

25-150W Single Output General Purpose Power Supplies

<https://product.tdk.com/en/power/ls>
www.emea.lambda.tdk.com/ls



Industrial



Test



COMM



LED



Broadcast

The LS series offers economically priced 25 to 150W power supplies for general purpose light industrial use. With output voltages ranging from 3.3 to 48V, the products have a five-year warranty and conservatively rated electrolytic capacitor temperatures for longer field life. These compact products have a wide -25 to +70°C temperature range and are capable of withstanding a 300Vac surge for up to five seconds.

| Features | Benefits |
|--|---|
| • Compact Package Sizes | • Space Saving in End Equipment |
| • Low Cost | • Suitable for General Purpose Light Industrial Use |
| • Withstands 300Vac Input Surges | • Can Operate on Unstable Input Voltages |
| • Conservative Electrolytic Capacitor Temperatures | • Long Field Life |
| • Five Year Warranty | • Lower Cost of Ownership |

| Model Selector | | | | | | | |
|----------------|-------------|----------------------|-----------------|---------------|---------------|-------------------|--------------------|
| Model | Voltage (V) | Adjustable Range (V) | Max Current (A) | Load Reg (mV) | Line Reg (mV) | Ripple Noise (mV) | Efficiency (typ) % |
| LS25-3.3 | 3.3 | 2.85 - 3.6 | 6 | 66 | 16.5 | 80 | 72 |
| LS35-3.3 | 3.3 | 2.85 - 3.6 | 7 | 66 | 16.5 | 80 | 73 |
| LS50-3.3 | 3.3 | 3.0 - 3.6 | 10 | 40 | 20 | 80 | 75 |
| LS75-3.3 | 3.3 | 3.0 - 3.6 | 15 | 40 | 20 | 80 | 75 |
| LS100-3.3 | 3.3 | 3.0 - 3.6 | 20 | 66 | 16.5 | 80 | 74 |
| LS150-3.3 | 3.3 | 3.0 - 3.6 | 30 | 66 | 16.5 | 80 | 74 |
| LS25-5 | 5 | 4.75 - 5.5 | 5 | 50 | 25 | 80 | 77 |
| LS35-5 | 5 | 4.75 - 5.5 | 7 | 50 | 25 | 80 | 77 |
| LS50-5 | 5 | 4.75 - 5.5 | 10 | 40 | 20 | 80 | 80 |
| LS75-5 | 5 | 4.75 - 5.5 | 12 | 40 | 20 | 80 | 79 |
| LS100-5 | 5 | 4.75 - 5.5 | 16 | 50 | 25 | 80 | 77 |
| LS150-5 | 5 | 4.75 - 5.5 | 26 | 50 | 25 | 80 | 78 |
| LS25-12 | 12 | 10.8 - 13.2 | 2.1 | 60 | 60 | 120 | 79 |
| LS35-12 | 12 | 10.8 - 13.2 | 3 | 60 | 60 | 120 | 81 |
| LS50-12 | 12 | 10.8 - 13.2 | 4.2 | 96 | 48 | 120 | 84 |
| LS75-12 | 12 | 10.8 - 13.2 | 6 | 96 | 48 | 120 | 84 |
| LS100-12 | 12 | 10.8 - 13.2 | 8.5 | 60 | 60 | 120 | 81 |
| LS150-12 | 12 | 10.8 - 13.2 | 12.5 | 60 | 60 | 120 | 93 |
| LS25-15 | 15 | 13.5 - 16.5 | 1.7 | 75 | 75 | 120 | 82 |
| LS35-15 | 15 | 13.5 - 16.5 | 2.4 | 75 | 75 | 120 | 83 |
| LS50-15 | 15 | 13.5 - 16.5 | 3.4 | 120 | 60 | 120 | 85 |
| LS75-15 | 15 | 13.5 - 16.5 | 5 | 120 | 60 | 120 | 85 |
| LS100-15 | 15 | 13.5 - 16.5 | 7 | 75 | 75 | 120 | 82 |
| LS150-15 | 15 | 13.5 - 16.5 | 10 | 75 | 75 | 120 | 84 |
| LS25-24 | 24 | 22 - 27.2 | 1.1 | 120 | 120 | 120 | 84 |
| LS35-24 | 24 | 22 - 27.2 | 1.5 | 120 | 120 | 120 | 84 |
| LS50-24 | 24 | 22 - 27.2 | 2.2 | 192 | 96 | 120 | 86 |
| LS75-24 | 24 | 22 - 27.2 | 3.2 | 192 | 96 | 120 | 86 |
| LS100-24 | 24 | 22 - 27.2 | 4.5 | 120 | 120 | 120 | 84 |
| LS150-24 | 24 | 22 - 27.2 | 6.5 | 120 | 120 | 120 | 86 |
| LS25-36 | 36 | 32 - 40 | 0.75 | 150 | 150 | 150 | 85 |
| LS35-36 | 36 | 32 - 40 | 1 | 150 | 150 | 150 | 84 |
| LS50-36 | 36 | 32 - 40 | 1.4 | 288 | 144 | 150 | 86 |
| LS75-36 | 36 | 32 - 40 | 2.1 | 288 | 144 | 150 | 86 |
| LS100-36 | 36 | 32 - 40 | 3 | 150 | 150 | 150 | 84 |
| LS150-36 | 36 | 32 - 40 | 4.3 | 150 | 150 | 150 | 86 |
| LS25-48 | 48 | 42 - 54 | 0.57 | 180 | 180 | 200 | 85 |
| LS35-48 | 48 | 42 - 54 | 0.8 | 180 | 180 | 200 | 84 |
| LS50-48 | 48 | 42 - 54 | 1.1 | 384 | 192 | 200 | 86 |
| LS75-48 | 48 | 42 - 54 | 1.6 | 384 | 192 | 200 | 87 |
| LS100-48 | 48 | 42 - 54 | 2.3 | 180 | 180 | 200 | 84 |
| LS150-48 | 48 | 42 - 54 | 3.3 | 180 | 180 | 200 | 87 |

