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TDK·Lambda

LS200 Series

150-200W 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 150 to 200W power supplies for general purpose light industrial use. With output voltages ranging from 3.3 to 48V, the products have a five-year warranty (1) and conservatively rated electrolytic capacitor temperatures for longer field life. Two case styles are available - enclosed with internal fan, or a U-channel construction which can be operated either with external airflow or convection cooled at a lower power level. 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 (1)	• Lower Cost of Ownership

Model Selector

Model	Voltage (V)	Adjustable Range (V)	Max Current (A)(2)	Max Current Convection (A)(3)	Peak Current (A)(4)	Load Reg (mV)	Line Reg (mV)	Ripple Noise (mV)	Efficiency (typ) %(5)
LS200-3.3	3.3	3.0 - 3.6	40	N/A	-	40	16	80	67 / 68
LS200-3.3/L	3.3	3.0 - 3.6	40	26	-	40	16	80	67 / 68
LS200-5	5	4.75 - 5.5	40	N/A	-	40	20	80	72 / 75
LS200-5/L	5	4.75 - 5.5	40	26	-	40	20	80	72 / 75
LS200-7.5	7.5	6.8 - 8.2	26.7	N/A	-	40	20	80	74 / 77
LS200-7.5/L	7.5	6.8 - 8.2	26.7	17.3	-	40	20	80	74 / 77
LS200-12	12	10.8 - 14.4	16.7	N/A	-	96	48	120	76 / 79
LS200-12/L	12	10.8 - 14.4	16.7	11.6	-	96	48	120	76 / 79
LS200-15	15	13.5 - 16.5	13.4	N/A	-	120	60	120	80 / 83
LS200-15/L	15	13.5 - 16.5	13.4	9.3	-	120	60	120	80 / 83
LS200-24	24	22 - 28.8	8.4	N/A	10.4	192	96	120	82 / 84
LS200-24/L	24	22 - 28.8	8.4	5.8	10.4	192	96	120	82 / 84
LS200-36	36	32 - 40	5.6	N/A	6.9	288	144	150	82 / 85
LS200-36/L	36	32 - 40	5.6	3.9	6.9	288	144	150	82 / 85
LS200-48	48	42 - 57.6	4.2	N/A	-	384	192	200	82 / 85
LS200-48/L	48	42 - 57.6	4.2	2.9	-	384	192	200	82 / 85

LS200	-24	/L

3.3	3.3V Output Voltage
5	5V Output Voltage
7.5	7.5V Output Voltage
12	12V Output Voltage
15	15V Output Voltage
24	24V Output Voltage
36	36V Output Voltage
48	48V Output Voltage

Blank	Enclosed with internal fan
/L	U-Channel without internal fan

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Related Products

	Part Number	Description
Lower power LS	LS25-150	25W to 150W LS models
Higher power 7 year warranty	RWSB	50W to 1500W single output AC-DC power supplies

Specifications

Model		LS200 (Enclosed with fan)	LS200/L (U-Channel, no fan)
Input			
AC Input Voltage Range (Operating)	Vac	85 - 264	85 - 264[6]
Nominal Input Voltage Range	Vac	100 - 240 (Note: Safety certified for 90-264Vac only)	
Input Surge Voltage	Vac	300 for up to 5s	
Input Frequency	Hz	47 - 63 (Note: Safety certified for 50/60Hz only)	
DC Input Voltage range	Vdc	120 - 373 (Note: Safety certified for AC input only)	
Input Current (115/230Vac)	A	3.5 / 1.7 (typical)	
Inrush Current at 230Vac (Cold Start)	A	60	
Leakage Current (230Vac 60Hz)	mA	<1	
Harmonic Compliance	-	IEC61000-3-2, -3	
Hold Up Time (115/230Vac Input)	ms	20	
Efficiency	-	See Model Selector Table	
Conducted & Radiated EMI	-	EN55011/EN55032-B, FCC-B	
Immunity	-	See Immunity Table	
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	See immunity report on website for more details
Radiated Susceptibility	EN61000-4-3	10V/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	

