

25-150W Single Output General Purpose Power Supplies

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



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 ⁽³⁾ 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 ⁽³⁾	• 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 60% dip for 100ms 100% 5000ms	A B 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/s² constant sweep 1 min X, Y, Z for 1 hour					
Shock	-	< 196.1 m/s² (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	3 or 5 (see note 3)					

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.

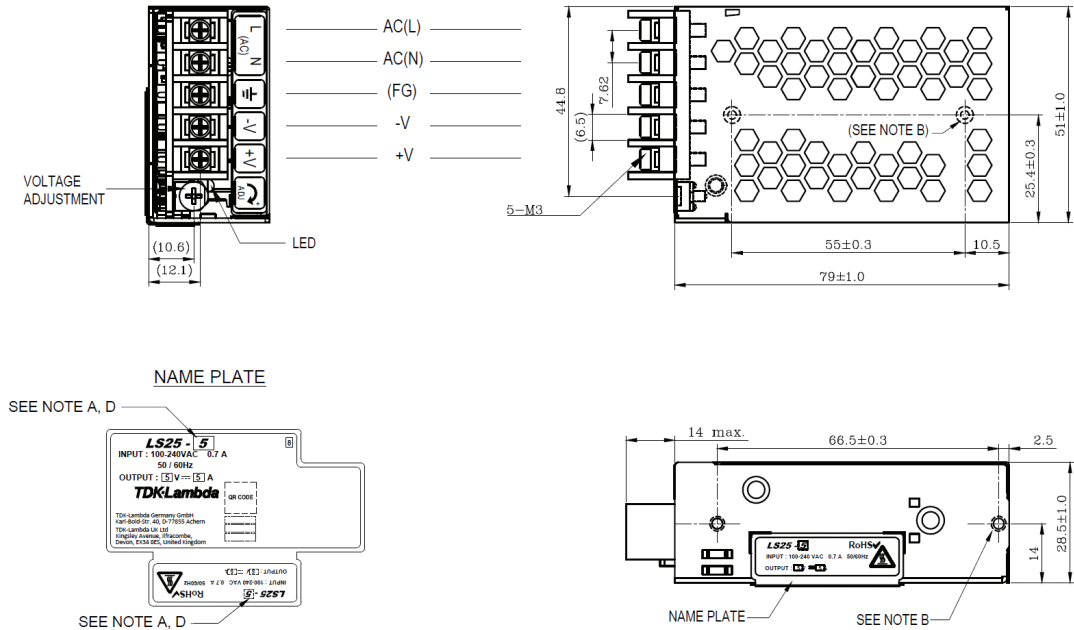
LS100-12, -15, -24, -36, -48 Derate linearly to 60% load from +50 to +70°C. Derate linearly to 80% load from 115V to 88Vac input.

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.

(3) The Americas and EMEA regions: 5 years. Other regions: 3 years. See applicable regional terms of sale.