| Related Products | | |
|----------------------------|--------------------------|---|
| Type | Part Number | Description |
| Higher power LS | LS200 | 150W to 200W LS models |
| Higher power 7 yr warranty | RWSB | 50W to 1500W single output AC-DC power supplies |
| DIN rail mounting bracket | LS-DIN-1 | LS25, LS35, LS50 DIN rail bracket |
| DIN rail mounting bracket | LS-DIN-2 | LS75 DIN rail bracket |
| DIN rail mounting bracket | LS-DIN-3 | LS100, LS150 DIN rail bracket |

| Specifications | | | | | | | | |
|---------------------------------------|-----|--|------------|-----------|-----------|-----------|-------------------------------|--|
| Model | | LS25 | LS35 | LS50 | LS75 | LS100 | LS150 | |
| Input | | | | | | | | |
| AC Input Voltage Range | Vac | 88 - 264 | | | | | 88-132/176-264 ⁽¹⁾ | |
| Nominal Input Voltage Range | Vac | LS25-100: 100-240 (Note: Safety certified for 90-264Vac only), LS150: 100-120, 200-240 (Certified for 90-132, 180-264Vac only) | | | | | | |
| Input Frequency | Hz | 47 - 63 | | | | | | |
| DC Input Voltage Range | Vdc | Contact Technical Support (Note: Safety certified for AC input only) | | | | | | |
| Input Current (115/230Vac) | A | 0.7 / 0.4 | 0.8 / 0.55 | 1.3 / 0.8 | 1.6 / 1.0 | 2.2 / 1.2 | 3.5 / 2 | |
| Inrush Current at 230Vac (Cold Start) | A | 30 | 40 | | | 60 | 40 | |
| Leakage Current (230Vac 60Hz) | mA | <1 | | | | | | |
| Harmonic Compliance | - | Meets IEC61000-3-2 Class A | | | | | | |
| Hold Up Time (115 / 230Vac Input) | ms | 14 / 80 | 12 / 80 | 14 / 60 | | 25 / 150 | 20 / 28 | |
| Efficiency | - | See Model Selector Table | | | | | | |
| Conducted & Radiated EMI | - | EN55011/EN55032-B, FCC-B | | | | | | |
| Immunity | - | IEC61000-4-2 (lvl 2/3), -3 (lvl 3), -4 (lvl 3), -5 (lvl 3,4), -6 (lvl 3), -8 (lvl 4), -11. (See immunity table and immunity test reports on website for more details) | | | | | | |
| Insulation Class | - | Class I | | | | | | |
| Safety Certifications and Markings | - | IEC/EN/UL/CSA62368-1, 60950-1, CE Mark and UKCA Mark | | | | | | |