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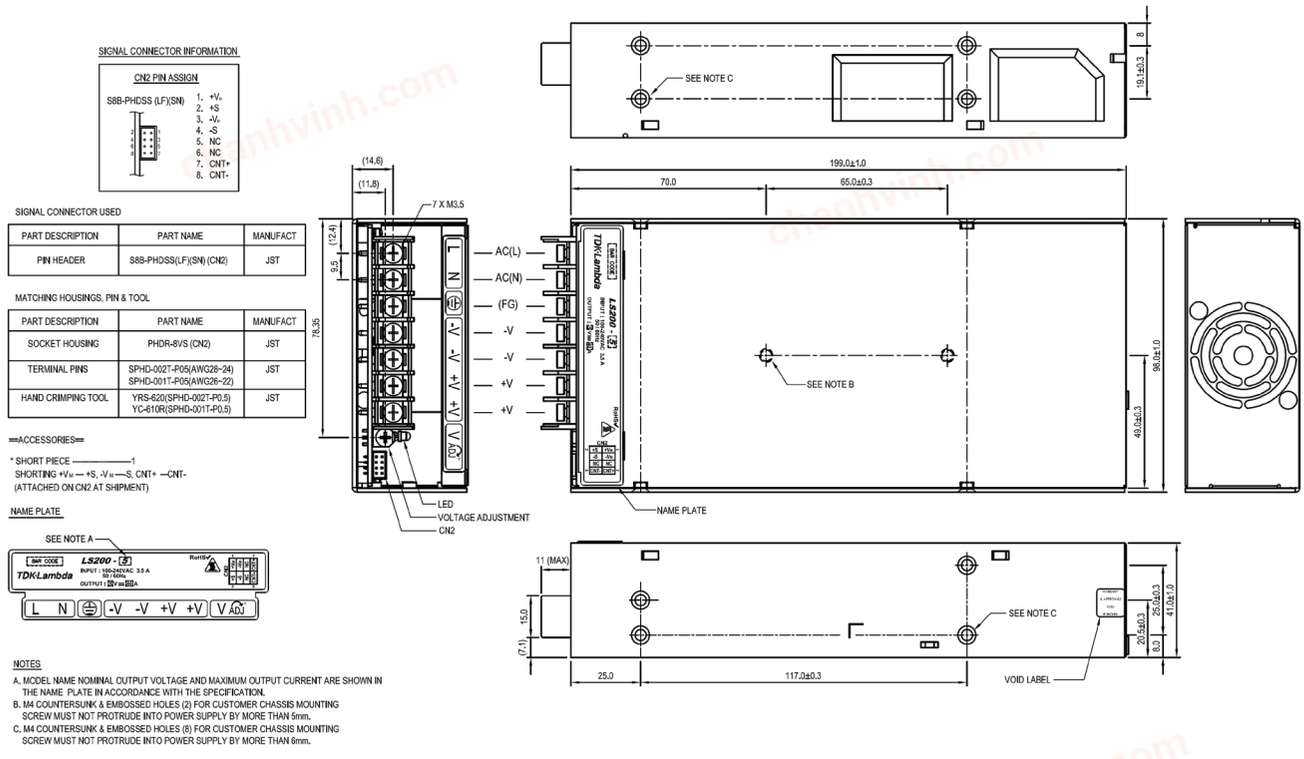
Specifications

Model		LS200 (Enclosed with fan)	LS200/L (U-Channel, no fan)
Output			
Output Voltage Adjustment		See model selector	
Switching Frequency	kHz	130	
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 (0 - 50°C)	
Minimum Load	-	No minimum load required	
Overcurrent Protection(7)	%	105 of maximum output current for 3.3V - 15V & 48V and 105 of peak output current for 24V - 36V	
Overvoltage Protection(8)	V	3.3V: 3.8 - 4.45, 5V: 5.75 - 6.75, 7.5V: 8.6 - 10.1, 12V: 15.1 - 17.75, 15V: 17.25 - 20.25, 24V: 30.25 - 35.5, 36V: 41.4 - 48.6, 48V: 60 - 72.5	
Overtemperature Protection(8)	-	Yes	
Remote Sense	-	No	
Remote On/Off	-	CN2: 3 - 12VDC POWER OFF, < 0 - 0.8VDC POWER ON	
Indicators	-	Green LED indicates DC is OK	
Parallel Operation	-	Not possible	
Environmental			
Operating Temperature (-25°C start-up)	°C	-25 to +70 (see installation manual for derating curves)	
Storage Temperature	°C	-40° to +85	
Humidity (non condensing)	%RH	Operating: 20 - 90, Storage: 10 - 95	
Cooling	-	Fan cooled (exhaust from fan end)	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	700	600
Size (LxWxH)	mm	199 x 98 x 41	
Size (LxWxH)	Inches	7.8 x 3.9 x 1.61	
Connectors		Screw terminals	
Case Material	-	Metal	
MTBF - MIL-HDBK-217F	Hrs	300,000	
Warranty (1)	Yrs	5	

