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

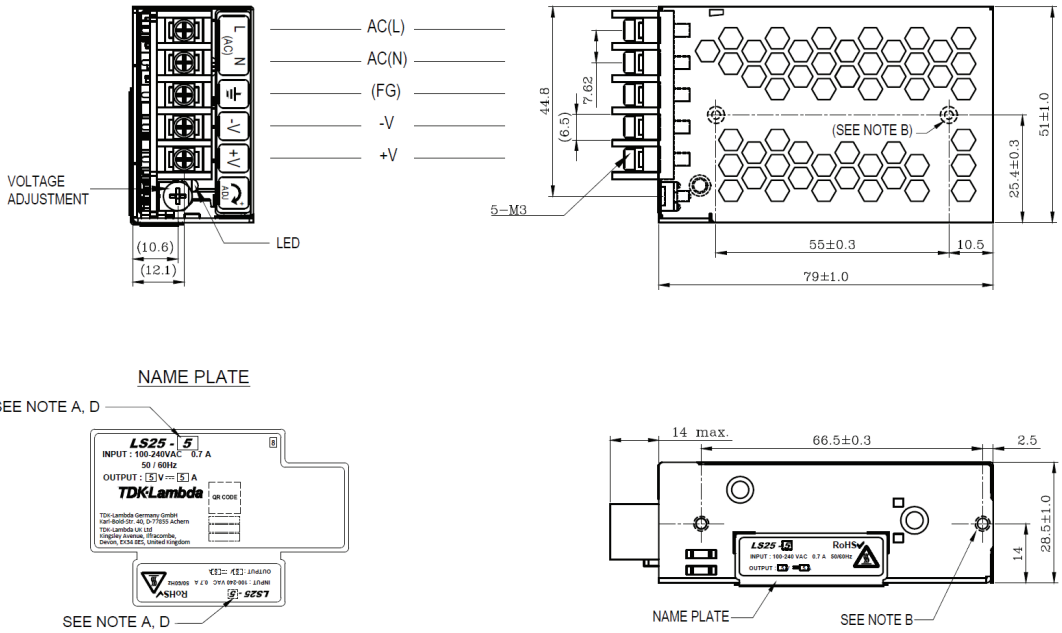
Model		LS25	LS35	LS50	LS75	LS100	LS150
Output							
Output Voltage Adjustment	-	See model selector					
Switching Frequency	kHz	90 - 110	65				
Line Regulation	-	See model selector					
Load Regulation	-	See model selector					
External Load Capacitance	-	See instruction manual					
Ripple & Noise	-	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/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	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.

