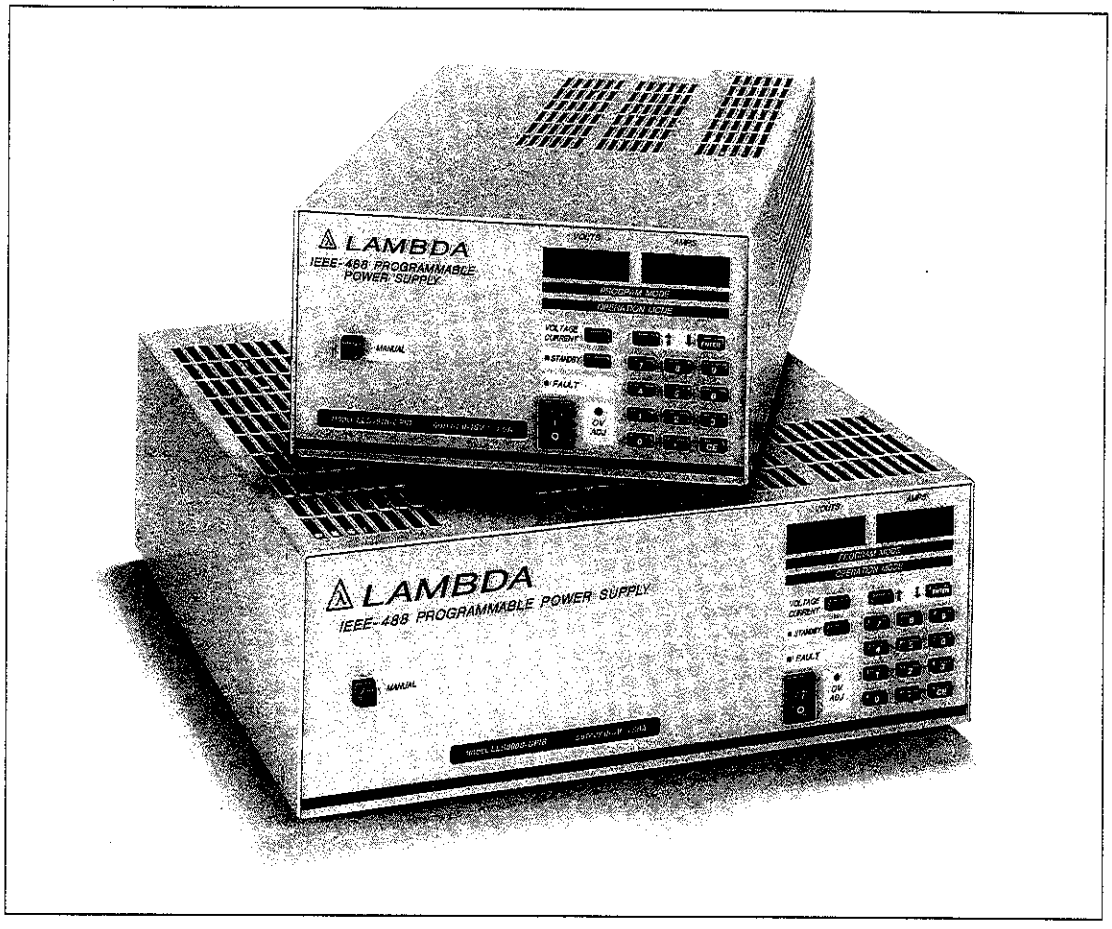
LAMBDA'S LLS-GPIB SERIES



Stand-Alone IEEE-488 Supplies Reduces System Development Time

Lambda's LLS-GPIB Series is the largest selection of stand-alone single output IEEE-488 programmable power supplies available today – in stock for immediate delivery. The LLS-GPIB Series provides IEEE functionality along with many additional programming and monitoring functions.

