



Features

- 4.0" (101.6 mm) body width x 9.8" (248.8 mm) body length without mounting flange x 1.93" (49 mm) Height
- Up to 500W
- Universal Input 90 to 305Vac (Label mark: 100-277VAC)
- Active Inrush Current Max. 20A
- IP67 rating
- Approved to EN60950 2nd Edition and UL8750 (recognized) & EN61347
- Typical 93% Efficiency @ 230V Input, 92% @ 115V Input
- Droop Current Sharing

Description

A superior performance fully enclosed 500 Watt AC to DC power supply. Highly efficient, LE500 product family has droop share for redundant or higher power applications. All models are CE marked to low voltage directive and approved to EN60950 2nd edition.

Model Selection

Model Number ¹	Volts	Output Current	Total Noise & Ripple	Total Regulation	OVP Threshold
LE500S24VN	24V	20.8A	1%	± 4%	27.6 ± 1.0V
LE500S48VN	48V	10.4A	1%	±4%	55.5 ± 2.0V

Notes:

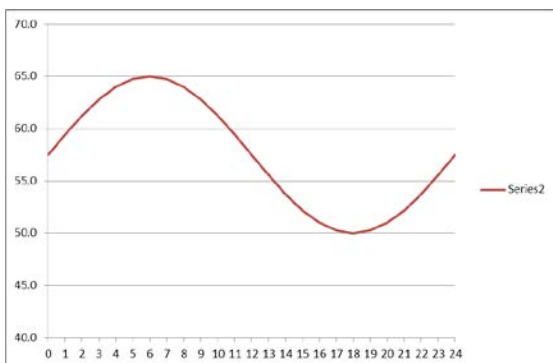
- 1) Input Connection: Type SJTW cable, minimum 300mm long
- 2) Measured with noise probe directly across output terminals with 0.1µF ceramic and 10µF low ESR capacitors. For main output load of less than 5%, total noise & ripple will increase to 2%.

General Specifications

AC Input	90-305Vac, 47-63Hz agency approved. Power supply is protected against brown out condition	Turn On Time	<500 mSec @ 115Vac, 25C and above <700 mSec @ 115V, -10C
Input Current	115Vac: 5A, 230Vac: 2.5A, 277Vac: 2.1A	Hold-up Time	16 mSec minimum at full load & 100 Vac input
Inrush Current	277Vac, cold start: will not exceed 20A Reference: 2.0 A ² sec typical inrush current waveform	Power Factor Correction	>0.9 for 50% to 100% load with nominal voltages 100 to 277Vac
Input Fuses	F1, F2, T10A, 500Vac, provided on all models (non-replaceable internal)	Overload Protection	110% to 130% of current rating, Hiccup Mode
Leakage Current	Earth: <700uA @ 277Vac, 60Hz, NC	Short Circuit Protection	Self-recovering
Efficiency	92% typical at 115Vac, 93% typical at 230Vac Load from 50% to 100%	Overvoltage Protection	Hiccup Mode, Self-recovering see models chart for trip ranges.

