

# POWER SUPPLIES



**For the ATE user**, ease of system integration is important. The XLN series' compact size, and high power density with fast processing times below 50ms, make for easy integration into test systems, while front to rear airflow circumvents interference with other mounted devices. The list mode feature lets users create up to 150-step test sequences, which are executed from internal memory.



**B&K Precision** offers a full range of quality power supplies to meet your power needs in a variety of applications such as education, design, service, maintenance, and manufacturing.

- Basic to high performance
- 30 W to 1440 W
- Single and multiple outputs
- Non programmable and programmable, supporting all industry standard interfaces (USB, GPIB, LAN)
- Technologies: Linear, switching, mixed mode, multi range (auto), dual range



Model 9130



Model 9150



# POWER SUPPLIES

## Selection Guide

**Performance:** These power supplies offer high speed and accuracy combined with advanced features such as DUT protection, list mode, and full programmability. All supplies offer SCPI compatible command set and come with Labview drivers. Ideal for R&D and ATE applications.

**Value:** These power supplies are targeted towards users who need features not found in the value line such as remote sense. Many models offer a programming interface, but programmability is often limited and not SCPI compliant. Speed and accuracy are less important. Ideal for most general purpose applications.

**Basic:** These power supplies offer the best in simplicity with their easy-to-use functions. All supplies provide can be controlled from the front panel only, and many models come with analog meters. Ideal for students, hobbyists, service and repair personnel and other users that do not need all the extras.

**Specialty:** These AC power supplies and AC transformers are geared towards users with unique applications dealing with AC power.

	Max. Voltage (V)	Max. Current (A)	Power (W)	Number of Outputs	Number of Ranges	Display (Meter)	Model	Page		
Basic	13.8 (Fixed)	4	55.2	1	Fixed	None	1680	22		
	13.8 (Fixed)	12	165.6			None	1682A	22		
	30	1	30			2 analog	1710A	21		
	18	5	90			2 analog	1620A	21		
	18	5	90			Dual 3-digit LED	1621A	21		
	60	1.5	90			Dual 3-digit LED	1623A	21		
	30	3	90			2 analog	1626A	21		
	30	3	90			Dual 3-digit LED	1627A	21		
	30	3	90			2 analog	1730A	21		
	30	3	90			Dual 4-digit LED	1735A	21		
	36	3	108			LCD	1550	23		
	60	2	120			2 analog	1711A	21		
	60	2	120			Dual 4-digit LED	1715A	21		
	16	10	160			1	1	2 analog	1746B	21
	14*	12A @ 14V	168					2 analog	1686A	22
	60	3.3	198					Dual 3-digit LED	1667	22
	19.99	9.999	199.88					Dual 3 1/2-digit LED	1665	22
	40	5	200	Dual 3-digit LED	1666			22		
	35	6	210	Dual 4-digit LED	1743B			21		
	60	4	240	2 analog	1740B			21		
	14*	20A @ 14V	280	2 analog	1688A			22		
	35	10	350	2 analog	1744A			21		
	35	10	350	Dual 4-digit LED	1745A			21		
15	28A @ 13.8V	386.4	2 analog	1689	22					
15	28A @ 13.8V	386.4	Dual 3-digit LED	1690	22					
15*	40	600	Dual 3-digit LED	1692	22					
60	5	100 (max.)	1	Auto	Dual 4-digit LED	9110	23			
30, 12 (Fixed), 5 (Fixed)	3, 0.5, 0.5	98.5	3	1	Dual 3-digit LCD	1670A	22			
30, 12 (Fixed), 5 (Fixed)	5, 0.5, 0.5	158.5			Dual 3-digit LCD	1671A	22			
Specialty AC Power Supplies	117-124	1.25	155	-	-	None	1604A	23		
	0-150	2 (continuous)	300	-	-	1 analog	1653A	23		
	0-150	4 (intermittent)	450	-	-	1 analog	1655A	23		
			Direct: 500 VA continuous, Isolated: 350 VA continuous, 500 VA intermittent	-	-	None	TR110	23		