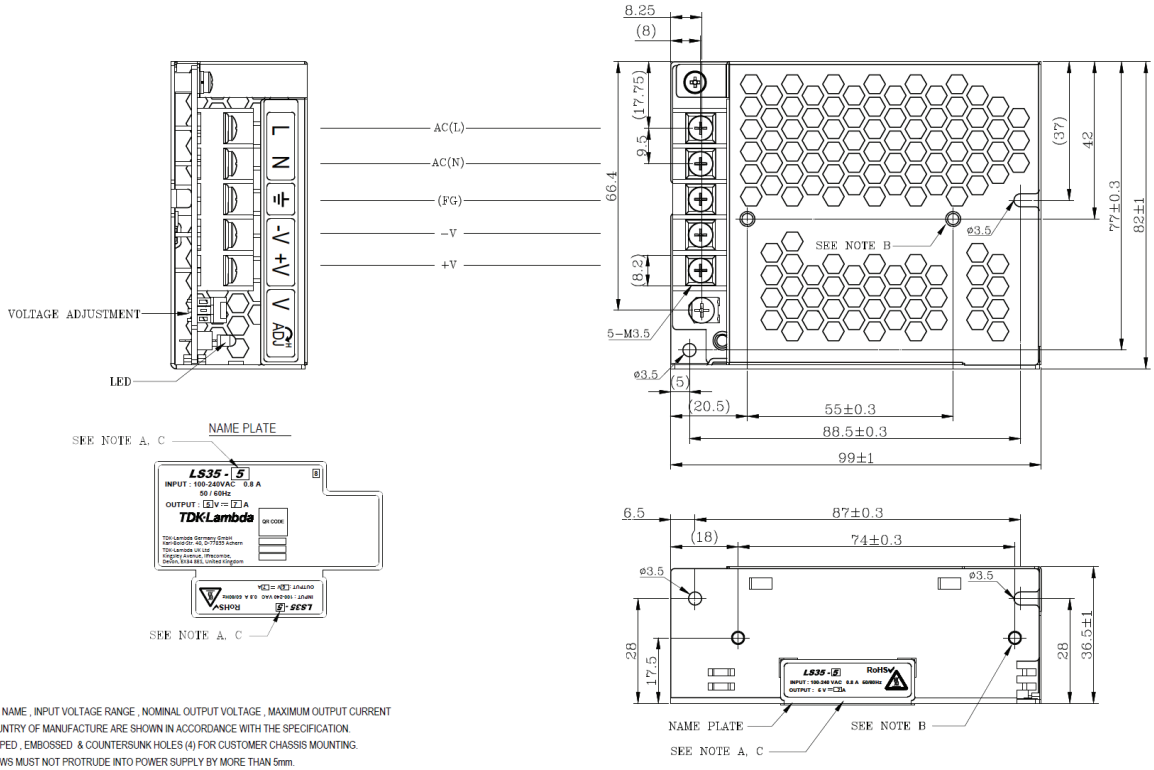
Outline Drawing LS25



NOTES

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.

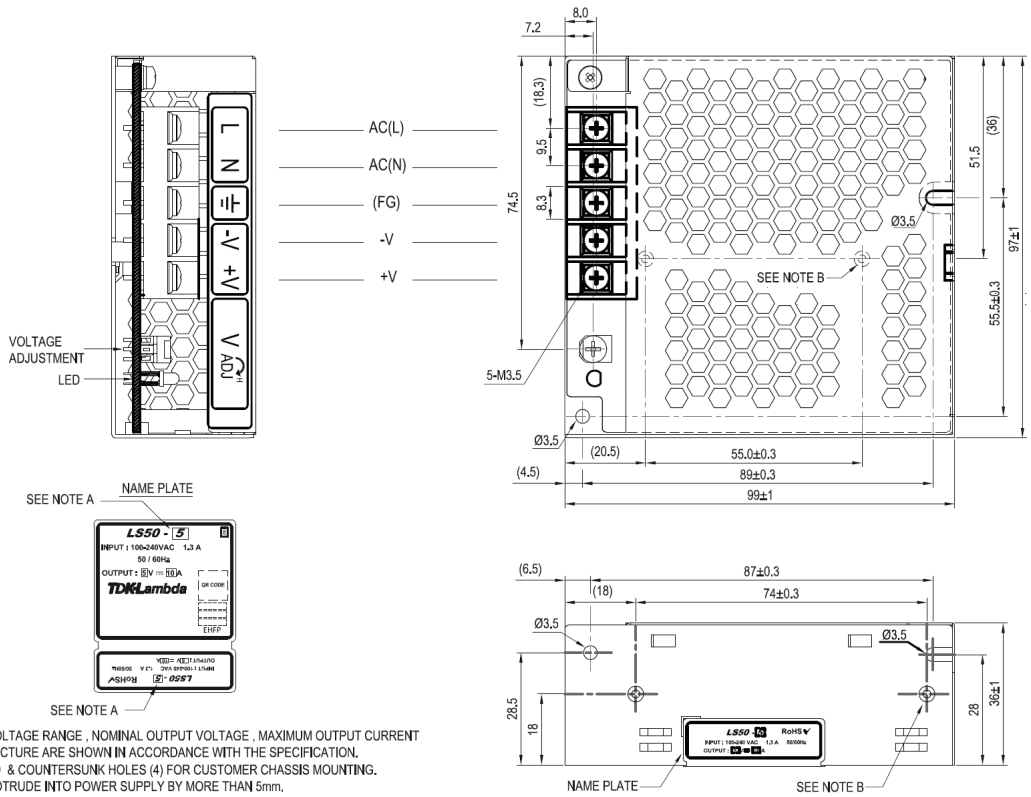
Outline Drawing LS35



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 5mm.
C. NAME PLATE DETAILS SHOWN HERE IS FOR REFERENCE ONLY, PLEASE SEE LATEST RELEASE FOR DETAILS.