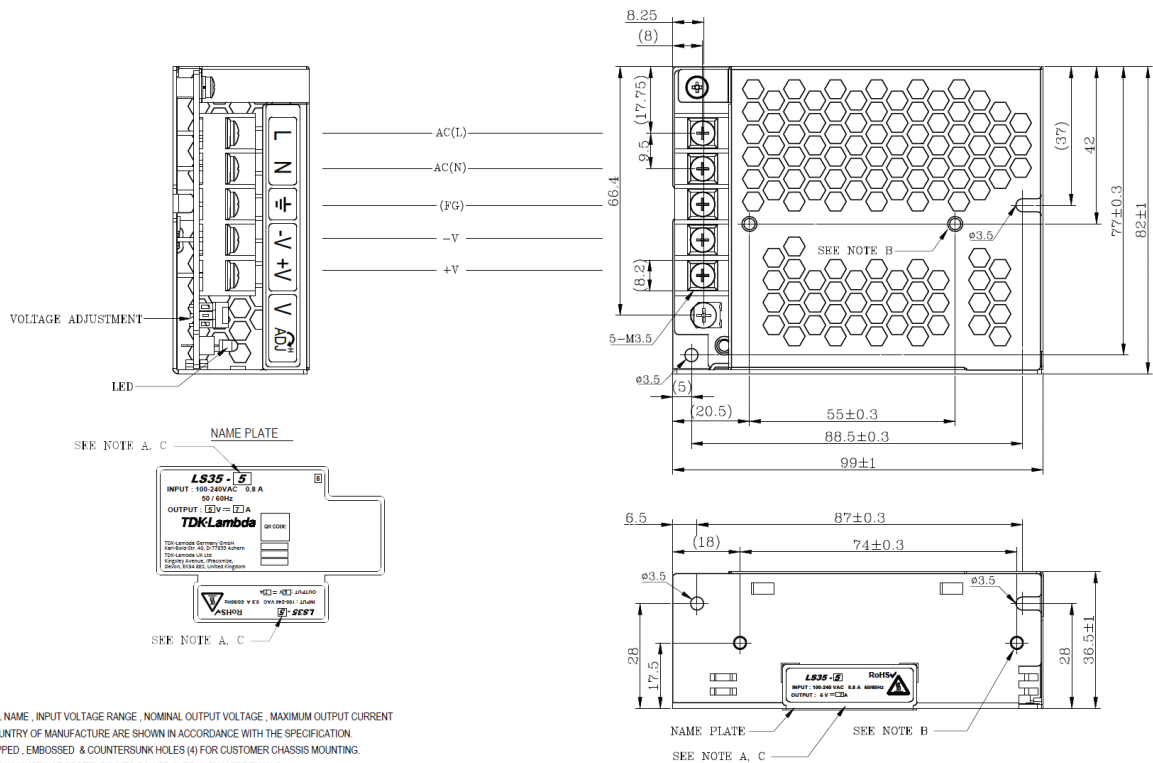
Outline Drawing LS25



NOTES

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

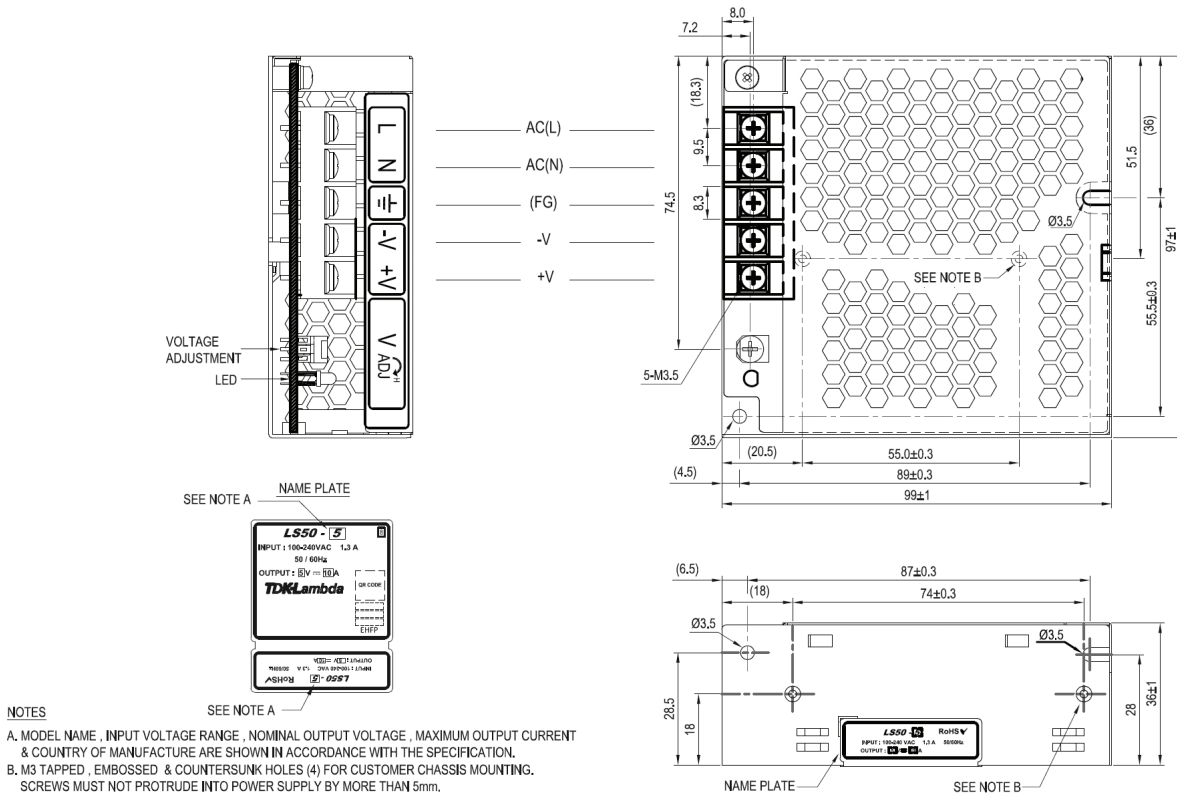
Outline Drawing LS35