\*= variable from 3 V to Vmax

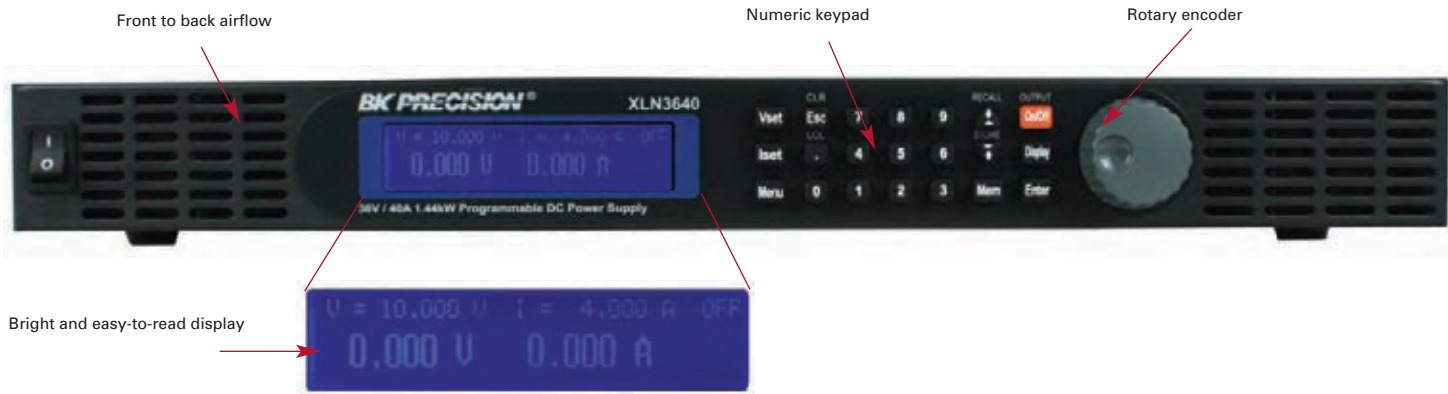
# POWER SUPPLIES Selection Guide

	Max. Voltage (V)	Max. Current (A)	Power (W)	Number of Outputs	Number of Ranges	Display (Meter)	Ripple & Noise (mV/p-p)	Programming Accuracy	Transient Response	Computer Interface	Model	Page	
<b>Performance</b>	72	1.2	86.4	1	1	VFD	≤5	<0.03%+6 mV <0.05%+1 mA	<150 us	USB, RS232	9124	18	
	32	3	96			VFD	≤4	<0.03%+3 mV <0.05%+2 mA	<150 us	USB, RS232	9120A	18	
	20	5	100			VFD	≤3	<0.03%+3 mV <0.05%+2 mA	<150 us	USB, RS232	9121A	18	
	60	2.5	150			VFD	≤5	<0.03%+6 mV <0.05%+1.5 mA	<150 us	USB, RS232	9122A	18	
	30	5	150			VFD	≤4	<0.03%+3 mV <0.05%+2.5 mA	<150 us	USB, RS232, GPIB	9123A	18	
	5.2	60	312			VFD	≤4	<0.02%+2 mV <0.1%+30 mA	<100 us	USB, RS232	9150	18	
	20	27	540			VFD	≤4	<0.02%+6mV <0.1%+15 mA	<120 us	USB, RS232	9151	18	
	30	18	540			VFD	≤4	<0.02%+6 mV <0.1%+15 mA	<100 us	USB, RS232	9152	18	
	60	9	540			VFD	≤5	<0.02%+12 mV <0.05%+10 mA	<50 us	USB, RS232	9153	18	
	100	14.4	1440			LCD	≤80	<0.05%+25 mV <0.05%+6 mA	<1 ms	USB, RS485**	XLN10014	16	
	100	14.4	1440			LCD	≤80	<0.05%+25 mV <0.05%+6 mA	<1 ms	USB, RS485**, GPIB, LAN	XLN10014-GL	16	
	36	40	1440			LCD	≤60	<0.05%+10 mV <0.05%+10 mA	<1 ms	USB, RS485**	XLN3640	16	
	36	40	1440			LCD	≤60	<0.05%+10 mV <0.05%+10 mA	<1 ms	USB, RS485**, GPIB, LAN	XLN3640-GL	16	
	60	24	1440			LCD	≤70	<0.05%+15 mV <0.05%+18 mA	<1 ms	USB, RS485**	XLN6024	16	
	60	24	1440			LCD	≤70	<0.05%+15 mV <0.05%+18 mA	<1 ms	USB, RS485**, GPIB, LAN	XLN6024-GL	16	
	80	18	1440			LCD	≤80	<0.05%+20 mV <0.05%+7 mA	<1 ms	USB, RS485**	XLN8018	16	
80	18	1440	LCD	≤80	<0.05%+20 mV <0.05%+7 mA	<1 ms	USB, RS485**, GPIB, LAN	XLN8018-GL	16				
30 (Ch1 & Ch2), 5 (Ch3)	3 (Ch1, Ch2, Ch3)	195	3	1	VFD	≤3	<0.03%+10 mV, <0.1%+5 mA	<500 us for Ch1&2, <200 us for Ch3	USB, RS232*	9130	18		
<b>Value</b>	<b>Non Programmable</b>	32	20	1	1	Dual 3-digit LED	≤1	--	--	None **	1790	20	
		64	10			Dual 3-digit LED	≤1	--	--	None **	1791	20	
		16	50			800	Dual 3-digit LED	≤1	--	--	None **	1796	20
		32	30			960	Dual 3-digit LED	≤1	--	--	None **	1794	20
		64	15			960	Dual 3-digit LED	≤1	--	--	None **	1795	20
		24 (A&B), 5 (Fixed)	0.5 (A&B), 4 (Fixed)			44	3	1	2 analog	≤2, ≤5	--	--	None
	24 (A&B), 5 (Fixed)	0.5 (A&B), 4 (Fixed)	44	Dual 3-digit LED	≤2, ≤5	--			--	None	1652	20	
	30 (A&B), 6.5 ***	2 (A&B), 5	92.5	Dual 4-digit LED	≤1	--			--	None	1760A	20	
	32 (A&B), 5 (Fixed)	0-3 (A&B), 3 (Fixed)	111	Quad 3-digit LED	≤1	--			--	None	1672	20	
	35 (A&B), 6.5***	3 (A&B), 5	137.5	Dual 4-digit LED	≤1	--			--	None	1761	20	
	60 (A&B), 6.5***	2 (A&B), 4	146	Dual 4-digit LED	≤1, ≤2	--			--	None	1762	20	
	<b>Programmable</b>	18	5	90	1	1	Dual 3-digit VFD	≤1	--	--	RS232, USB*	1785B	19
32		3	96	Dual 3-digit VFD			≤1	--	--	RS232, USB*	1786B	19	
72		1.5	108	Dual 3-digit VFD			≤1	--	--	RS232, USB*	1787B	19	
32		6	192	Dual 3-digit VFD			≤1	--	--	RS232, USB*	1788	19	
60		3.3	198	4-digit LCD			≤9	--	--	RS232, RS485*	1698	19	
20		9.99	199.8	4-digit LCD			≤9	--	--	RS232, RS485*	1696	19	
40		5	200	4-digit LCD			≤9	--	--	RS232, RS485*	1697	19	
17.5(R1) / 35(R2)		6, 3	210	1			2	4-digit LCD	≤1	--	--	GPIB	1770

