LLS SERIES SPECIFICATIONS

AC Input
line . . . . . .85 to 132VAC or 170 to 265VAC, user selectable 47-440 Hz.

Input Power

Model	Power (Max.)	Current (RMS Max.)	Efficiency (Min. @ Max. P_{out})
LLS-3000	62W	1.2A	45%
LLS-4008, 4018	87W	1.5A	50%
LLS-4040, 4060, 4120, 4300	87W	1.5A	55%
LLS-5008, 5018	135W	2.7A	60%
LLS-5040, 5060, 5120, 5300	135W	2.7A	65%
LLS-6008, 6018, 6040, 6060, 6120, 6300	245W	4.2A	65%
LLS-7040, 7060, 7120	450W	7.5A	75%
LLS-8008, 8018	620W	10.0A	68%
LLS-8040, 8060, 8120	620W	10.0A	73%
LLS-9008	1100W	17.5A	72.5%
LLS-9018, 9040	1100W	17.5A	75%
LLS-9060, 9120, 9300	1100W	17.5A	77.5%

DC Output
Voltage range shown in table.

Regulated Voltage (Constant)
regulation, line . . . . . .0.05% for line variations from 85 to 132VAC or 170 to 265VAC. 0.01% + 1mV for LLS-3000.
regulation, load . . . . . .0.05% for load variations from 0 to full load. 0.01% + 1mV on LLS-3000 Series.
remote programming resistance . . .Customer adjustable from 200Ω/Volt to 1000Ω/Volt. 200Ω/Volt on LLS-3008, LLS-3060. 400Ω/Volt on LLS-3120. 1000Ω/volt on LLS-4300, LLS-5300, LLS-6300 and LLS-9300.
remote programming voltage . . . . .Volt per volt or 0-5 volt signal using an isolated voltage source for zero to full voltage out, customer selectable.
ripple and noise (20MHz Bandwidth) . . . . . .5mV RMS, 35mV pk-pk on 8V and 18V models. 10mV RMS, 75mV pk-pk on 40V and 60V models. 20mV RMS, 150mV pk-pk on 120V models and LLS-6300, LLS-9300. 1mV RMS, 5mV pk-pk on all LLS-3000 models. 35mV RMS, 300mV pk-pk on LLS-4300 and LLS-5300.
temperature coefficient . . . . . .0.03%/°C. 0.01%/°C on LLS-3000 Series.

Constant Current
(Current regulated line and load) Automatic Crossover.
current range . . . . . .5% to full load current. 1% on all LLS-3000 models.
regulation, line . . . . . .0.3% of Io (max) for line variations from 85 to 132VAC or 170 to 265VAC. 2.5mA or 1% (whichever is greater) on LLS-3000. 2.5mA or 0.3% (whichever is greater) on LLS-4000 models. 2.5mA on LLS-5300.
regulation, load . . . . . .0.3% of Io (max) for load variations from short circuit to rated DC voltage. 2.5 mA or 1% (whichever is greater) on LLS-3000 models. 2.5mA or 0.3% (whichever is greater) on LLS-4000 models. 2.5mA on LLS-5300.
remote programming current . . . . .0-5V isolated signal for zero to Io(max).
current ripple . . . . . .1.0% Io(max) RMS.

Thermal Protection
Internal temperature sensing circuit protects unit from excessive ambient temperature on the LLS-3000, 4000, 5000 and 7000 Series. The LLS-6000, 8000 and 9000 Series are protected from inadequate air velocity by an internal airflow sensing circuit. A front panel LED indicator will light upon shutdown. AC power must be recycled.

Overcurrent Protection
Adjustable, automatic self-resetting electronic current-limiting is included.

Overvoltage Protection
Adjustable overvoltage protection removes the inverter drive in the event of an OV condition. AC power must be recycled in order to restore operation.

In-Rush Current Limiting
Limits in-rush current at turn-on to 20A when connected for 110VAC input and 40A when connected for 220VAC input. 90A on LLS-3000 Series. 30A on LLS-7000.

Remote Sensing
Provision is made for remote sensing to eliminate effect of power output lead resistance on DC regulation.

Remote On/Off
A TTL compatible isolated source or contact closure low voltage or short enables the unit. A TTL compatible high voltage or open circuit turns the unit off.

Operating Temperature Range
Continuous duty from 0°C to 71°C with appropriate deratings from 40°C to 71°C. (0-60°C for LLS-3000, 4000, 5000 Series.)

Storage Temperature Range
−55°C to +85°C.

Cooling
The LLS-3000, 4000 and 5000 Series are convection cooled. The LLS-6000, LLS-7000, LLS-8000 and LLS-9000 are fan cooled. Leave adequate clearance at all air intakes and exhausts.

DC Output Controls
Output voltage and output current adjust is via a front panel key pad.

AC Power Control
On-off switch on front panel of all units.

Input and Output Connections
Input is via an IEC power line connector. DC output is via heavy duty, PC board mounted barrier strips (threaded bus bars on LLS-8000, LLS-8018, LLS-9008 and LLS-9018 units).

Meters
Digital 3½ digit voltage meter and 3 digit current meter on front panel. 3 digit voltage meter and 2 digit current meter on LLS-4300 and LLS-5300.

LED Status Indicator
CV/CC indicator, overvoltage/overtemperature indicator and standby LED indicators on front panel.