Notes:
See website for detailed specifications, test methods and installation manual
(1) The Americas and EMEA regions: 5 years. Other regions: 3 years. See applicable regional terms of sale.
(2) With internal fan version LS200-xx or LS200-xx/L version with external airflow
(3) Max current at nominal output voltage; see installation manual for derating curve
(4) Operating period at peak output current is <10s at <35% duty cycle
(5) 115 / 230Vac input
(6) Derate linearly to 65% load from 115Vac to 85Vac
(7) Constant current limiting with automatic recovery. Avoid to operate at overload and dead short for more than 30 seconds
(8) OVP, OTP circuit will shutdown output, manual reset (Re-power on)

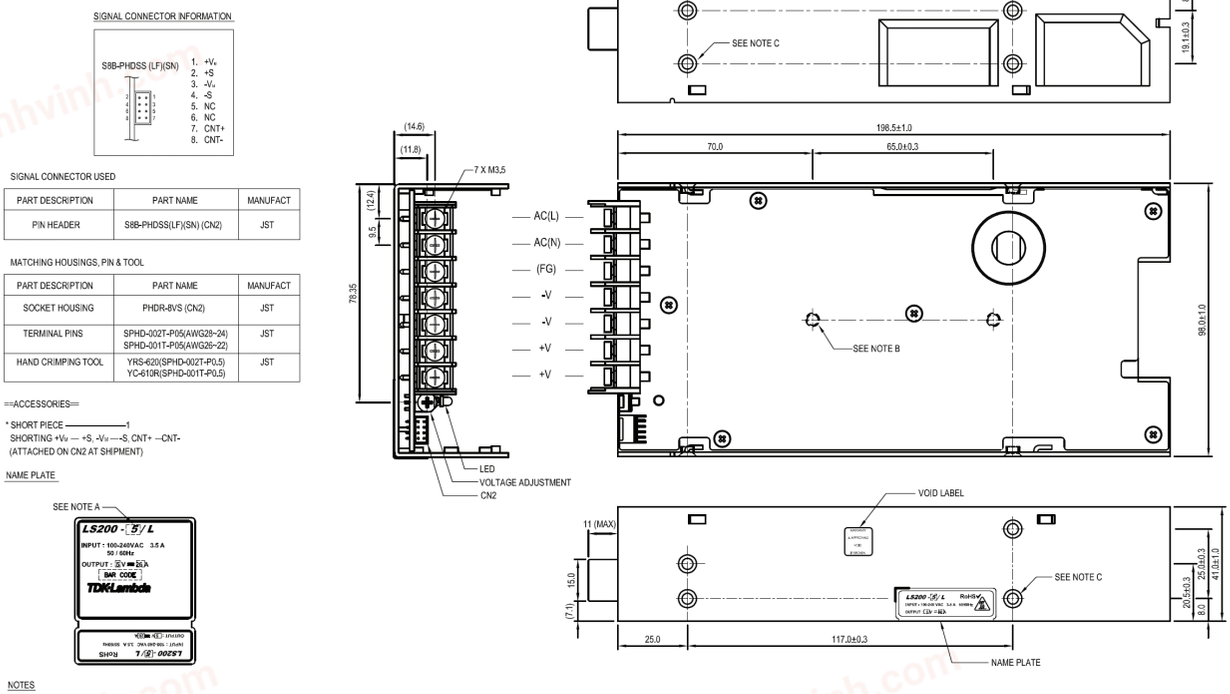
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Outline Drawing LS200 (Enclosed with fan)



NOTES
A. MODEL NAME NOMINAL OUTPUT VOLTAGE AND MAXIMUM OUTPUT CURRENT ARE SHOWN IN THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATION.
B. M4 COUNTERSUNK & EMBOSSED HOLES (2) FOR CUSTOMER CHASSIS MOUNTING SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.
C. M4 COUNTERSUNK & EMBOSSED HOLES (8) FOR CUSTOMER CHASSIS MOUNTING SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 6mm.

Outline Drawing LS200/L (U-Channel, no fan)



NOTES
A. MODEL NAME NOMINAL OUTPUT VOLTAGE AND MAXIMUM OUTPUT CURRENT ARE SHOWN IN THE NAME PLATE IN ACCORDANCE WITH THE SPECIFICATION.
B. M4 COUNTERSUNK & EMBOSSED HOLES (2) FOR CUSTOMER CHASSIS MOUNTING SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 5mm.
C. M4 COUNTERSUNK & EMBOSSED HOLES (8) FOR CUSTOMER CHASSIS MOUNTING SCREW MUST NOT PROTRUDE INTO POWER SUPPLY BY MORE THAN 6mm.

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For Additional Information, please visit
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