\*= Optional    \*\*= can be controlled remotely via analog interface    \*\*\*= variable, but range is very limited

# POWER SUPPLIES

## Performance



### New Family of High Density System Power Supplies

The B&K Precision XLN series are compact, programmable, single-output DC power supplies, suitable for a wide range of applications. Comparable supplies from other manufacturers primarily address the ATE market only, while the XLN series are designed for both bench-top users and system integrators.

For bench top applications, these power supplies offer built-in voltage and current meters displaying setting and output values concurrently, as well as an intuitive user interface with full keypad and rotary knob.

Free application software is available to provide remote control capabilities without the need for any computer programming. Standard USB & RS485 and optional GPIB & LAN interfaces combined with fast average command processing times of less than 50 ms make the XLN series ideal for ATE applications. The XLN series support SCPI IEEE488.2 and come with LabVIEW™ drivers.



\*) -GL version

### Features & Benefits

- Compact, high density, 1U package
- 1 mV/1 mA resolution
- USB interface (standard) and GPIB/LAN (optional)
- External analog programming interface
- List mode for executing up to 150 step test sequences from instrument memory
- Fast command processing time < 50 ms
- Programmable voltage and current slew rate allow for "soft starting" of loads
- Built-in precise voltage and current measurements
- Internal memory stores up to 10 different instrument settings
- Extensive protection features: OVP, OCP, OPP, and key-lock function
- Control up to 31 XLN power supplies from one PC via the RS485 interface
- 100-240V universal AC input with power factor correction
- Timer-controlled output (1s to 100 hr)
- LabVIEW™ drivers available

Features	XLN3640	XLN6024	XLN8018	XLN10014
Output Voltage	0-36 V	0-60 V	0-80 V	0-100 V
Output Current	0-40 A	0-24 A	0-18 A	0-14.4 A
GPIB & LAN version	XLN3640-GL	XLN6024-GL	XLN8018-GL	XLN10014-GL
Dimensions (W x H x D)	16.5" x 1.7" x 17" (420 x 43.6 x 432) mm			
Weight	19.8 lbs (9 kg)			