| Immunity | | | | |
|---------------------------------|--------------------------|--|----------|--|
| Test | Standard | Test Level | Criteria | Notes |
| ESD | EN61000-4-2 | ±8kV air discharge ±6kV contact discharge | A | LS100 results shown. See immunity reports on website for more details |
| Radiated Susceptibility | EN61000-4-3 | 3V/m from 80-1000 MHz | A | |
| Electrical Fast Transient Burst | EN61000-4-4 | ± 2kV | A | |
| Surge | EN61000-4-5 | ± 4kV common mode ±2kV differential mode | A | |
| Conducted Susceptibility | EN61000-4-6 | 10Vrms, 150kHz - 80 MHz | A | |
| Magnetic Fields | EN61000-4-8 | 30A/m | A | |
| Voltage Dips | EN61000-4-11 (230Vac) | 30% dip for 10ms | A | |
| | | 60% dip for 100ms | B | |
| | | 100% 5000ms | B | |

| Specifications | | | | | | | |
|---------------------------|------|--|------|------|------|-------|-------|
| Model | | LS25 | LS35 | LS50 | LS75 | LS100 | LS150 |
| Output | | | | | | | |
| Output Voltage Adjustment | - | See model selector | | | | | |
| Switching Frequency | kHz | 90 - 110 | 65 | | | | |
| Line Regulation | - | See model selector | | | | | |
| Load Regulation | - | See model selector | | | | | |
| External Load Capacitance | - | See instruction manual | | | | | |
| Ripple & Noise | - | See model selector | | | | | |
| Temperature Coefficient | %/°C | <0.02 | | | | | |
| Minimum Load | - | No minimum load required | | | | | |
| Overcurrent Protection | % | >110 with auto recovery | | | | | |
| Overvoltage Protection | V | 3.3V: 3.8 - 4.45, 5V: 5.75 - 6.75, 12V: 13.8 - 16.2, 15V: 17.25 - 20.25, 24V: 27.6 - 32.4, 36V: 41.4 - 48.6, 48V: 55.2 - 64.8 | | | | | |
| Remote Sense | - | No | | | | | |
| Indicators | - | Green LED indicates DC is OK | | | | | |
| Parallel Operation | - | Not possible | | | | | |

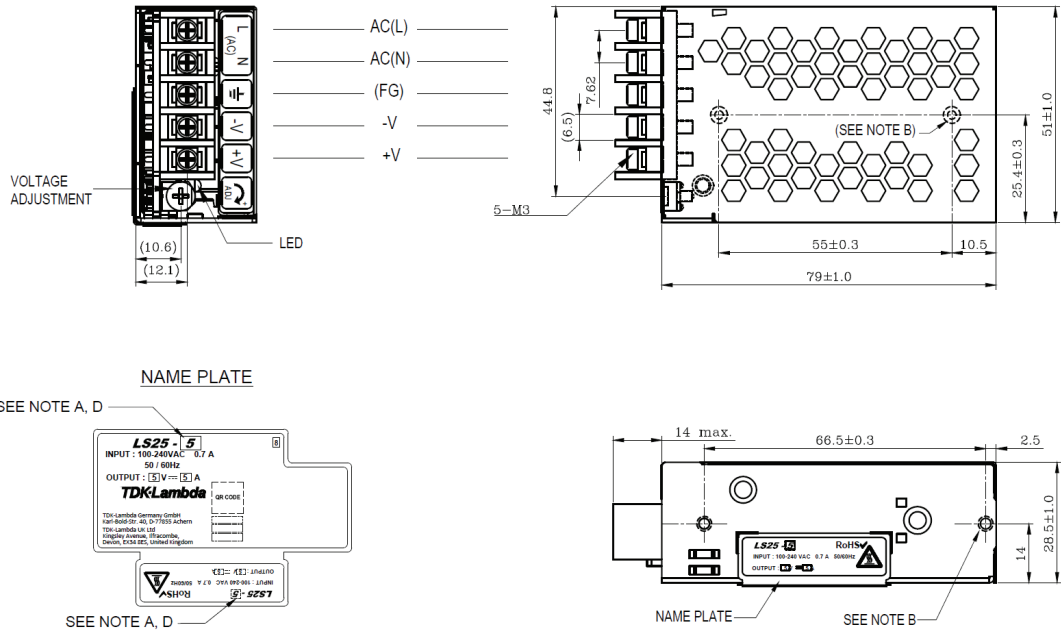
| Specifications | | | | | | | |
|--|--------|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Model | | LS25 | LS35 | LS50 | LS75 | LS100 | LS150 |
| Environmental | | | | | | | |
| Operating Temperature (-25°C start-up) | °C | -25 to +70. Derate linearly to 50% load from +50 to +70. See note (2) for exceptions | | | | | |
| Storage Temperature | °C | -40° to +85 | | | | | |
| Humidity (non condensing) | %RH | Operating: 20 - 90, Storage: 10 - 95 | | | | | |
| Cooling | - | Convection | | | | | |
| Altitude | m | 2,000 | | | | | |
| Withstand Voltage (For 1 minute) | Vac | Input to Ground 1,500, Input to Output 3,000, Output to Ground 500 for 1 min. | | | | | |
| Isolation Resistance | MΩ | >100 at 25°C, 70%RH & 500VDC | | | | | |
| Vibration (Non operating) | - | 10 - 55Hz: 19.6m/s ² constant sweep 1 min X, Y, Z for 1 hour | | | | | |
| Shock | - | < 196.1 m/s ² (20G) | | | | | |
| Other | | | | | | | |
| Weight (Typ) | g | 170 | 270 | 350 | 410 | 600 | 700 |
| Size (LxWxH) | mm | 79 x 51 x 28 | 99 x 82 x 36 | 99 x 97 x 36 | 129 x 98 x 38 | 159 x 97 x 38 | 199 x 98 x 38 |
| Size (LxWxH) | Inches | 3.1 x 2.0 x 1.1 | 3.9 x 3.2 x 1.4 | 3.9 x 3.8 x 1.4 | 5.1 x 3.8 x 1.5 | 6.3 x 3.8 x 1.5 | 7.8 x 3.9 x 1.5 |
| Connectors | | Screw terminals | | | | | |
| Case Material | - | Metal | | | | | |
| MTBF - MIL-HDBK-217F | Hrs | 906,997 | 706,464 | 712,890 | 648,786 | 545,375 | 505,393 |
| Warranty | Yrs | 5 | | | | | |

