



**THE DATASHEET OF
LE500S24VN**





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



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:

- Input Connection: Type SJTW cable, minimum 300mm long
- 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 side reached TBD °C |
| Overload Protection | Hiccup Mode, Self-recovering see models chart for trip ranges |



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 2 nd & 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: <ul style="list-style-type: none"> - 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 |

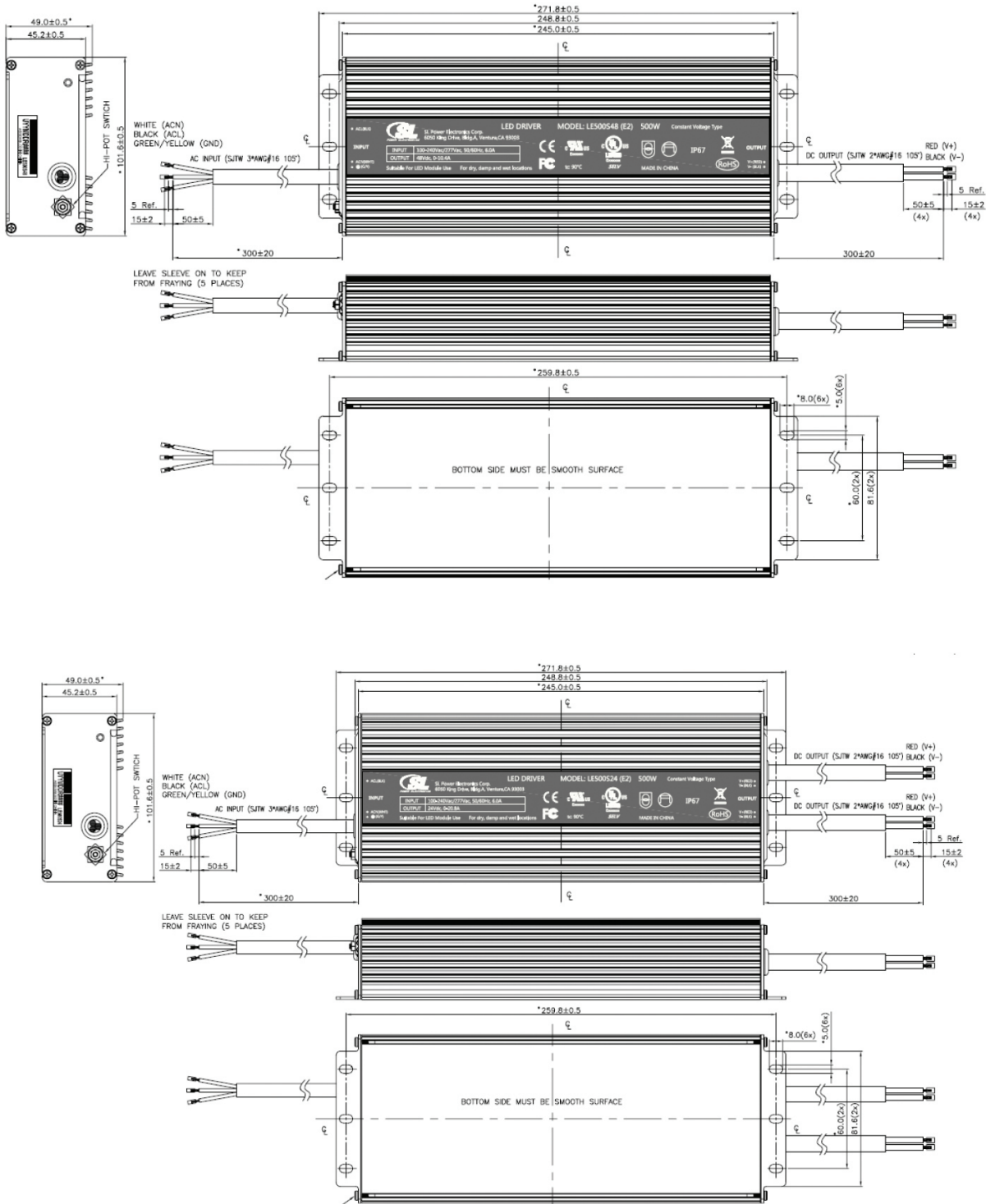
Notes:

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.



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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