### Rack Mount Kit (included)



Ears and Handles

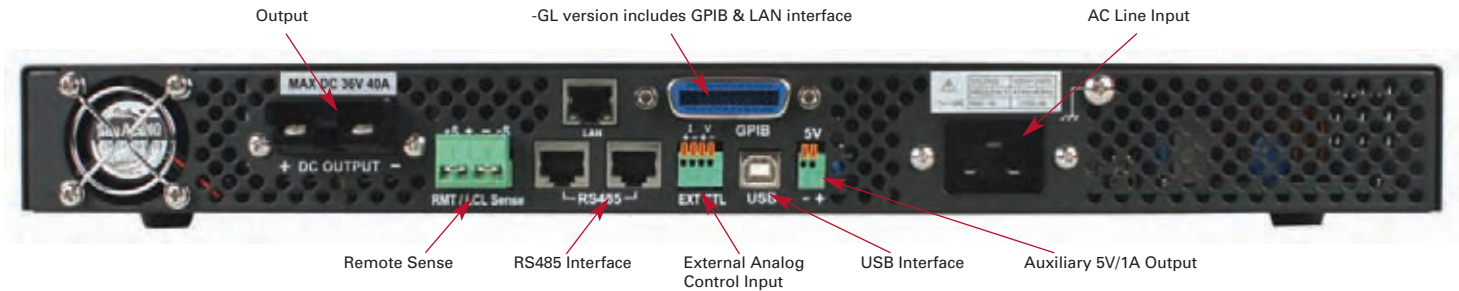
### Output Connectors (included)



Solder Type Terminal Block

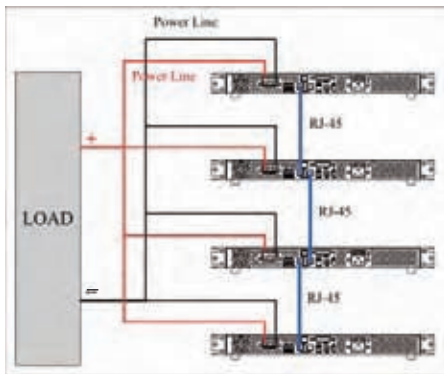
Screw Type Terminal Block



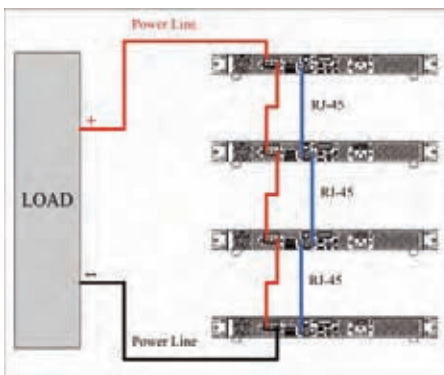


### Master/Slave Operation

Up to 4 units can be connected in parallel or series and operate in master or slave mode. The RS485 interface is used for communication between the master and slave(s). Once configured, the master will automatically search for and detect slave units and then display the voltage and current of the complete system.



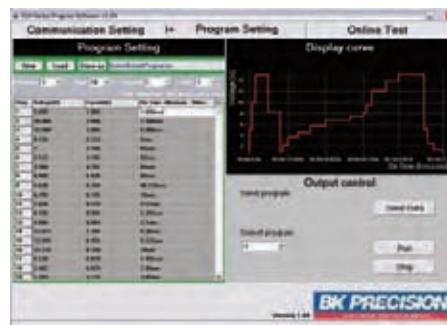
Parallel Configuration



Series Configuration

### Application Software

Included with the power supply is PC software for creating test sequences for execution in list mode via the GPIB or USB interface.



Generate, save & load program lists. View output characteristic curves and export data to a file.

### Test Sequence Execution in List Mode

The list mode feature allows users to download a list of commands to the power supply's internal memory and execute them. A total of 150 steps can be allocated to each internal memory location, up to a maximum of 10 locations. The test sequence can be programmed remotely via the USB, GPIB or LAN interfaces using SCPI commands or with the included application software. The test sequence can be configured for one time or repeated execution. Each step settings include voltage, current, and duration of the step (50 ms minimum).

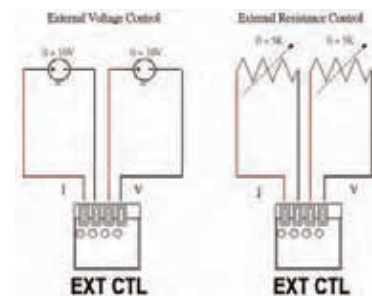
### Web Server Interface

XLN series power supplies with GPIB/LAN interfaces provide a built-in web server. This allows users to configure, control, or monitor the basic settings of the power supply from a remote computer using a web browser.



Interface for controlling voltage, current, and output state.

### External Analog Programming Interface



The output voltage and current can be controlled by either analog voltages or resistances. 0-10 V voltages and 0-5 kΩ resistances control from zero to full scale output.

# POWER SUPPLIES

## Performance



9150 series



Model 9130

The 9120A and 9150 series are high performance linear-regulated programmable DC power supplies that provide excellent performance and features not found in other power supplies of the same price category. These power supplies are designed for applications in design verification, production testing, or university labs where the user requires clean, reliable power combined with high resolution/accuracy and a fast transient response time.