Lambda's LLS-GPIB Series is available in 20 models from 28W to 800W, up to 120V, up to 100A. All are designed for constant voltage/constant current operation (automatic crossover) and have integral overvoltage, overcurrent and thermal protection. The LLS-GPIB Series features user-set DC out of tolerance monitoring and manual control via the front panel keypad when a quick measurement or test program verification is required.

LLS-GPIB SERIES SPECIFICATIONS

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

Input Power

Package Model	Power (Max.)	Current (RMS Max.)	Min. Effic. @ Max. P_{out}
LLS-3000-GPIB	78W	1.6A	36%
LLS-6000-GPIB	245W	4.0A	65%
LLS-8008-GPIB, 8018-GPIB	620W	10.0A	68%
LLS-8040-GPIB, 8060-GPIB, 8120-GPIB	620W	10.0A	73%
LLS-9008-GPIB	1100W	17.5A	72.5%
LLS-9018-GPIB, 9040-GPIB	1100W	17.5A	75%
LLS-9060-GPIB, 9120-GPIB	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-GPIB models.
regulation, load .....0.05% for load variations from 0 to full load. 0.01% + 1mV on LLS-3000-GPIB Series.
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 .....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.
temperature coefficient .....0.04%/°C.

Constant Current
(Current regulated line and load) Automatic Crossover.
current range .....5% to full load current. 1% on LLS-3000-GPIB.
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-GPIB.
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-GPIB.
remote programming current ...0-5V isolated signal for zero to Io (max).
current ripple .....1% Io (max) RMS.

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

Overcurrent Protection
Adjustable, automatic 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.

IEEE-Based DC Out of Tolerance
The host controller will be notified in the event that the DC exceeds user-defined windows around voltage and current programmed values.

IEEE-Based DC Fault Monitoring
The system reponse to detected faults is as follows:

Fault	Response
DC out of user set tolerance	SRQ interrupt activated
Overvoltage value exceeded	Reset initiated and SRQ interrupt activated
Current limit exceeded	Reset initiated and SRQ interrupt activated

IEEE Programming
(as a percentage of full scale values)

	Voltage	Current
Resolution	0.025%	1.0%
Accuracy	0.10%	2.0%
Programming Range	0.00%-99.99%	1.0%-99%

IEEE Metering
Voltage metering accuracy is ± 0.7% of full scale. Current Metering Accuracy is ± 1.7% of full scale + 20mA.

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-GPIB.

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 60°C with appropriate deratings (see tables).

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

Cooling
The LLS-3000-GPIB is convection cooled. The LLS-6000-GPIB, LLS-8000-GPIB and LLS-9000-GPIB are fan cooled. Leave adequate clearance at all air intakes and exhausts.

DC Output Controls in Manual Mode
Output voltage and output current adjust is via a front panel keypad when the front panel auto/manual mode button is in the manual position.

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

Input and Output Connections
Input is via an IEC power line connector (Barrier Strip on LLS-9000-GPIB). DC output is via heavy duty, PC board mounted barrier strips (threaded bus bars on LLS-8008-GPIB, LLS-8018-GPIB, LLS-9008-GPIB and LLS-9018-GPIB). IEEE bus front panel connection is through standard D connector.

Front Panel Meters
Digital 3½ digit voltage and 3 digit current meter on front panel.

LED Status Indicators
Manual mode 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-GPIB	11.5	14	8 × 4 9/32 × 13 7/8
LLS-6000-GPIB	11.9	14	8 × 4 9/32 × 13 5/16
LLS-8000-GPIB	17.2	19	12 9/32 × 4 9/32 × 12 11/16
LLS-9000-GPIB	19.3	23	12 9/32 × 4 9/32 × 12 13/16

Accessories
Rack mount kits for LRA-17 rack adapter.

