500 V | 40 A | ≤ 75 mVrms / ≤ 600 mVpp | 300 mV | 50 mA | 20 mV | 2 mA | ● | ● | ● | ● | ● | ☆ | ○ |
| MR100020 | 5000 W | 1000 V | 20 A | ≤ 120 mVrms / ≤ 700 mVpp | 500 mV | 25 mA | 100 mV | 1 mA | ● | ● | ● | ● | ● | ☆ | ○ |
| PVS10005 | 5000 W | 1000 V | 5 A | ≤ 100 mVrms / ≤ 600 mVpp | 700 mV | 0.03% + 2 mA | 0.1 V | 0.1 mA | ● | - | ● | ● | ● | ● | ○ |
| PVS60085 | 5100 W | 600 V | 8.5 A | ≤ 100 mVrms / ≤ 500 mVpp | 400 mV | 0.03% + 3.5 mA | 10 mV | 0.2 mA | ● | - | ● | ● | ● | ● | ○ |

● Standard ○ Optional ☆ LXI-compliant LAN standard

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



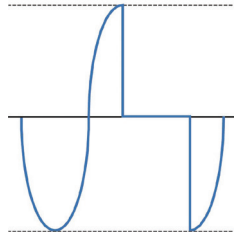
The 9800/B Series offers programmable functions and is suitable for evaluating transformers, TRIACs, SCRs, and passive components as well as production, R&D, service, and pre-compliance testing.

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

Power line disturbance (PLD) simulator

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.



PLD Waveform



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.

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)

3-Phase AC power

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



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

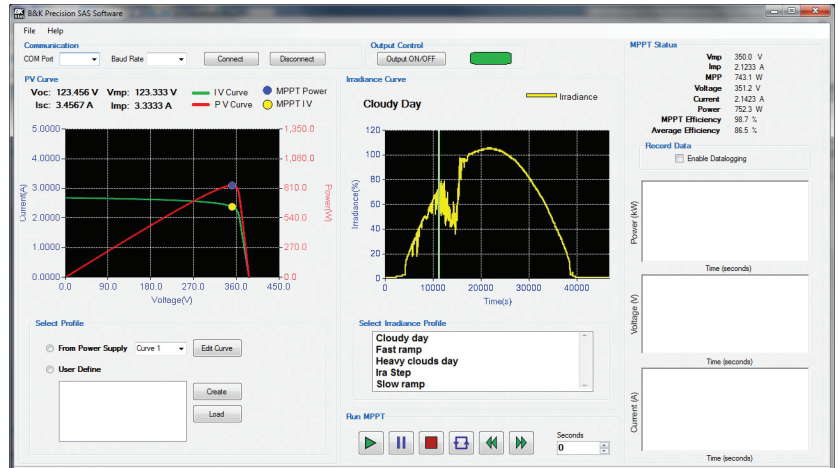
| Model | Description | Max Power | Max Voltage (rms) | Max Current (rms) | Frequency | AC Input | Interfaces | Other Features |
|--------|-----------------------------------|-----------|-------------------|---|---------------------|----------------------------------|----------------------------------|--|
| 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.

- Variety of input parameters ($V_{oc}/I_{sc}/V_{mp}/I_{mp}/FF/FF_v/FF_i$)
- 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



Compatible with PVS Series and MR Series power supply models

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.

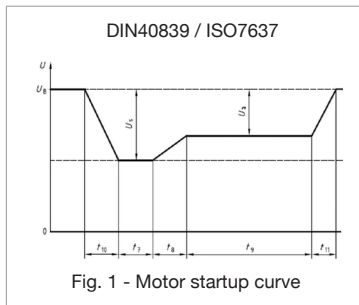


Fig. 1 - Motor startup curve

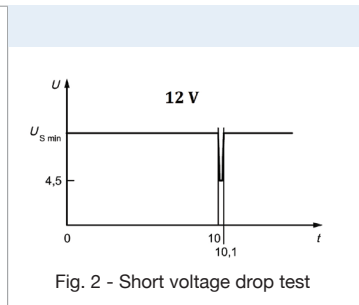


Fig. 2 - Short voltage drop test

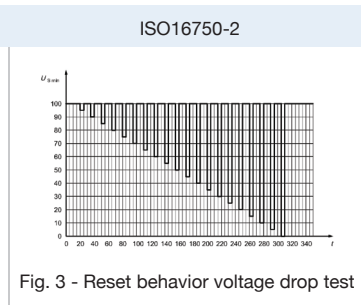


Fig. 3 - Reset behavior voltage drop test

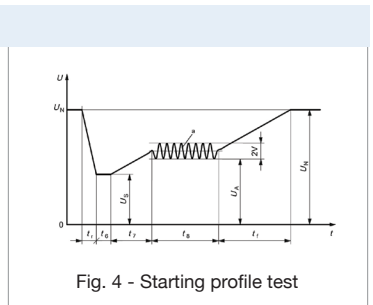


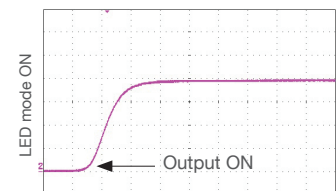
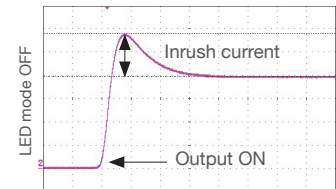
Fig. 4 - Starting profile test

LED mode

With LED mode active, inrush current will be eliminated or minimized to protect the UUT.



9170B Series / 9180B Series / 9240 Series

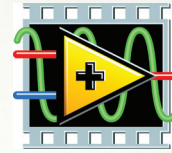


Current flow during power up with LED mode enabled

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



National Instruments certified LabVIEW drivers provided

Additional Resources

Power Supply Guide

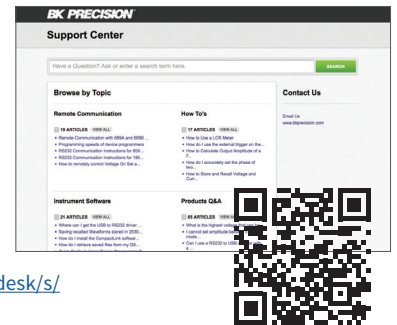
Download our free Power Supply Guide to learn more about different types of power supplies and the technology behind them. The guide also covers related terms, specifications, and usage examples. <https://www.bkprecision.com/support/downloads/power-supply-guide.html>



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>