### Features & Benefits

- Very low ripple and noise due to linear regulation
- Excellent display resolution
- Fast transient response time (<150 μs all models)

- Programmable via USB and RS232 using SCPI compatible command set
- List mode operation for increased throughput
- Intelligent fan speed control for quiet operation
- For bench use or rack mountable
- Closed case calibration

The 9130 is a fully programmable triple output DC power supply delivering 0-30V/0-3 A on 2 outputs and 0-5 V/0-3 A on 1 output. The 9130 is ideally suited for applications in electronic test, production, and service where multiple independent DC supplies are required and bench space is at a premium.

### Features & Benefits (model 9130)

- 3 independent, fully programmable, floating and electrically isolated outputs
- Series or parallel operation to produce higher voltages or currents
- Display and adjust voltage and current settings for all 3 channels simultaneously
- Very compact footprint
- Programmable via USB to TTL interface
- OVP (Over Voltage Protection) and OTP (Over Temperature Protection)
- Application software for front panel emulation and simple test sequence generation included
- Closed case calibration

Features	9120A	9121A	9122A	9123A	9124	9150	9151	9152	9153	9130
Output Ratings (0° C ~ 40° C)	0~32 V 0~3 A	0~20 V 0~5 A	0~60 V 0~2.5 A	0~30 V 0~5 A	0~72 V 0~1.2 A	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	0~3 V(1&2), 0~5 V(3) 0~3 A(1&2), 0~3 A(3)
Load Regulations ±(% of output+offset)	<0.01%+2 mV <0.05%+1 mA	<0.01%+2 mV <0.05%+0.5 mA	<0.01%+2 mV <0.05%+1.5 mA	<0.01%+2 mV <0.05%+0.3 mA	<0.01%+0.5 mV <0.1%+10 mA	<0.01%+0.5 mV <0.1%+10 mA	<0.01%+1 mV <0.1%+2 mA	<0.01%+3 mV ≤0.01%+3 mA	<0.01%+3 mV ≤0.01%+3 mA	<0.01%+3 mV ≤0.01%+3 mA
Ripple & Noise	≤4 mVp-p	≤3 mVp-p	≤5 mVp-p	≤4 mVp-p	≤5 mVp-p	≤4 mVp-p	≤4 mVp-p	≤5 mVp-p	≤5 mVp-p	≤1 mVrms/3 mVp-p
Weight	19.8 lbs (9 kg)		21.2 lbs (9.6 kg)		19.8 lbs (9 kg)		63.9 lbs (29 kg)			19.8 lbs (9 kg)
Dimensions (WxHxD)			8.45" x 3.8" x 13.9" (214.5 x 88.2 x 354.6) mm				16.88" x 3.47" x 18.06" (429 x 88.2 x 458.9) mm			3.47" x 8.45" x 13.9" (88.2 x 214.5 x 354.6) mm



Model 1787B



Model 1696



Model 1770

**Models 1785B, 1786B, 1787B, and 1788** are programmable DC power supplies offering a new level of “ease-of-use” and programmability in a low-cost package.

**The 1696, 1697, and 1698** DC switching mode programmable power supplies generate 200 watts of output power at a lower cost than traditional linear power supplies

**The 1770** is a versatile dual range power supply offering excellent reliability. GPIB programming interface is standard.



#### Features & Benefits

- Sixteen user programmable preset outputs
- Controllable output On/Off switch
- 10 mV/10 mA display resolution
- Bright VFD display
- Closed case calibration for simple, uninterrupted operation
- Low ripple and noise
- Excellent temperature stability
- Serial interface cable and remote control software included
- OVP, OCP, and OTP protection

#### Features & Benefits

- RS 232 and RS485 (adapter required) interface
- Application software providing data logging capability
- Output disable
- Over voltage protection
- Constant voltage and constant current (current limiting) operation
- Large easy-to-read LCD displays

#### Features & Benefits

- Dual range outputs, either 0 to 17.5 V, 0 to 6 A or 0 to 35 V, 0 to 3 A
- Excellent programming resolution and accuracy
- Integral system software makes in case calibration quick and accurate
- Large character LCD display assures fast, “easy to read” measurements
- Great reliability (50K hrs. MTBF)

Voltage (V)	Current (A)	Power (W)	Computer Interface	Weight	Dimensions (W x H x D)	Model
0-18	0-5	90	RS232, USB*	11 lbs (5 kg)	8.07" x 4.53" x 10.63" (205 x 115 x 270) mm	1785B
0-32	0-3	96	RS232, USB*			1786B
0-72	0-1.5	108	RS232, USB*			1787B
0-32	0-6	192	RS232, USB*			1788
1-60	0-3.3	198	RS232, RS485*	6.61 lbs (3 kg)	7.6" x 3.85" x 8.46" (193 x 98 x 215) mm	1698
1-20	0-9.99	199.8	RS232, RS485*			1696
1-40	0-5	200	RS232, RS485*			1697
0-17.5; 0-35	0-6; 0-3	210	GPIB	18 lbs (8.1 kg)	8.4" x 5.2" x 15.7" (213 x 132 x 398) mm	1770

\*= optional



# POWER SUPPLIES

## Value

### Non-Programmable DC Power Supplies



Model 1760A



Model 1795

The **1651A and 1652** triple output DC power supplies offer two 0 - 24 VDC/ 0 – 500 mA outputs, and one fixed 5 VDC/ 0 – 4 A output in a compact package.

