LE500 Family

500W Single Output
LED and Industrial Grade

LED

Industrial

FEATURES AND BENEFITS

- 4.0" (101.6 mm) body width x 9.8" (248.8 mm) length without mounting flange x 1.93" (49 mm) height
- Up to 500W
- Universal Input 90 to 305 VAC (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

CE RoHS

MODEL SELECTION

Model Number	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%

INPUT

AC Input	90-305Vac, 47-63Hz agency approved. Power supply is protected against brown out condition
Input Current	115Vac: 5A, 230Vac: 2.5A, 277Vac: 2.1A
Inrush Current	277Vac, cold start: will not exceed 20A Reference: 2.0 A^2 sec typical inrush current waveform
Input Fuses	F1, F2, T10A, 500Vac, provided on all models (non-replaceable internal)
Earth Leakage Current	Earth: <700μA @ 277Vac, w60Hz, NC
Efficiency	92% typical at 115Vac, 93% typical at 230Vac Load from 50% to 100%

OUTPUT

Output Voltage	See models chart; "SELV" Rated
Output Power	Up to 500W 70°C ambient. Conduction cooled with case temperature not exceeding 90°C at 115Vac 400W with pure Convection cooling at 65°C
Turn On Time	<500 mSec @ 115Vac, 25C and above <700 mSec @ 115V, -10C
Hold-up Time	16 mSec minimum at full load & 100 Vac input
Ripple and Noise	See models chart
Total Regulation	Main Output: ±1% due to nominal line voltage 3%, due to load regulation

PROTECTION

Overvoltage Protection	Hiccup Mode, Self-recovering see chart for trip ranges
Short Circuit Protection	Self-recovering
Overtemperature Protection	Provided, self-recovering, Automatic power shutdown when internal temperature on the secondary side reaches TBD °C and on the primary size reached TBD °C
Overload Protection	Hiccup Mode, Self-recovering see models chart for trip ranges

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RELIABILITY

MTBF	MTBF: 300K, 25 degree, 115V, 80% load. Based on Stress calculation and not componet count
Lifetime	50,000 Hrs at 80% load Convection cooled 115Vac See below note 50,000 Hrs at Conduction cooled with base temperature not exceeding 90°C @ 100% load and 115Vac input

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

SAFETY

Safety Standards	EN/CSA/UL/EN60950 2nd & UL8750, EN61347

ENVIRONMENT

Operating Temperature	10°C to +70°C with startup at -40°C 3 minute typical warmup time required for Ripple to reduce to <1Vp-p
Relative Humidity	5% to 95%
Weight	2350 grams (maximum) / 5.18 LB
Dimensions	4.0" (101.6 mm) X 9.8" (248.8 mm) X 1.93" (49 mm) Fully enclosed with IP67 rating

EMI/EMC COMPLIANCE

Conducted Emissions	EEN55015; FCC Part 15, Class B, 3 dB margin 115Vac and 230Vac, 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 usesurge & transient immunity: - 6kV with 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% 500ms; 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

Notes:

For surge protection, a gas discharge tube along with some MOV's are placed between AC input and PE. At normal operation the gas discharge tube remains open. In the vent of a line voltage surge the gas discharge tube shall be triggered to shunt current to ground. To prevent nuisance false hipot triggered the following procedure should be followed:

1. Remove the nut and the metal saw-toothed washer on the Hi pot switch to open the circuit to the AC surge protection devices.
2. Perform Hipot test.
3. After Hipot test, re-install the metal saw-toothed washer and tighten nut with a torque of 6.0+/-0.5 kgf.cm. This will reconnect the AC surge protection circuitry.