Notes:

See website for detailed specifications, test methods and installation manual

- (1) Switch selectable for 115 or 230Vac
- (2) LS25-3 Derate linearly to 60% load from +40 to +70°C.
 LS50, LS75-3 & -5 Derate linearly to 70% load from +50 to +70°C.
 LS25-5 to 48, LS75-12 to 48 Derate linearly to 60% load from +50 to +70°C.
 LS100-3 & -5 Derate linearly to 60% load from +45 to +70°C. Derate linearly to 80% load from 115V to 88Vac input.
 LS100-12, -15, -24, -36, -48 Derate linearly to 60% load from +50 to +70°C. Derate linearly to 80% load from 115V to 88Vac input.
 LS150-3 & -5, Derate linearly to 50% load from +40 to +70°C.
 LS150-12, -15, -24, -36, -48 Derate linearly to 70% load from +50 to +70°C.

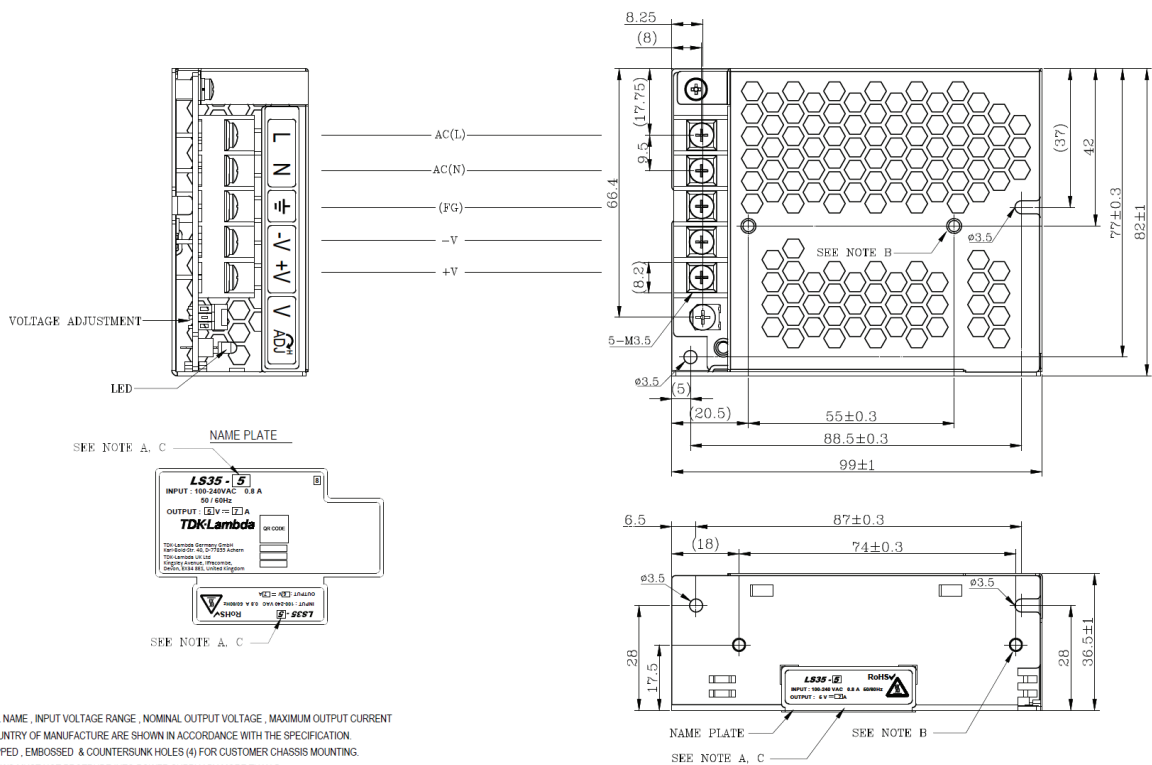
Outline Drawing LS25



NOTES

- A. MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT & COUNTRY OF MANUFACTURE ARE SHOWN IN ACCORDANCE WITH THE SPECIFICATION.
- B. M3 TAPPED, EMBOSSED & COUNTERSUNK HOLES (4) FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 4mm.
- C. UNLESS OTHERWISE SPECIFIED, DIMENSION TOLERANCE = ±0.3mm.
- D. NAME PLATE DETAILS SHOWN HERE IS FOR REFERENCE ONLY, PLEASE SEE LATEST RELEASE FOR DETAILS.