The **1672** quad display triple output DC power supply provides one fixed output (5 V/ 3 A) and two variable outputs (0 – 32 V/ 0 – 3 A). The four digit displays allow the user to continuously monitor the voltage and current values of the two main outputs.

The **1760 series** triple output DC power supplies with coarse and fine adjustment knobs for volts are ideal for power sensitive applications. The 4-digit LED display offers 10 mV and 1 mA resolution, providing the capability to set voltage and current values more accurately than 3 digit displays found in most comparable power supplies.

The **1790 series** are cost effective, high power, linear DC power supplies, ideal for telecom or any other applications requiring low noise output. Special features include the ability to set constant current with no load and remote sense to compensate for any wire loss.

#### Common Features & Benefits

- Independent or series tracking/parallel mode operation to double voltage or current
- Adjustable current limiting
- Designed to operate continuously at rated output
- Short circuit protection, over voltage protection, reverse polarity protection
- Constant voltage (CV) and constant current (CC) operation

#### Features & Benefits

- Constant voltage (CV) and constant current (CC) operation
- Remote programming
- Separate DC output on/off switch
- High stability and excellent regulation ( $\pm 0.01\%$ )

	Voltage (V)	Current (A)	Display (meter)	Ripple & noise (mVrms)	Weight	Dimensions (W x H x D)	Model
Triple Output	0-24 (A&B), 5 (Fixed)	0-0.5 (A&B), 4 (Fixed)	2 Analog	$\leq 2, \leq 5$	10.5 lbs (4.8 kg)	11.75" x 5.5" x 10.97" (298 x 140 x 264) mm	1651A
	0-24 (A&B), 5 (Fixed)	0-0.5 (A&B), 4 (Fixed)	Dual 3-digit LED	$\leq 2, \leq 5$			1652
	0-30 (A&B), 4-6.5	0-2 (A&B), 5	Dual 4-digit LED	$\leq 1$	21 lbs (9.5 kg)	10.5" x 5.7" x 15" (267 x 145 x 381) mm	1760A <sup>o</sup>
	0-32 (A&B), 5 (Fixed)	0-3 (A&B), 3 (Fixed)	Quad 3-digit LED	$\leq 1$	12.6 lbs (5.7 kg)	6.7" x 9" x 12.2" (170 x 230 x 310) mm	1672 <sup>o</sup>
	0-35 (A&B), 2-6.5	0-3 (A&B), 5	Dual 4-digit LED	$\leq 1$	21 lbs (9.5 kg)	10.5" x 5.7" x 15" (267 x 145 x 381) mm	1761 <sup>o</sup>
	0-60 (A&B), 4-6.5	0-2 (A&B), 4	Dual 4-digit LED	$\leq 1, \leq 2$			1762
High Current	0-32	0-20	Dual 3-digit LED	$\leq 1$	55 lbs (24.9 kg)	19" x 5.25" x 15.75" (483 x 133 x 400) mm	1790
	0-64	0-10	Dual 3-digit LED	$\leq 1$			1791
	0-16	0-50	Dual 3-digit LED	$\leq 1$	62 lbs (28.1 kg)		1796
	0-32	0-30	Dual 3-digit LED	$\leq 1$			1794
	0-64	0-15	Dual 3-digit LED	$\leq 1$			1795



### Single Output DC Power Supplies



Model 1627A



Model 1745A



Model 1735A

The **1620A series** are rugged, compact, low-cost DC regulated power supplies providing clean and stable DC power.

#### Common Features & Benefits

- Constant voltage (CV) and constant current (CC) operation
- Operate continuously at full load without overheating
- Multiple units can be connected in series or parallel to provide higher output voltage or current
- Continuously monitor voltage and current output on two meters

The **1740B series** offers analog and digital displays, coarse and fine voltage and current controls and a convenient output-shorting button, allowing the user to short the output terminals to set the current limit.

- Coarse and fine voltage controls
- Excellent line and load regulation
- Low ripple and noise
- Overload protection
- Ideal for service shops, engineering labs, production testing, and home use by hobbyists

The **1710A and 1730A series** are high quality, general purpose DC power sources. They provide exceptional control and accuracy with dual high-resolution, 4-digit LED or analog readouts at a very reasonable price.