Physical Data

Package Model	Lbs. Net	Lbs. Ship	Size Inches
LLS-3000	7	8	4 9/32 × 3 13/16 × 10
LLS-4000	5	6	4 9/32 × 3 13/16 × 11
LLS-5000	7	8	4 9/32 × 3 13/16 × 12
LLS-6000	7.25	8	4 9/32 × 3 13/16 × 13
LLS-7000	8.56	9.31	4 9/32 × 3 13/16 × 15
LLS-8000	12.2	16.7	4 9/32 × 8 × 10½
LLS-9000	14.5	19	4 9/32 × 8 × 12⅞

Accessories
All units are provided with line cords.

Rack Mount Kit For LRA-1 Rack Adapter				Benchtop Front Panel Jack Kits		
Kit #	Color	Kit Type	Price	Kit #	Unit	Price
KT-44	Off-white	¼ Rack	$36.00	KT-46	LLS-3000	$59.00
KT-45	Brown	¼ Rack	$36.00	KT-47	LLS-4000	$59.00
KT-51	Off-white	½ Rack	$59.00	KT-48	LLS-5000	$59.00
KT-52	Brown	½ Rack	$59.00	KT-49	LLS-6000	$59.00
				KT-50	LLS-7000	$59.00

When using the bench mount accessory, the outputs are taken from banana jacks located at the front of the power supply for the LLS-3000 through LLS-7000 Series.

Guaranteed For 3 Years
Three year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at the end of three years.

Test, Systems and Laboratory Ratings Table

LLS-GPIB SERIES
- Stand-Alone IEEE-488 Power Supply
- Constant Voltage/Current
- Up to 100A, Up to 120V, Up to 800W

LT SERIES
- 35% Smaller, 80% Lighter Than Equivalent 4KWSCR Supplies
- Lower Cost

LLS SERIES
- 50% Smaller Than Equivalent Models
- Digital Keypad for Precise Control
- Benchtop or 19" Rack Mount

MAX CURRENT (AMPS) AT AMBIENT TEMPERATURE OF 40°C	50°C	60°C	71°C	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY 1	10	25	MODEL
LLS SERIES								
0-8 V OUTPUT								
3.50	2.90	1.75	–	127	$ 616	$ 589	$ 579	LLS-3008
5.00	4.30	3.20	–	127	675	643	621	LLS-4008
10.00	7.90	6.30	–	127	765	728	708	LLS-5008
20.00	20.00	16.50	13.50	127	929	884	857	LLS-6008
35.00	35.00	30.00	25.00	127	1093	1039	1004	LLS-7008
50.00	47.00	41.00	33.70	127	1238	1178	1138	LLS-8008
100.00	90.00	78.00	57.00	127	1553	1479	1436	LLS-9008
0-18 V OUTPUT								
1.60	1.30	0.80	–	127	616	589	579	LLS-3018
2.40	2.10	1.50	–	127	675	643	621	LLS-4018
4.50	3.50	2.80	–	127	765	728	708	LLS-5018
9.00	9.00	8.20	6.60	127	929	884	857	LLS-6018
16.00	16.00	13.50	11.00	127	1093	1039	1004	LLS-7018
24.00	22.20	20.50	18.00	127	1238	1178	1138	LLS-8018
45.00	40.00	33.00	25.00	127	1553	1479	1436	LLS-9018
0-40 V OUTPUT								
0.70	0.60	0.35	–	127	616	589	579	LLS-3040
1.00	1.00	0.85	–	127	675	643	621	LLS-4040
2.00	1.60	1.30	–	127	765	728	708	LLS-5040
4.00	4.00	3.80	3.10	127	929	884	857	LLS-6040
7.00	7.00	6.00	5.00	127	1093	1039	1004	LLS-7040
10.00	9.80	9.20	8.00	127	1238	1178	1138	LLS-8040
20.00	18.00	15.00	11.00	127	1553	1479	1436	LLS-9040
0-60 V OUTPUT								
0.50	0.42	0.25	–	127	616	589	579	LLS-3060
0.70	0.70	0.60	–	127	675	643	621	LLS-4060
1.40	1.10	0.90	–	127	765	728	708	LLS-5060
2.80	2.80	2.60	2.10	127	929	884	857	LLS-6060
4.80	4.80	4.10	3.40	127	1093	1039	1004	LLS-7060
7.00	6.60	6.10	5.30	127	1238	1178	1138	LLS-8060
14.00	12.00	10.00	8.00	127	1553	1479	1436	LLS-9060
0-120 V OUTPUT								
0.25	0.21	0.13	–	127	616	589	579	LLS-3120
0.36	0.36	0.30	–	127	675	643	621	LLS-4120
0.70	0.55	0.45	–	127	765	728	708	LLS-5120
1.40	1.40	1.30	1.00	127	929	884	857	LLS-6120
2.40	2.40	2.10	1.70	127	1093	1039	1004	LLS-7120
3.50	3.40	3.20	2.70	127	1238	1178	1138	LLS-8120
7.00	6.00	5.00	4.00	127	1553	1479	1436	LLS-9120
0-300 V OUTPUT								
0.14	0.12	0.11	–	127	777	739	714	LLS-4300
0.28	0.22	0.18	–	127	879	834	811	LLS-5300
0.56	0.56	0.52	0.40	127	1152	1093	1029	LLS-6300
2.80	2.40	2.00	1.60	127	2020	1918	1862	LLS-9300

Note: Maximum output current applies over entire output voltage range.