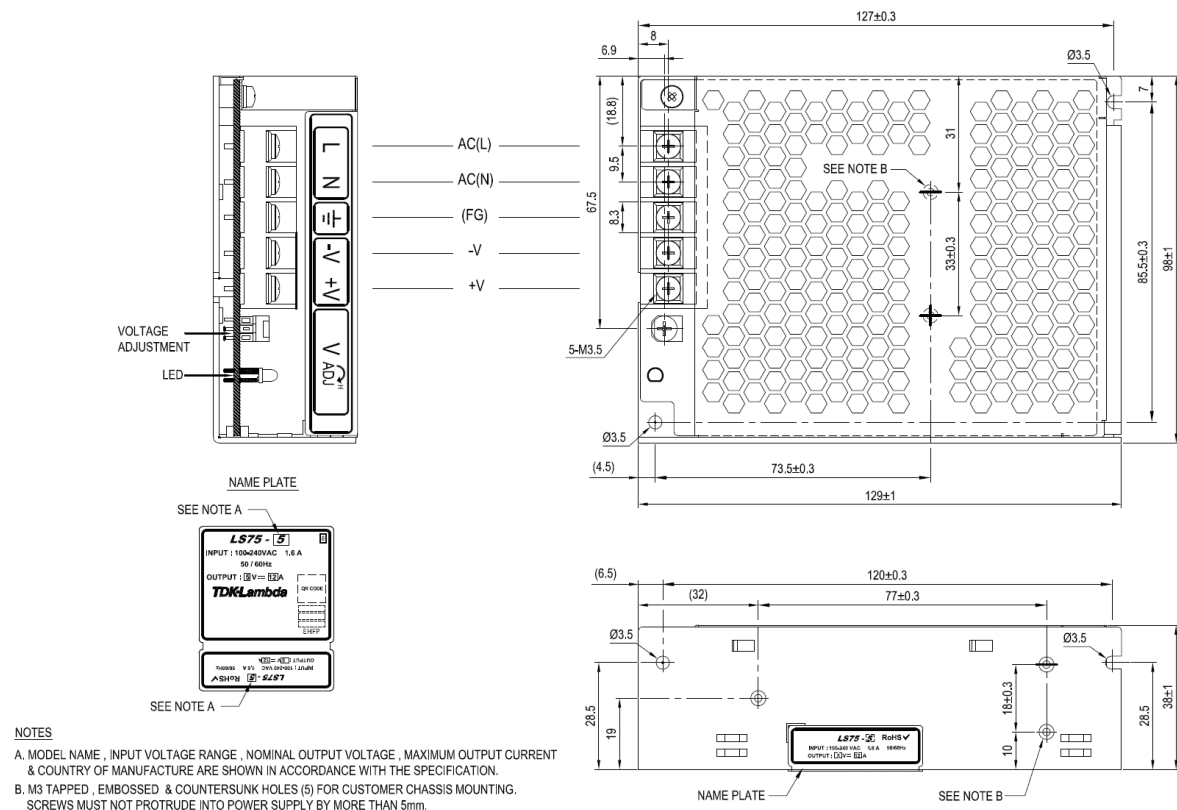
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- NAME PLATE DETAILS SHOWN HERE IS FOR REFERENCE ONLY, PLEASE SEE LATEST RELEASE FOR DETAILS.