Output Voltage	Output Current	Ripple & noise (mV rms)	Display (meter)	Weight	Dimensions (W x H x D)	Model
0-18 V	0-5 A	0.5 mV rms (Typical)	2-Analog	13.2 lbs (6 kg)	4.53" x 8.07" x 10.63" (205 x 115 x 270) mm	1620A
0-18 V	0-5 A	0.5 mV rms (Typical)	Dual 3-digit LED	16.3 lbs (7.4 kg)		1621A
0-60 V	0-1.5 A	0.5 mV rms (Typical)	Dual 3-digit LED	16.3 lbs (7.4 kg)		1623A
0-30 V	0-3 A	0.5 mV rms (Typical)	2-Analog	13.2 lbs (6 kg)		1626A
0-30 V	0-3 A	0.5 mV rms (Typical)	Dual 3-digit LED	16.3 lbs (7.4 kg)		1627A
0-30 V	0-1 A	1 mV rms	2-Analog	8 lbs (3.6 kg)	5.5" x 6.2" x 12.5" (140 x 158 x 318) mm	1710A <sup>0</sup>
0-60 V	0-2 A	1 mV rms	2-Analog	12 lbs (5.4 kg)		1711A <sup>0</sup>
0-60 V	0-2 A	1 mV rms	Dual 4-digit LED	12 lbs (5.4 kg)		1715A <sup>0</sup>
0-30 V	0-3 A	1 mV rms	2-Analog	10.5 lbs (4.7 kg)		1730A <sup>0</sup>
0-30 V	0-3 A	1 mV rms	Dual 4-digit LED	10.5 lbs (4.7 kg)		1735A <sup>0</sup>
0-60 V	0-4 A	1 mV rms (Typical)	2-Analog	23 lbs (10.4 kg)	10.5" x 5.7" x 15" (267 x 145 x 381) mm	1740B <sup>0</sup>
0-35 V	0-6 A	1 mV rms (Typical)	Dual 4-digit LED	24 lbs (10.8 kg)		1743B
0-16 V	0-10 A	1 mV rms (Typical)	2-Analog	20 lbs (9 kg)		1746B <sup>0</sup>
0-35 V	0-10 A	1 mV rms (Typical)	2-Analog	31 lbs (14.1 kg)		1744A
0-35 V	0-10 A	1 mV rms (Typical)	Dual 4-digit LED	31 lbs (14.1 kg)		1745A



# POWER SUPPLIES

## Basic

### Switching DC Power Supplies



Model 1692

#### Model 1692

- Variable output 3 V to 15 V at 40 A
- Lightweight, and compact
- High efficiency
- Current fold-back circuitry with illuminated indicator prevents overloading the power supply
- Over temperature protection (OTP)
- Over voltage protection (OVP) prevents abnormal high output voltage

#### 1686A & 1688A

- 3 to 14 V variable output with fixed 13.8 V output switch
- 20 A guaranteed @ 13.8 V (1688 A), 12 A guaranteed @ 13.8 V (1686 A)
- Current foldback overload protection
- Thermostatically controlled cooling fan
- Ideal for automotive applications



Model 1665

**Models 1665, 1666 & 1667** power supplies use new switching technologies to offer more power at a lower cost than traditional linear power supplies.

- Bright LED display
- Coarse and Fine voltage and current control
- Over voltage and short circuit protection
- Constant voltage (CV) and Constant Current (CC) operation

#### Models 1689 & 1690

- 1 to 15 V variable output
- 28 A @ 13.8 V
- Current foldback overload protection
- High RFI stability
- Thermostatically controlled cooling fan
- Ideal for automotive applications

### Triple Output DC Power Supplies



Model 1670A

#### Models 1670A & 1671A



- 3-digit, triple output regulated DC power supplies
- One variable 0-30 VDC / 3 A (1670A), 5 A (1671A) output
- One 12 VDC, one 5 VDC fixed output
- Bright 3 1/2 digit LED display
- CV and CC operation
- Ideal for school electronics labs, and hobbyists projects

### Fixed DC Power Supplies

#### Models 1680 & 1682A

- Fixed 13.8 VDC output for automotive applications
- 6 A peak (1680), 15 A peak (1682A)
- Current foldback overload protection
- Thermostatically controlled cooling fan (Model 1682A)
- Convenient cigar lighter output (1680)