Kit #	Model	Price
KT-33	LLS-3000, 6000-GPIB	$59
KT-54	LLS-8000, 9000-GPIB	77

Guaranteed For 3 Years
3 year guarantee includes labor as well as parts. Guarantee applies to operation at full published specifications at end of 3 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
- Digital Keypad for Benchtop Use

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

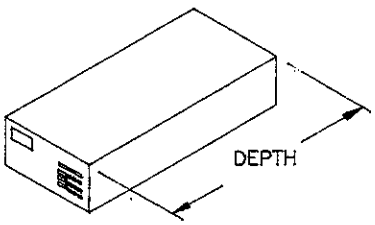
MAX CURRENT (AMPS) AT AMBIENT TEMPERATURE OF 40°C	50°C	60°C	COMPLETE ELEC. SPEC. PG.	UNIT PRICE PER DELIVERED QUANTITY 1	10	25	MODEL
LLS-GPIB SERIES							
0-8 V OUTPUT							
3.50	2.90	1.75	129	$2250	$2149	$2041	LLS-3008-GPIB
20.00	20.00	16.50	129	2450	2340	2223	LLS-6008-GPIB
50.00	47.00	41.00	129	2850	2722	2586	LLS-8008-GPIB
100.00	90.00	78.00	129	3200	3056	2903	LLS-9008-GPIB
0-18 V OUTPUT							
1.60	1.30	80	129	2250	2149	2041	LLS-3018-GPIB
9.00	9.00	8.20	129	2450	2340	2223	LLS-6018-GPIB
24.00	22.20	20.50	129	2850	2722	2586	LLS-8018-GPIB
45.00	40.00	33.00	129	3200	3056	2903	LLS-9018-GPIB
0-40 V OUTPUT							
.70	.60	.35	129	2250	2149	2041	LLS-3040-GPIB
4.00	4.00	3.80	129	2450	2340	2223	LLS-6040-GPIB
10.00	9.80	9.20	129	2850	2722	2586	LLS-8040-GPIB
20.00	18.00	15.00	129	3200	3056	2903	LLS-9040-GPIB
0-60 V OUTPUT							
.50	.42	.25	129	2250	2149	2041	LLS-3060-GPIB
1.40	2.80	2.60	129	2450	2340	2223	LLS-6060-GPIB
7.00	6.60	6.10	129	2850	2722	2586	LLS-8060-GPIB
14.00	12.00	10.00	129	3200	3056	2903	LLS-9060-GPIB
0-120 V OUTPUT							
.25	.21	.13	129	2250	2149	2041	LLS-3120-GPIB
1.40	1.40	1.30	129	2450	2340	2223	LLS-6120-GPIB
3.50	3.40	3.20	129	2850	2722	2586	LLS-8120-GPIB
7.00	6.00	5.00	129	3200	3056	2903	LLS-9120-GPIB

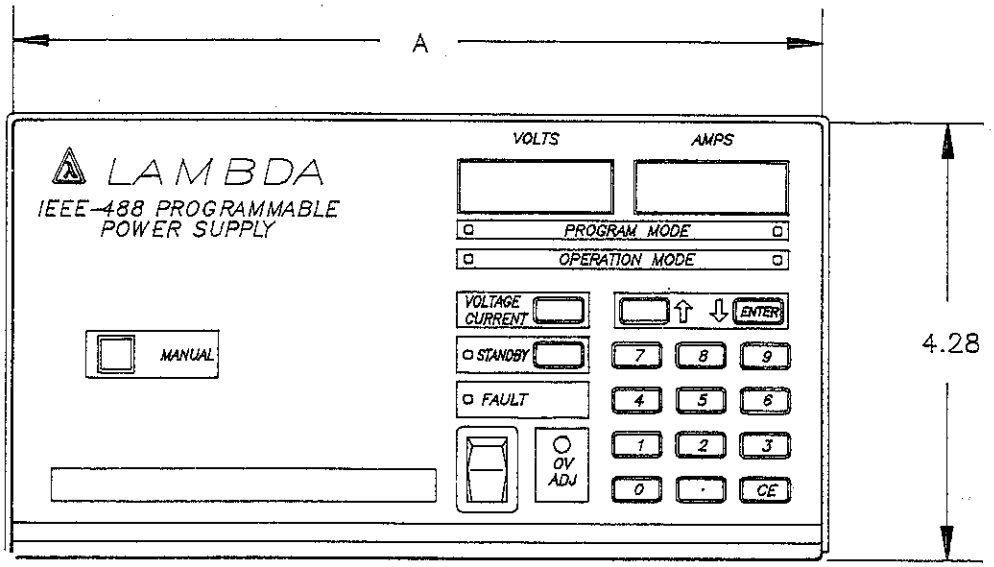
Note: Maximum output current applies over entire voltage range.

