

## 150-200W Single Output General Purpose Power Supplies



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 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	• Lower Cost of Ownership

Model Selector									
Model	Voltage (V)	Adjustable Range (V)	Max Current (A) <sup>(1)</sup>	Max Current Convection (A) <sup>(2)</sup>	Peak Current (A) <sup>(3)</sup>	Load Reg (mV)	Line Reg (mV)	Ripple Noise (mV) <sup>(4)</sup>	Efficiency (typ) % <sup>(5)</sup>
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

Related Products		
	Part Number	Description
Lower power LS	<a href="#">LS25-150</a>	25W to 150W LS models
Higher power 7 year warranty	<a href="#">RWSB</a>	50W to 1500W single output AC-DC power supplies

Specifications			
Model		LS200 (Enclosed with fan)	LS200/L (U-Channel, no fan)
<b>Input</b>			
AC Input Voltage range	Vac	85 - 264	85 - 264 <sup>(6)</sup>
Input Surge Voltage	Vac	300 for up to 5s	
Input Frequency	Hz	47 - 63	
DC Input Voltage range	Vdc	120 - 373 <sup>(7)</sup>	
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) <sup>(8)</sup>	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	A	
		60% dip for 100ms	B	
		100% 5000ms	B	

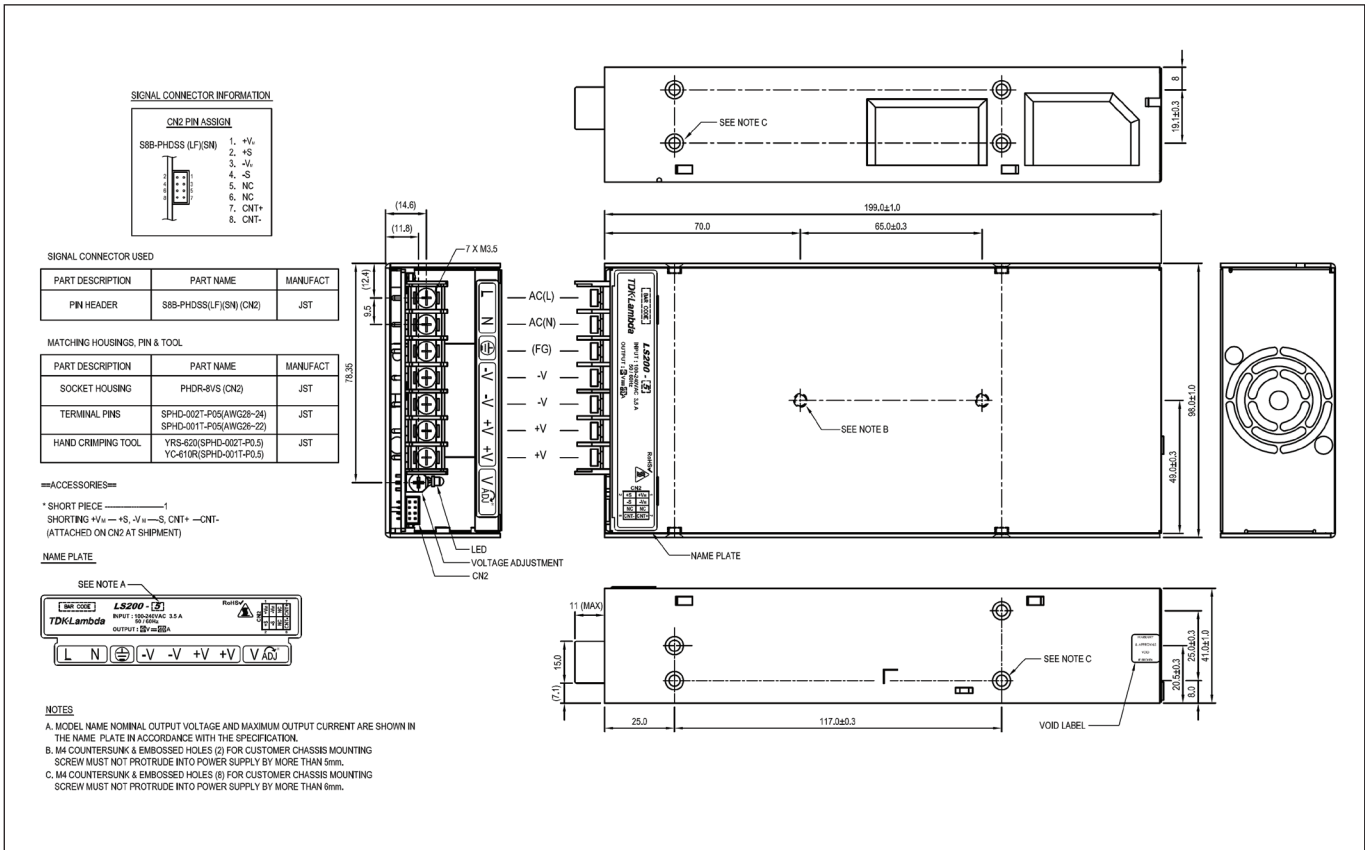
Specifications		
Model	LS200 (Enclosed with fan)	LS200/L (U-Channel, no fan)
<b>Output</b>		
Output Voltage Adjustment		See model selector
Switching Frequency	kHz	130
Line Regulation	-	See model selector
Load Regulation	-	See model selector
External Load Capacitance	-	See instruction manual
Ripple & Noise	-	See model selector
Temperature Coefficient	%/°C	<0.02 (0 - 50°C)
Minimum Load	-	No minimum load required
Overcurrent Protection <sup>(9)</sup>	%	105 of maximum output current for 3.3V - 15V & 48V and 105 of peak output current for 24V - 36V
Overvoltage Protection <sup>(10)</sup>	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 <sup>(10)</sup>	-	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
<b>Environmental</b>		
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 <sup>2</sup> constant sweep 1 min X, Y, Z for 1 hour
Shock	-	< 196.1 m/s <sup>2</sup> (20G)
<b>Other</b>		
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	Yrs	5