Output Power	Up To 500W 70°C ambient. Conduction cooled with case temperature not exceeding 90 C at 115 Vac 400W with pure Convection cooling at 65°C	Overtemperature Protection	Provided, self-recovering Automatic power shutdown when internal temperature on the secondary side reaches TBD °C and on the primary side reached TBD °C
Transient Response	500 uS typical for return to within 0.5% of nominal, 50% load step from 5% to 100%. $\Delta i/\Delta t$: <0.2A/ μ S. Maximum Voltage Deviation = 3%	Switching Frequency	PFC: Variable, 50-500kHz Main Converter: Variable 40-180 kHz, 65Khz typical
Ripple and Noise Main Output	See models chart	Isolation	Input-Output: 3000 Vac Input-Ground: 1900Vac Output-Ground: 500Vac
Output Voltage	See models chart; "SELV" Rated	Operating Temperature	-10°C to +70° with start up at -40C 3 minute typical warmup time required for Ripple to reduce to <1Vp-p..
Voltage Adjustability	Not Required	Storage Temperature	-40°C to +85°C
Minimum Load	Not required	Altitude	Operating: -500 to 3000m maximum Non-operating: -500 to 12,000m maximum
Total Regulation	Main Output: \pm 1% due to nominal line voltage 3%, due to load regulation	Relative Humidity	5% to 95%, non-condensing
Vibration	Operating: 0.003g ² /Hz, 1.5grms overall, 3 axes, 1 hr/axis Operating: 0.026g ² /Hz, 5.0grms overall, 3 axes, 10 min/axis	Shock	Operating: Half-sine, 40gpk, 8ms, 3 axes, 6 shocks total
Dimensions	4.0 in (101.6 mm) X 9.8 in (248.8mm) X 1.93 in. (49 mm) Fully enclosed with IP67 rating	Safety Standards	EN/CSA/UL/EN60950 2 nd & UL8750, EN61347
Weight	2,350 grams (maximum) / 5.18 LB	MTBF	MTBF: 300K, 25 degree, 115V, 80% load. Based on Stress calculation and not component count.
Current Share	Droop Share with 4% accuracy, based on equal wire lengths between sharing PSUs and load. See applications data sheet for operation of two or more units in parallel.	Life	50,000 Hrs at 80% load Convection cooled 115Vac See below note 3: 50,000 Hrs at Conduction cooled with base temperature not exceeding 90 C @ 100% load and 115Vac input
Ordering Option	Please see model Selection	Audible Noise	N/A

Note 3: The E-Cap life calculations are done based on weighted temperature averages:



Temperature profile:

Temperature	Hours per day, 365 days per year
Ambient outside of the supply within 2 inches	
65°C	6 hours
57.5°C	12 hours
50C	6 hours

Auxiliary Signals

None.