LLS-GPIB SERIES MECHANICAL DRAWINGS

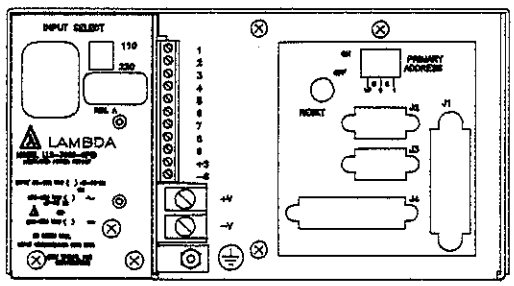
DIMENSIONS INCHES (MM)

MODEL	A	DEPTH
LLS-3000-GPIB	7.97 (202.25)	13.59 (344.92)
LLS-6000-GPIB	7.97 (202.25)	13.31 (337.81)
LLS-8000-GPIB	12.14 (308.12)	12.68 (321.82)
LLS-9000-GPIB	12.14 (308.12)	12.94 (328.43)

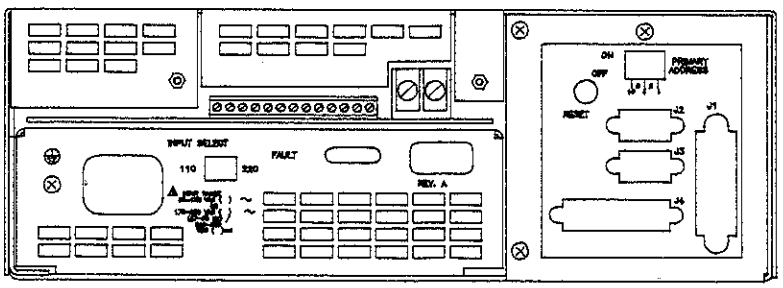




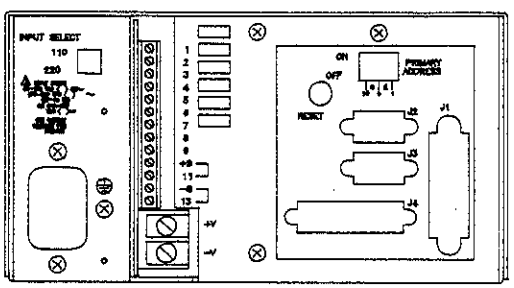
FRONT VIEW



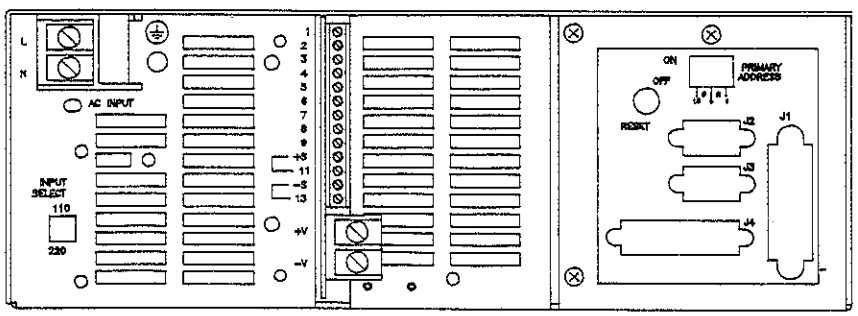
REAR VIEW
LLS-3000-GPIB



REAR VIEW
LLS-8000-GPIB



REAR VIEW
LLS-6000-GPIB



REAR VIEW
LLS-9000-GPIB