Outline Drawing LS50



NOTES

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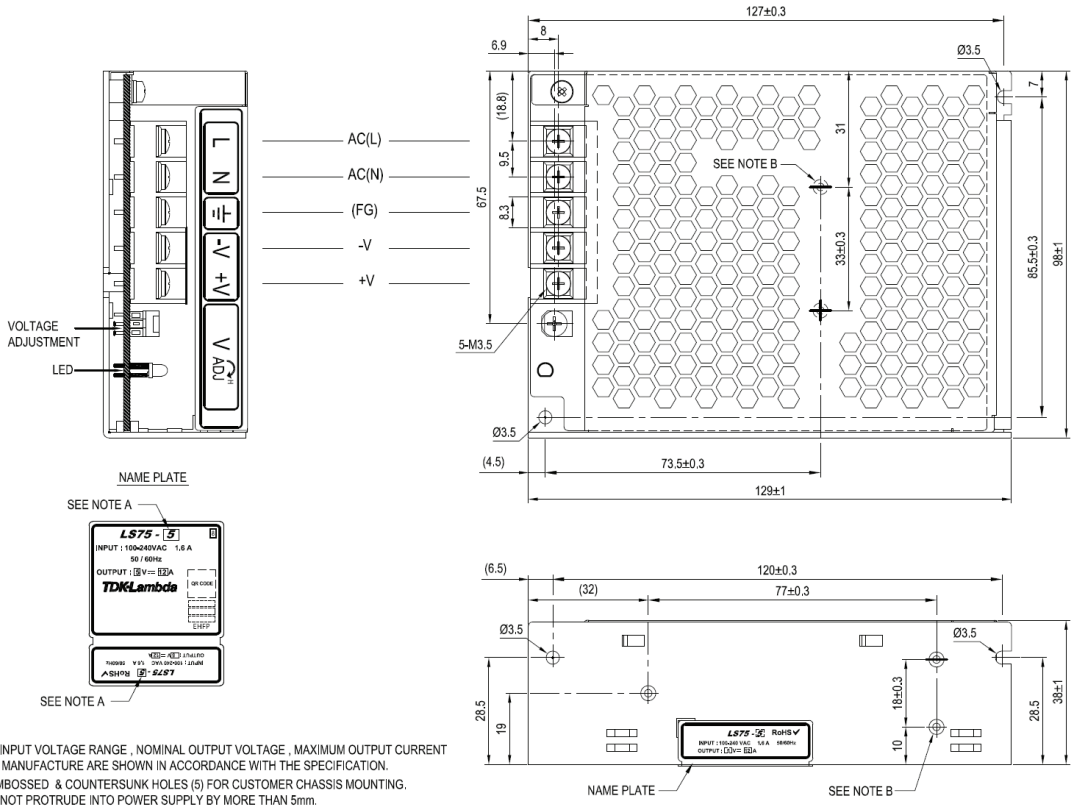
B. M3 TAPPED , EMBOSSED & COUNTERSUNK HOLES (4) FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.

Outline Drawing LS75

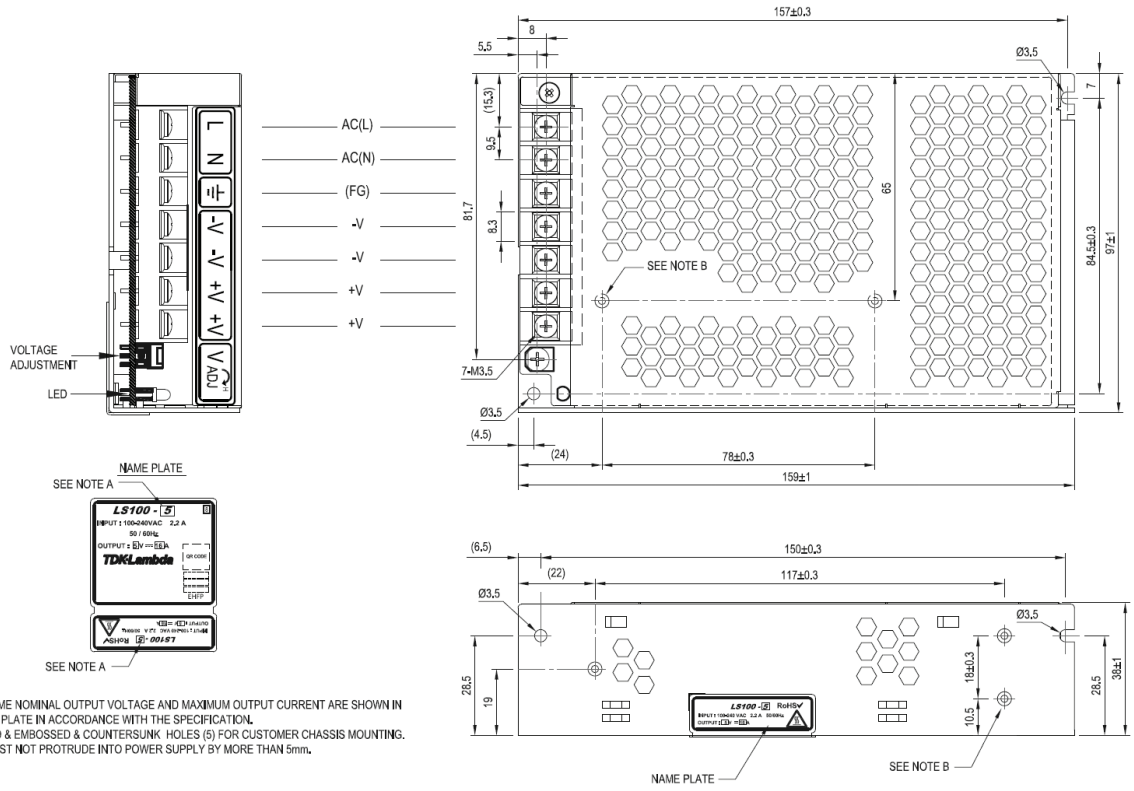


NOTES

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 (5) FOR CUSTOMER CHASSIS MOUNTING. SCREWS MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.