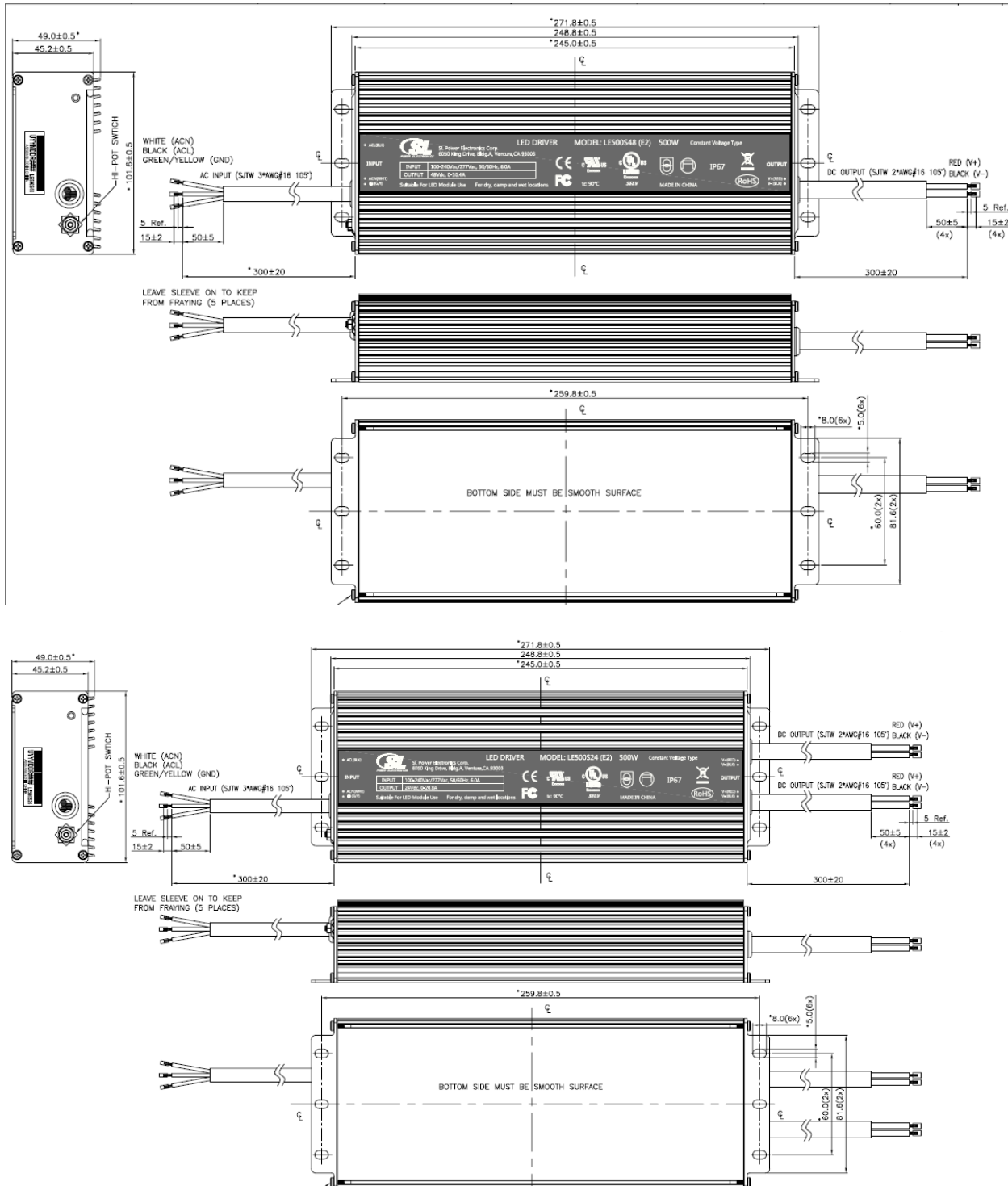
EMI/EMC Compliance

Conducted Emissions	EN55015 Class B, FCC Part 15, Subpart B, Class B, 3 dB margin 115Vac and 230Vac, 277Vac for FCC compliance only.
Radiated Emissions	EN55015 Class B; FCC Part 15, Subpart A, Class B, 3 dB margin 115Vac and 230Va, 277Vac for FCC compliance only.
Static Discharge Immunity	EN61000-4-2, Criteria A, 8kV Contact Discharge, 15kV air discharge
Radiated RF Immunity	EN61000-4-3, 10V/M Criteria A
EFT/Burst Immunity	EN61000-4-4, 2kV/5kHz
Line Surge Immunity	EN61000-4-5, 4kV differential, 6kV common-mode, Criteria A IEEE/ANSI C62.41.2 Category C (low) ANSI/IEEE C62.41.2 Categories A & C (low level) – Damp/Wet use surge & transient immunity: 6kV with 2 Ohm Source Impedance, 1.2x50uS Voltage & 8x20uS Current Combination wave; 6kV with 12 Ohm Source Impedance, 0.5us 100kHz ring wave
Conducted RF Immunity	EN61000-4-6, 3Vrms
Power Frequency Magnetic Field Immunity	EN61000-4-8, 3A/m
Voltage Dip Immunity	EN61000-4-11, 0% Vin, 10mS; 40% Vin, 100mS (60% load); 70% Vin, 500mS (80% load); 0% 5000mS; Criteria A, A, A, B.
Line Harmonic Emissions	EN61000-3-2, Class A, C, and D (meets C from full load down to 25 Watts), 230Vac, 50 Hz. See application note.
Flicker Test	EN61000-3-3, Complies

Isolation Specifications

Parameter	Conditions/Description	Min	Nom	Max	Units
Electric Strength Test Voltage	Input/Ground	1900 (2787dc)	-	-	Vac
	Input/Output	3000 (4242dc)	-	-	Vac
	Output/Ground	500 (707dc)	-	-	Vac

Mechanical Drawings



Notes:

1. Input Connection: Type S1TW cable, minimum 300mm long, not stripped.
2. Ground stud nut on input side HIPOT Switch must be tightened to 6kg cm torque PRIOR to installation and use. Failure to do so will result in shock hazard during a surge event, and will cause the PSU irreparable damage.