**Notes:**

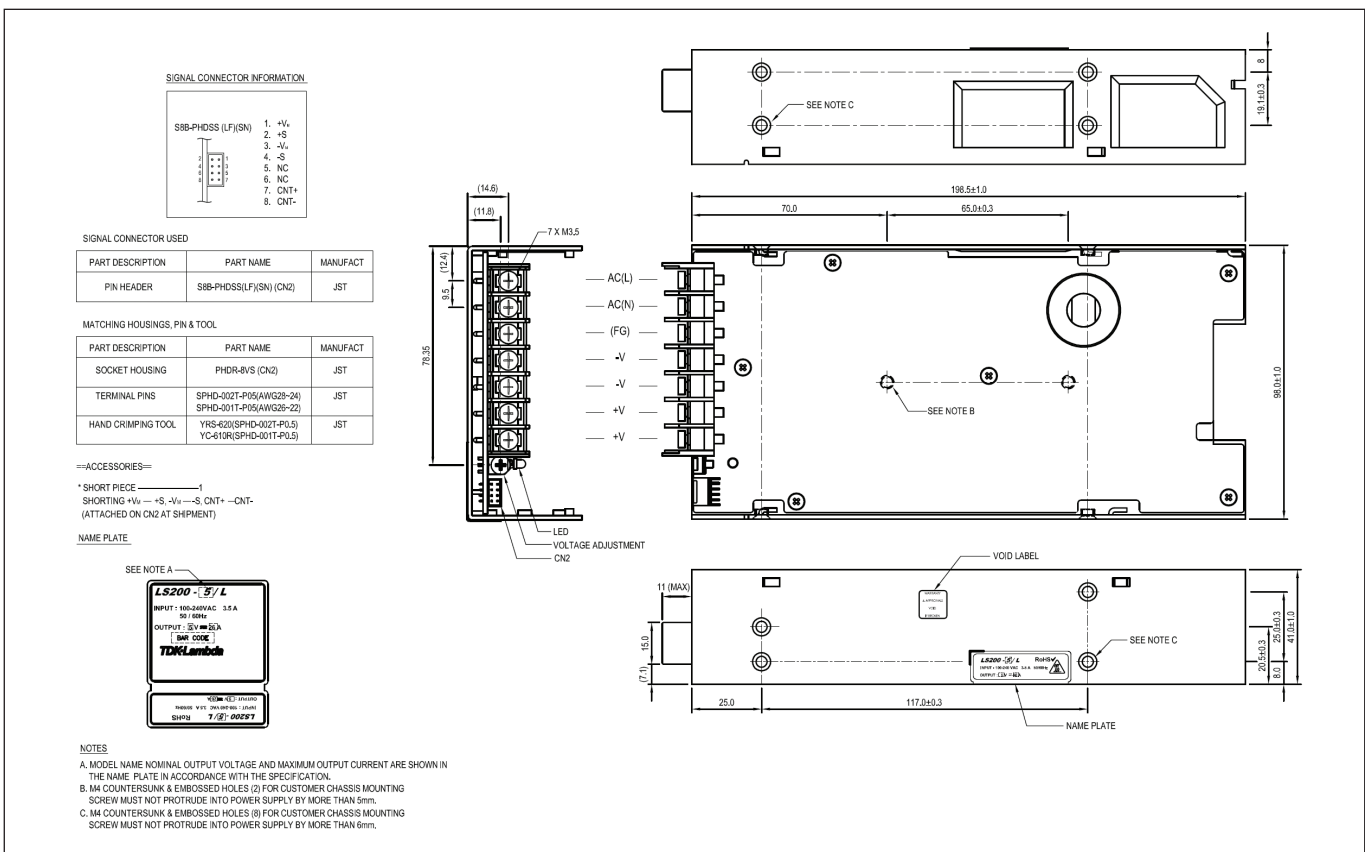
See website for detailed specifications, test methods and installation manual

- (1) With internal fan version LS200-xx or LS200-xx/L version with external airflow
- (2) Max current at nominal output voltage; see installation manual for derating curve
- (3) Operating period at peak output current is <10s at <35% duty cycle
- (4) Ripple & noise are measured at 20MHz by using a 300mm twisted pair of load wires terminated with a 0.1uF film capacitor and a 47uF electrolytic capacitor
- (5) 115 / 230Vac input
- (6) Derate linearly to 65% load from 115Vac to 85Vac
- (7) Safety certified for AC input only
- (8) At maximum output power, nominal input voltage, Ta=25°C
- (9) Constant current limiting with automatic recovery. Avoid to operate at overload and dead short for more than 30 seconds
- (10) OVP, OTP circuit will shutdown output, manual reset (Re-power on)

Outline Drawing LS200 (Enclosed with fan)



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





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