



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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- Single Output Industrial Supplies
- High Efficiency
- Low Cost
- 150 W Convection Cooled
- 300 W & 500 W with Internal Fans
- Outputs from 12 V to 48 V
- 3 Year Warranty

Specification

Input

Input Voltage	• 85-264 VAC (127-370 VDC) (see note 1)
Input Frequency	• 47-63 Hz
Input Current	• 2.1 A max for LCL150, 4.5 A max for LCL300, 6.6 A max for LCL500
Inrush Current	• 40 A max for LCL150, 60 A max for LCL300 & 500 cold start at 25 °C, 230 VAC
Power Factor	• >0.9
Earth Leakage Current	• <2 mA at 264 VAC, 60 Hz
Input Protection	• LCL150: T3.15 A/250 V, LCL300: T6.3A/250 V, LCL500: T10A/250 V, internal fuse fitted in line

Output

Output Voltage	• See tables
Output Voltage Trim	• See tables
Initial Set Accuracy	• ±100 mV at 50% load
Minimum Load	• None required
Start Up Delay	• 2 s max for LCL150, 1.5 s max for LCL300, 0.8 s max for LCL500
Start Up Rise Time	• 50 ms max for LCL150, 35 ms max for LCL300 & LCL500
Hold Up Time	• 10 ms min at 115 VAC and full load
Line Regulation	• ±0.5% max for LCL150, ±0.3% for LCL300 & LCL500
Load Regulation	• ±1% max
Transient Response	• 4% max deviation recovery to within 1% in 500 µs for a 50% load change
Ripple & Noise	• See tables
Overvoltage Protection	• 110-140%, recycle input to reset
Overtemperature Protection	• Output turns off when OTP triggered, measured internally, auto recovery
Overload Protection	• 110-150% of rated output power. Delayed by 1 s min to allow for peak loads.
Short Circuit Protection	• Trip and restart (hiccup mode), auto recovery
Remote Sense	• Fitted to LCL500 only, compensates for 0.25 V max each line
Remote On/Off	• Fitted on LCL500 only, On = logic low or open circuit, Off = logic high

General

Efficiency	• 88% typical at full load & 230 VAC
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 90-110 kHz main converter & 45-190 kHz PFC for LCL150, 80-190 kHz main converter & 62-65 kHz PFC for LCL300 & 500
Power Density	• 2.7 W/in ³ LCL150, 4.4 W/in ³ LCL300, 4.9 W/in ³ LCL500
MTBF	• LCL150: >489 kHrs, LCL300: >235 kHrs, LCL500: >211 kHrs to MIL-HBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -10 °C to +70 °C, derate from 100% load at 50 °C to 50% load at 70 °C
Cooling	• LCL150 convection cooled, LCL300 & LCL500 have internal fans
Operating Humidity	• 5% to 90% non condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Vibration	• 10-500 Hz, 2 g, 10 mins per cycle on 3 axes

EMC & Safety

Emissions	• EN55022 level B conducted, level A radiated
Harmonic Currents	• EN61000-3-2 class A LCL150: EN61000-3-2 class C for loads ≥40% LCL300 & LCL500: EN61000-3-2 class C for loads ≥20%
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, ±4 kV contact, ±8 kV air discharge, Performance Criteria A
Radiated Immunity	• EN61000-4-3, level 2 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 2 Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1, CSA60950 No 22.2