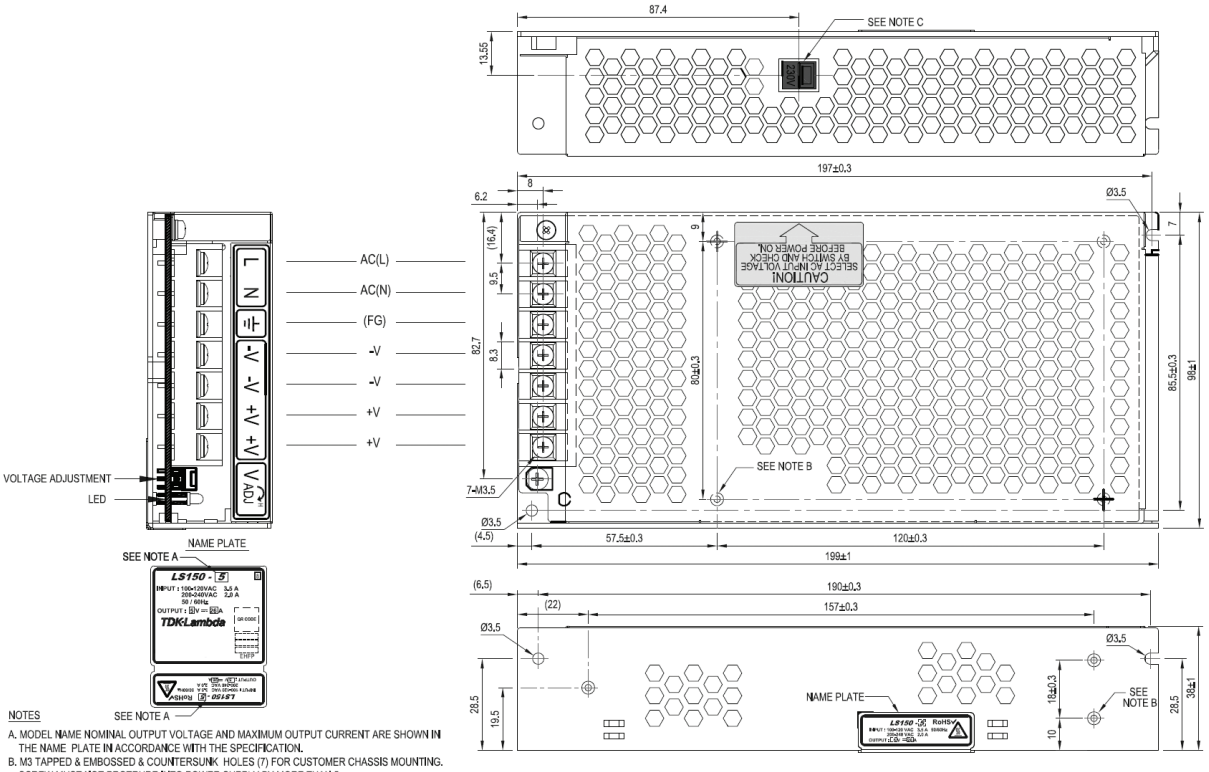
Outline Drawing LS100



NOTES

A. MODEL NAME NOMINAL OUTPUT VOLTAGE AND MAXIMUM OUTPUT CURRENT ARE SHOWN IN THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATION.
B. M3 TAPPED & EMBOSSED & COUNTERSUNK HOLES (5) FOR CUSTOMER CHASSIS MOUNTING. SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.

Outline Drawing LS150



NOTES

A. MODEL NAME NOMINAL OUTPUT VOLTAGE AND MAXIMUM OUTPUT CURRENT ARE SHOWN IN THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATION.
B. M3 TAPPED & EMBOSSED & COUNTERSUNK HOLES (7) FOR CUSTOMER CHASSIS MOUNTING. SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.
C. SWITCH IS SELECTED TO 230V BEFORE SHIPMENT.

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https://product.tdk.com/en/power/