

## Switching Power Supply

150W Ultra Low Noise AC/DC Switching Power Supply

### LR-150A series



Ultra Low Noise AC/DC Switching Power Supply.

The breakthrough LR series, compact, light-weight, and high-efficient, provides clean DC power with a complex resonant converter.

The switching power supply, keeping leakage current, conducted emission, and radiate emission low is an ideal solution for noise-sensitive applications, especially the equipment used in advanced hyperfine measurement, testing, spectrometry & microscopy fields.

- ❖ Reinforced Isolation
- ❖ Medical Standard input-to-output
- ❖ Ultra Low Ripple & Noise (10mV typ.)
- ❖ Low Conducted & Radiated Emission
- ❖ Low Leakage Current (0.15mA at 264V)
- ❖ Safety Standard: 62368-1, 60601-1

### Specification

Version		5V	12V	15V	24V	30V	48V
Input <sup>1</sup>	Voltage Range	Rating 100 to 240VAC (Range: 85~264VAC)					
	Frequency Range	Rating 50 / 60 Hz (Range: 47Hz ~ 63Hz)					
	Input Current 100V/200V AC	1.4A / 0.7A	1.9A / 1.0A				
	Inrush Current 100V/200V AC	20Apeak / 40Apeak					
	Efficiency 100V/200V AC	82% / 83%	86% / 89%	86% / 89%	87% / 89%	87% / 89%	88% / 90%
	Power Factor 100V/200V AC	0.97 / 0.86			0.98 / 0.90		
	Leakage Current 100V/240V/264V AC	0.05mA typ. / 0.12mA typ. / 0.15mA max.					
	Connector	IEC Inlet C14					
Output	DC Output Voltage	5VDC	12VDC	15VDC	24VDC	30VDC	48VDC
	Output Current	20A	12.5A	10A	6.3A	5A	3.2A
	Maximum Output Power	100W	150W	150W	151.2W	150W	153.6W
	Line / Load Regulation (max)	40mV / 80mV	48mV / 96mV	60mV / 120mV	96mV / 150mV	120mV / 188mV	192mV / 300mV
	Ripple Noise <sup>2</sup>	10mV typ.			13mV typ.		
	Connector						
Feature	OCP / OVP <sup>3</sup>	>110% / >115% (Shut down Output)					
Mechanical	Cooling System	Convection					
	Size (W x H x D)	238.5 x 49 x 94.2mm					
	Weight	1,1kg					
Environmental	Operating Temperature Humidity <sup>4</sup>	-10°C ~ 40°C 30%RH ~ 90%RH (non condensing)					


<sup>1</sup> Conditions: Ta=25°C. Typical value at maximum output power (Inrush current value doesn't include part of within 0.1msec to input filter)

<sup>2</sup> The typical ripple voltage in the standard specification is a value measured using 100MHz oscilloscope in the anechoic chamber under the JEITA measuring method. (Condition: Ta=25°C, Vin=100Vac. Typical value at rated output)

<sup>3</sup> Upon over voltage or over current conditions, input power must be removed to allow unit reset to occur within a few minutes.

<sup>4</sup> Derating is required by operating temperature. Reduce current by 400mA/1°C above 40°C Ambient Temperature.

	Operating atmospheric pressure range(IEC60601-1)	700hPa ~ 1060hPa					
	Storage Temperature Humidity	-20°C ~ 85°C 10%RH ~ 95%RH (non condensing)					
	Vibration Resistance	10m/s <sup>2</sup> (10~55Hz 1minute Period / 1hour each X, Y and Z direction)					
	Shock Resistance	100m/s <sup>2</sup> 11ms (1 time for X, Y and Z direction)					
Isolation	Isolation Voltage	INPUT - FG: 2kVAC (20mA) 1min INPUT - OUTPUT: 4kVAC (20mA) 1min OUTPUT - FG: 500VAC (20mA) 1min					
	Isolation Resistance	>100MΩ (INPUT-FG, INPUT-OUTPUT, OUTPUT-FG at 500VDC)					
Others	ESD	EN61000-4-2 compliance					
	Radiated Electromagnetic Field	EN61000-4-3 compliance					
	Burst	EN61000-4-4 compliance					
	Surge	EN61000-4-5 compliance					
	Conductive	EN61000-4-6 compliance					
	Power Magnetic Field	EN61000-4-8 compliance					
	Voltage Drips, Interrupts, Variations	EN61000-4-11 compliance					
	Conducted Emission	EN5022, FCC-B, VCCI-B compliance					
	Safety Certificates	UL62368-1, CAN/CSA-C22.2 NO.62368-1, EN62368-1 Certification PSE Compliance ANSI/AAMI ES60601-1, CAN/CSA-C22.2 No.60601-1, EN60601-1 Certification					
	UL File (internal SMPS only)	E237238 (UL62368-1), E320635(ES60601-1)					
	CE-Marking	Low Voltage Directive					
Harmonic Current Characteristic	EN61000-3-2 (Class A) compliance						
Article No.		LR-150A-05	LR-150A-12	LR-150A-15	LR-150A-24	LR-150A-30	LR-150A-48
Load Cable	Length	1m					
	Connector Power Supply	Open wires (optional: Custom connector)					
Manufacturer	<a href="http://www.leber-ingenieure.de">www.leber-ingenieure.de</a> +49 911 215372 0	Systemtechnik LEBER GmbH & Co.KG Haimendorfer Str. 52 90571 Schwaig / Germany					

 <b>Danger</b>	<ul style="list-style-type: none"> <li>- Electrical shock hazard. Do not open. No user serviceable parts inside.</li> <li>- Indoor use only. Keep device dry and clean.</li> <li>- Refer Servicing to manufacturer.</li> <li>- Power Supply handles 150W of energy. Never Leave Devices Unattended.</li> </ul>
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