	Output Voltage	Output Current	Ripple & Noise	Meter Type	Weight	Dimension (W x H x D)	Model
Switching	1-19 V	0-10 A	20 mV	2 Digital 3 1/2 Digit LED	6.6 lbs (3 kg)	8" x 4.5" x 10.8" (203 x 114 x 274) mm	1665
	1-40 V	0-5 A		2 Digital 3 Digit LED			1666
	1-60 V	0-3.3 A		Precision Analog			1667
	3-14 VDC	12 A @ 13.8 V	12 A @ 13.8 V	Precision Analog	12.1 lbs (5.5 kg)	8.5" x 4.9" x 11.5" (216 x 124 x 292) mm	1686A
	3-14 VDC	20 A @ 13.8 V	20 A @ 13.8 V	Precision Analog	19.8 lbs (9 kg)		1688A
	1-15 V	28 A @ 13.8 V	28 A @ 13.8 V	Precision Analog	19.9 lbs (9kg)	5.5 x 9.84 x 8.86" (140 x 250 x 225) mm	1689
	1-15 V	28 A @ 13.8 V	28 A @ 13.8 V	Digital LED	19.9 lbs (9kg)	1690	
3 - 15 V or fixed 13.8 VDC	40A continuous	40A continuous	Dual color digital LED	7.7 lbs (3.5 kg)	4.33 x 8.67 x 11.82" (110 x 220 x 300) mm	1692	
Triple Output	Main 0-30 VDC Fixed 12 VDC ±5% Fixed 5 VDC ±5%	0-3 A Main Fixed 0-500 mA continuous Fixed 0-500 mA continuous	≤5 mVrms	2 Digital 3 Digit LED	10.5 lbs (4.5 kg)	8.5" x 4.9" x 11.5" (216 x 124 x 292) mm	1670A
	Main 0-30 VDC Fixed 12VDC ±5% Fixed 5 VDC ±5%	0-5 A Main Fixed 0-500 mA Fixed 0-500 mA	≤1 mVrms		14.3 lbs (6.5 kg)		1671A
Fixed	Fixed 13.8 V ±0.5 V	6 ADC peak, 4 ADC continuous	≤ 6 mVrms	--	6.5 lbs (2.9 kg)	6.31" x 3.62" x 6.75" (160 x 92 x 170) mm	1680
	Fixed 13.8 V ±0.5 V	15 ADC peak, 12 ADC continuous	≤ 10 mVrms	--	15 lbs (6.75kg)	4.5" x 8.1" x 10.6" (115 x 205 x 270) mm	1682A

### Multi Range DC Power Supply

Unlike conventional power supplies with fixed output ratings, the 9110 is a new type of power supply that automatically recalculates voltage/current limits for each setting. The 9110 provides 100 W output power in any Volt/Amp combination within the rated voltage (60 V) and current (5 A) limits.



#### Features & Benefits

- 60 V/ 5 A, max 100 W output
- 10 mV/1 mA resolution over the full range
- Bright, easy to read display
- Very compact size and lightweight
- Low ripple and noise
- Output On/Off control
- Store and recall 4 x 100 groups of pre set voltage and current values
- Intelligent fan control

### Switching DC Power Supply with USB Charger

The 1550 is a compact 108 watt power supply delivering 1-36 V and 0-3 A from its main isolated output. A unique feature of the 1550 power supply is the USB 1.1 charging port located on the front panel allowing the user to charge a cell phone or MP3 player.



#### Features & Benefits

- USB charging port on front panel\*
- Rear panel security loop
- Output On/Off control
- Large bright, easy to read LCD display
- Constant voltage and constant current operation

\* Charging port is USB 1.1 & 2.0 compatible. It will not charge USB 2.0 only devices

### AC Power Supplies (Specialty)



Model 1655A



Model TR110



Model 1604A

The **1604A** (single output) and **TR110** (dual output) isolation transformers provide the necessary safety factor for servicing any transformerless AC powered equipment.

#### Model 1604A

- Leakage: less than 0.1 mA
- Output Voltage: 117-124 V nominal (120 V input)
- Output Current: 1.25 A continuous

The **1653A** and **1655A** variable isolated AC power supplies are great for testing AC line voltage variations or any given product requiring AC power.

#### Model 1653A

- Variable isolated 0-150 VAC
- 2 A continuous output
- Displays voltage or current readings
- Isolation transformer to eliminate shock hazard while servicing "hot chassis" equipment

#### Model 1655A

- Variable-isolated output-0-150 VAC
- 3 A continuous, 4 A intermittent output
- Built-in soldering iron temperature control (additional AC receptacle for soldering iron on rear panel)
- Expanded leakage scale
- Circuit breaker overload protection
- Displays V, A, VA, leakage

#### Model TR110

- Direct: Convenience duplex outlet provides line voltage for auxiliary equipment up to 500 VA
- Isolated: Two 3-position slide switches provide 9 combinations of voltage selection from 90 to 140 V, up to 350 VA continuous or 500 VA intermittent
- Self-contained power switch with pilot lamp