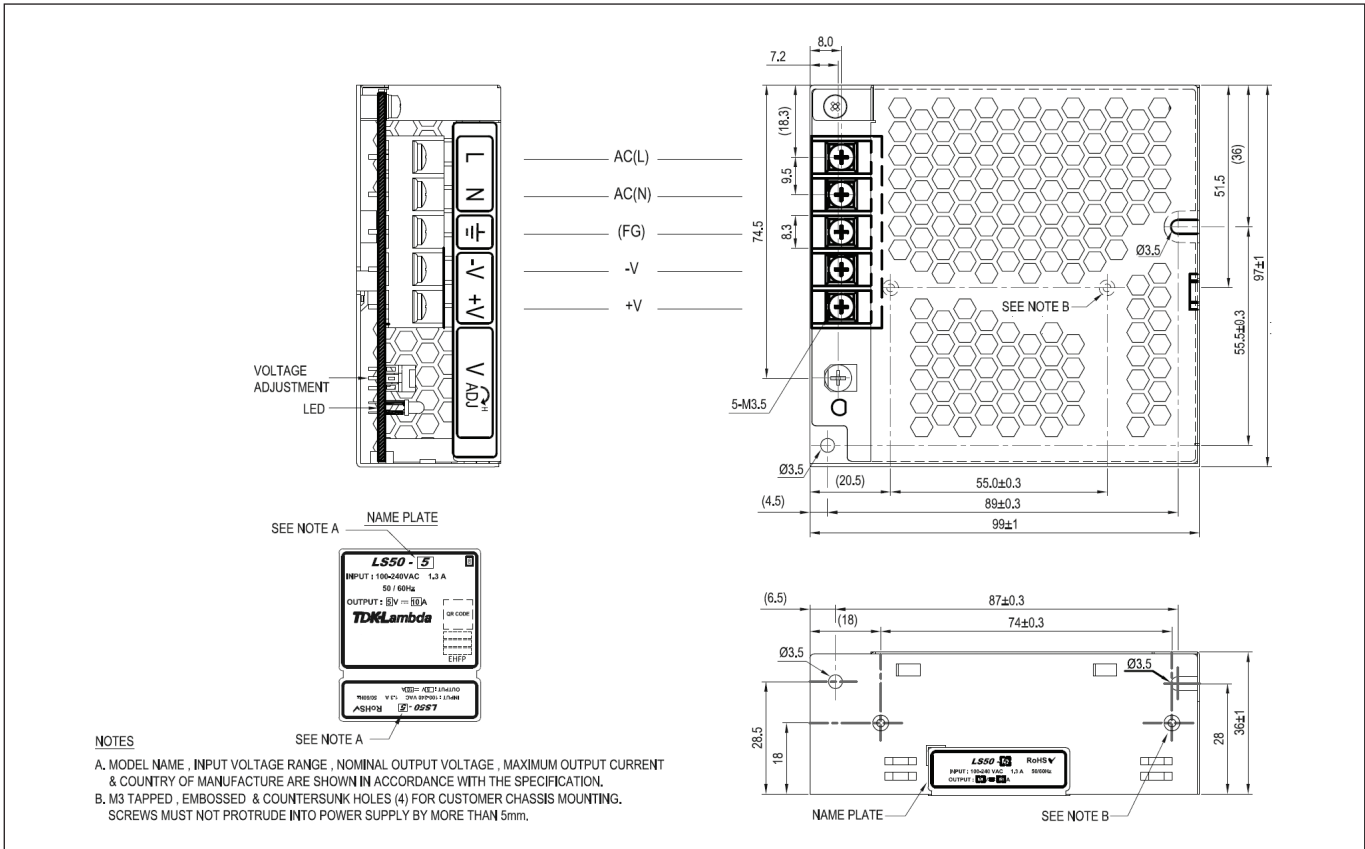
Outline Drawing LS35



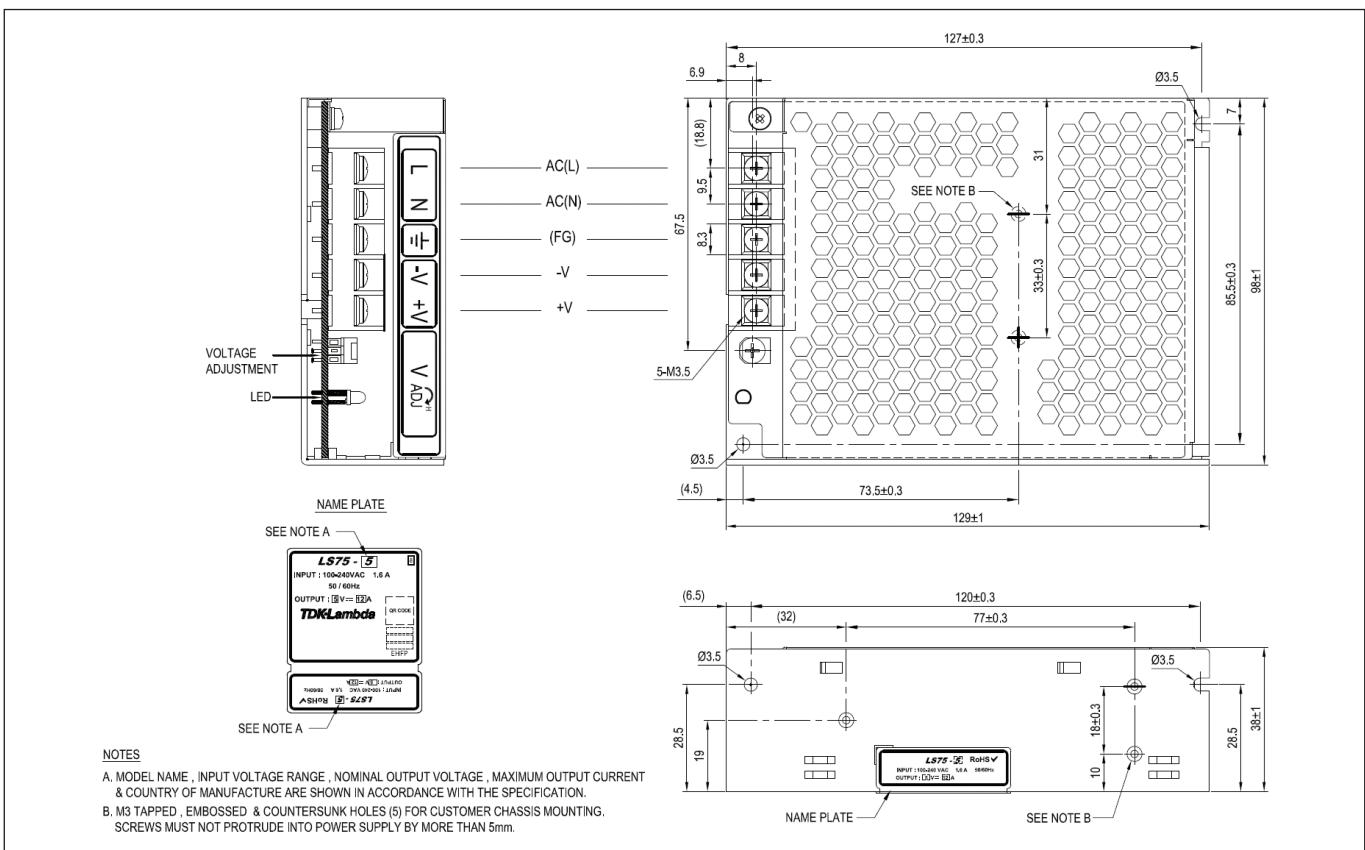
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- A. MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT & COUNTRY OF MANUFACTURE ARE SHOWN IN ACCORDANCE WITH THE SPECIFICATION.
- B. M3 TAPPED, EMBOSSED & COUNTERSUNK HOLES (4) FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.
- C. NAME PLATE DETAILS SHOWN HERE IS FOR REFERENCE ONLY, PLEASE SEE LATEST RELEASE FOR DETAILS.