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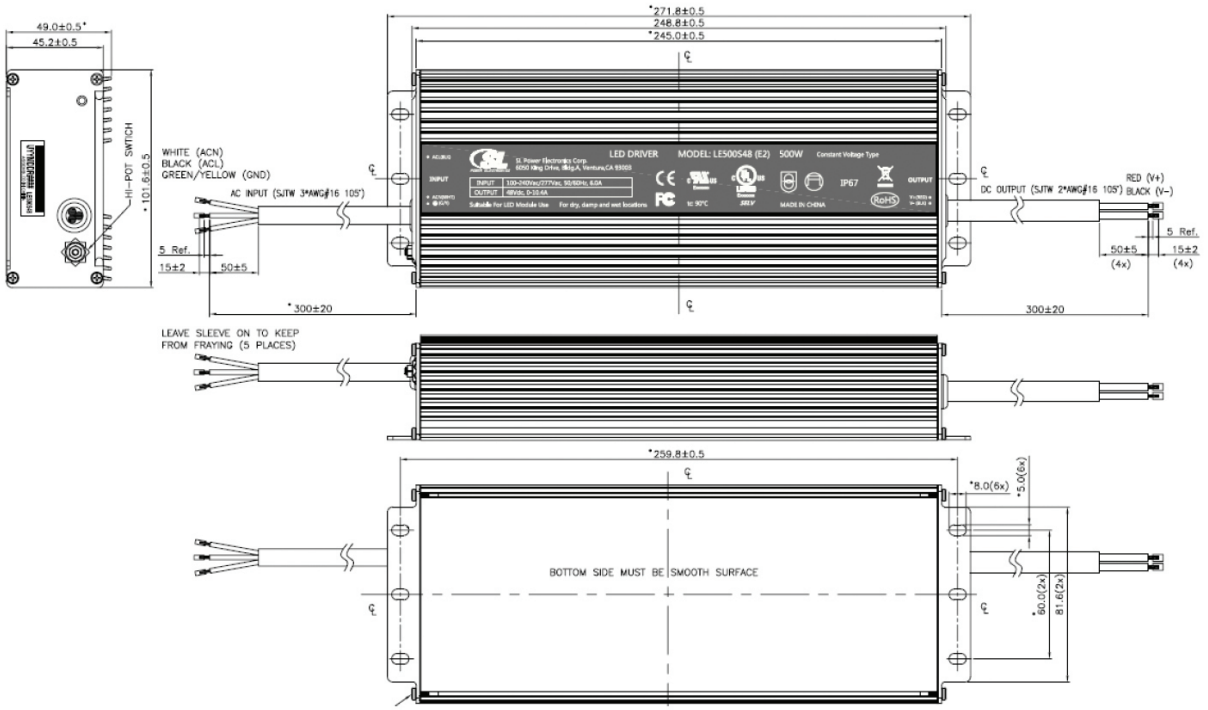
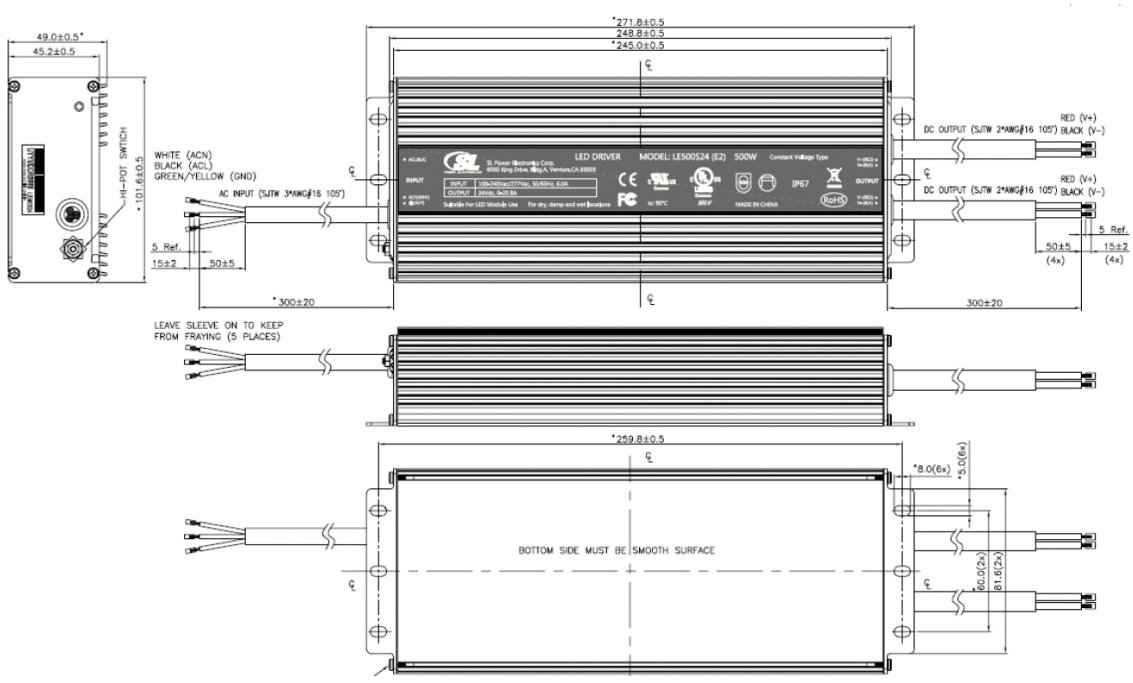
MECHANICAL DRAWING





Notes:

1. Input Connection: Type SJTW cable, minimum 300mm long, not stripped.
2. The nut of the Hipot Switch on the input side must be tightened to 6kgf.com torque PRIOR to installation and use. Failure to do so will result in shock hazard during a line surge event and cause damage to the PSU.

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