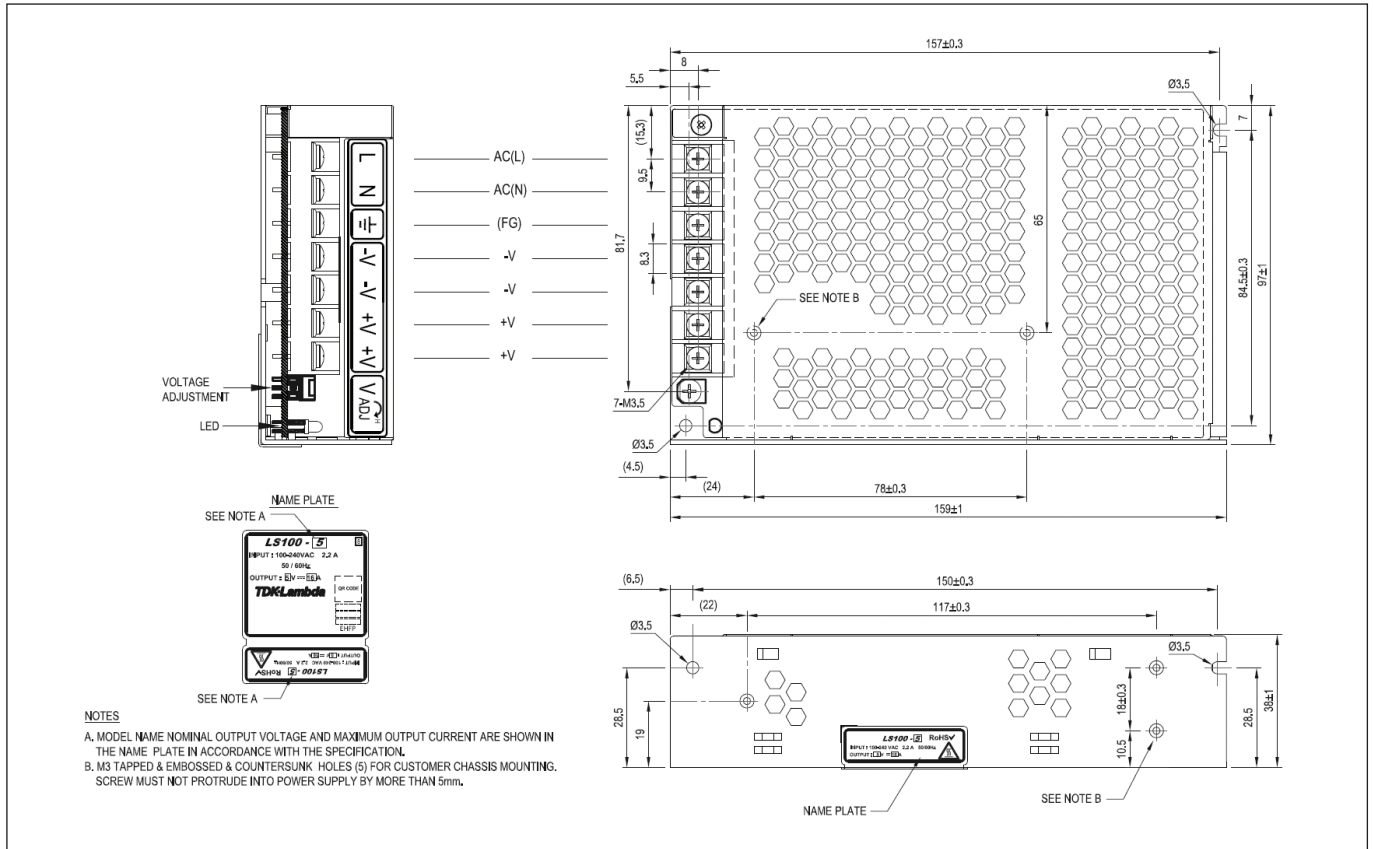
Outline Drawing LS50



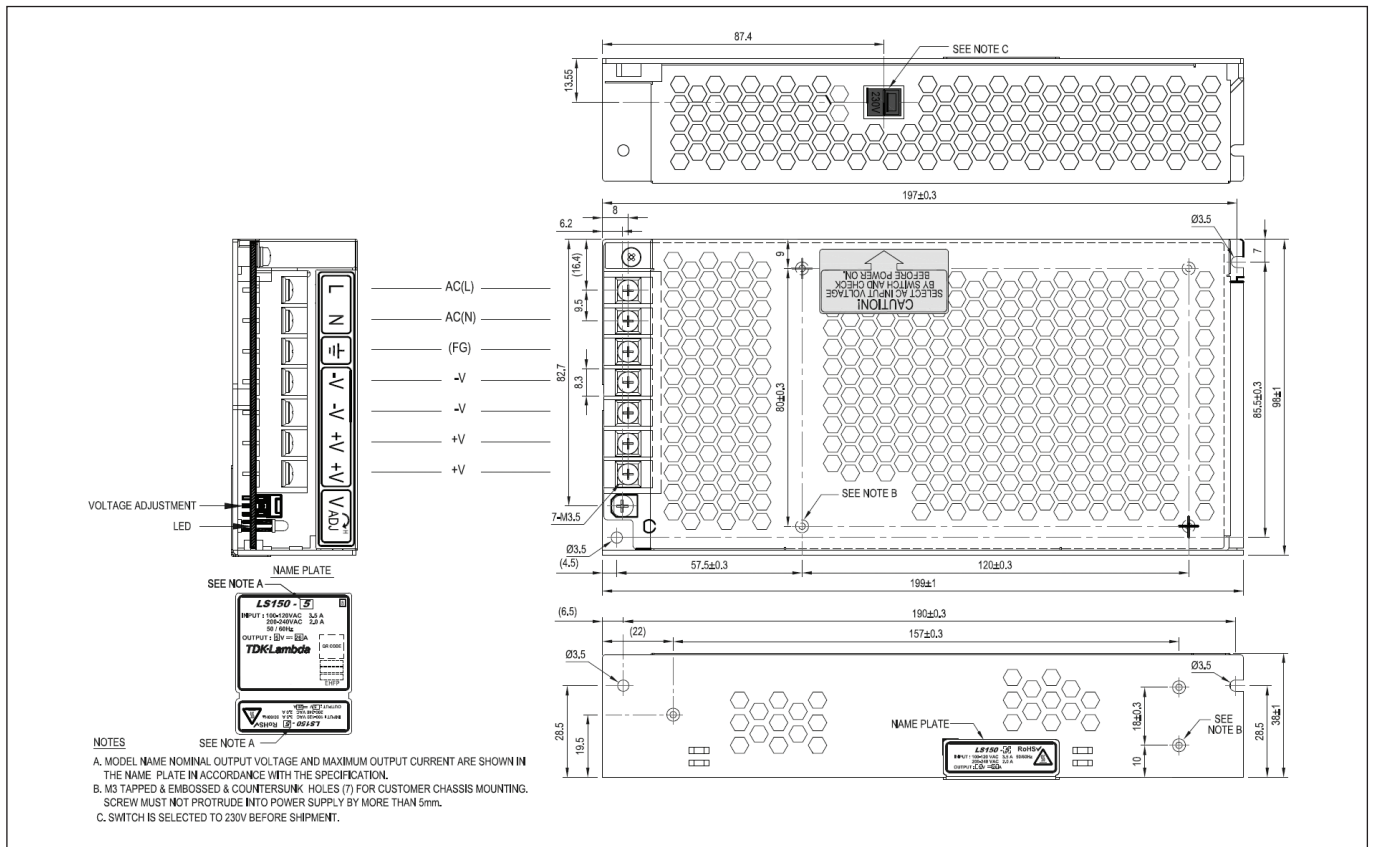
Outline Drawing LS75



Outline Drawing LS100



Outline Drawing LS150



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