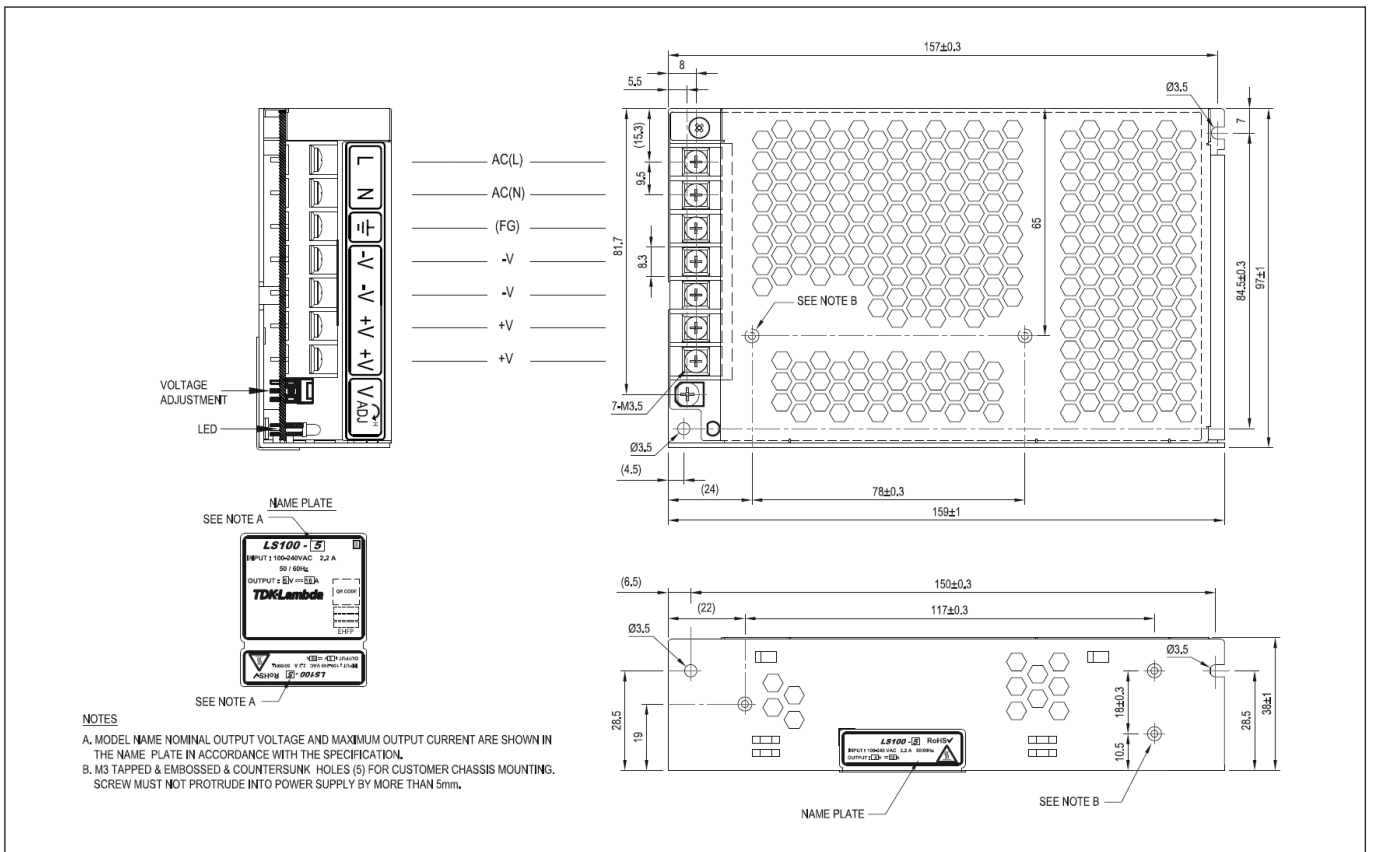
Outline Drawing LS50



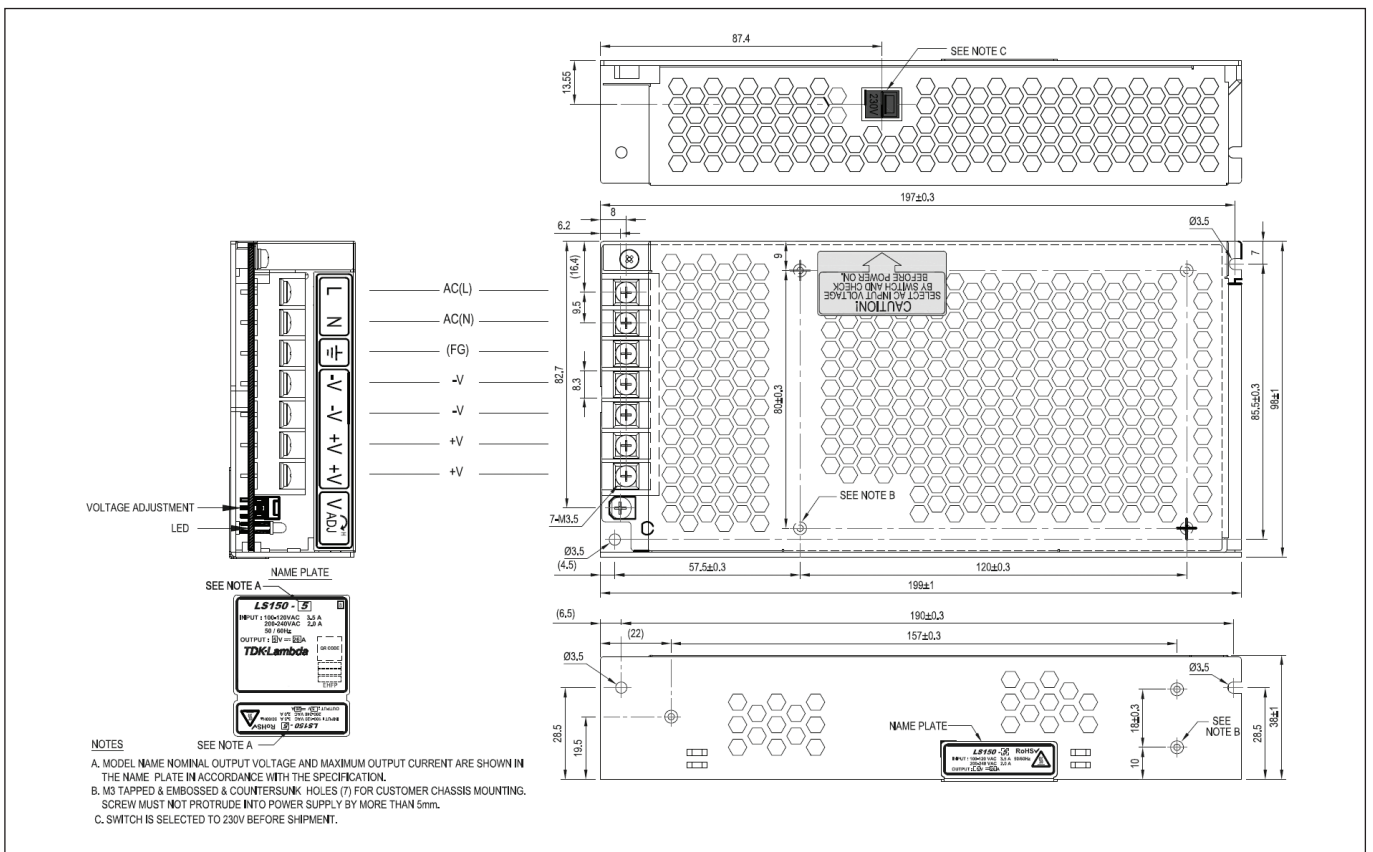
Outline Drawing LS75



Outline Drawing LS100



Outline Drawing LS150





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