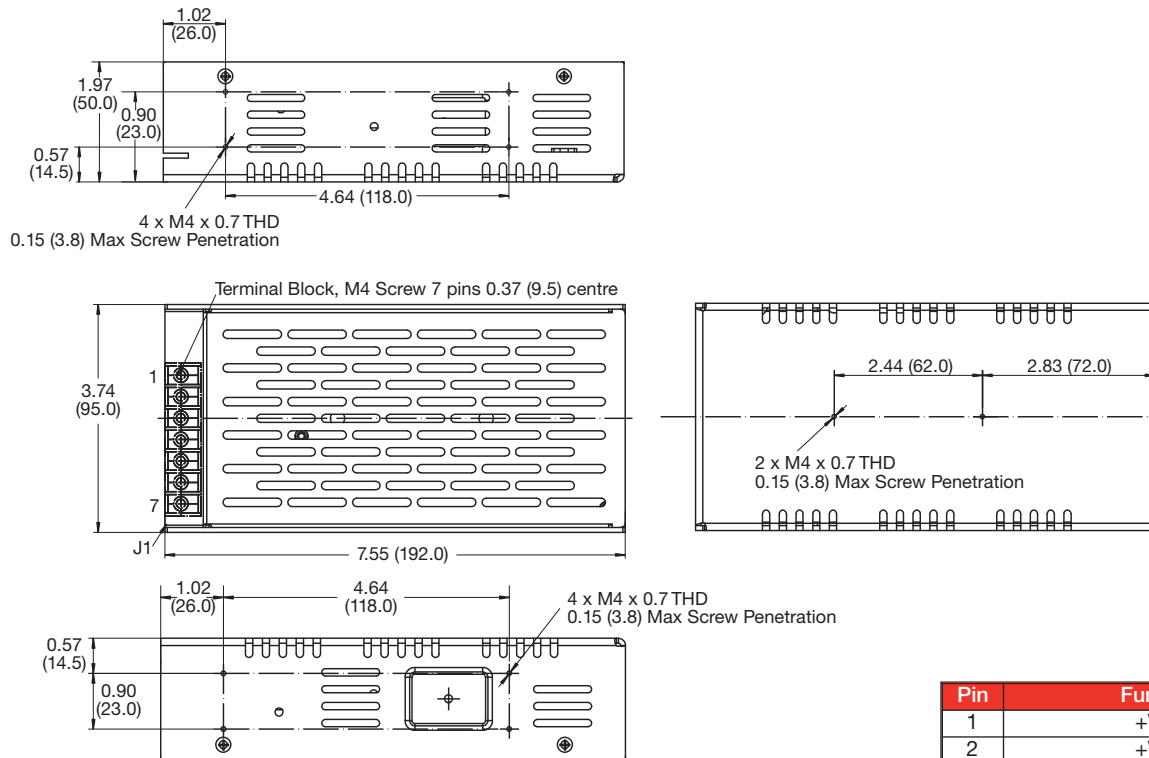
Model and Ratings

Output Power ⁽¹⁾	Output Voltage	Trim Range	Output Current	Ripple & Noise ⁽²⁾	Model Number
150 W	12.0 V	11.0-13.0 V	12.5 A	100 mV pk-pk	LCL150PS12
	13.5 V	12.5-14.5 V	11.1 A	100 mV pk-pk	LCL150PS13
	15.0 V	14.0-16.0 V	10.0 A	100 mV pk-pk	LCL150PS15
	24.0 V	23.0-25.0 V	6.3 A	150 mV pk-pk	LCL150PS24
	27.0 V	26.0-28.0 V	5.6 A	150 mV pk-pk	LCL150PS27
	48.0 V	47.0-49.0 V	3.1 A	250 mV pk-pk	LCL150PS48

Notes

- Output power derates linearly from 100% at 90 VAC to 90% at 85 VAC.
- Measured with 20 MHz bandwidth.

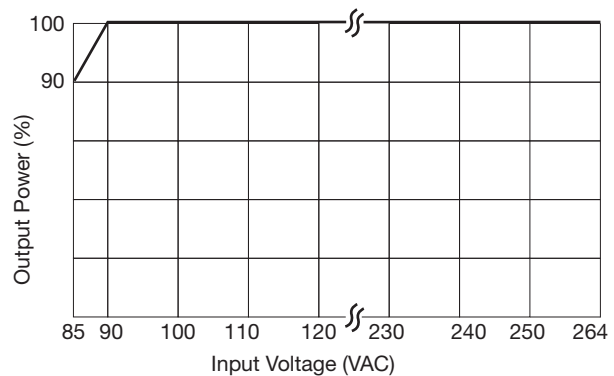
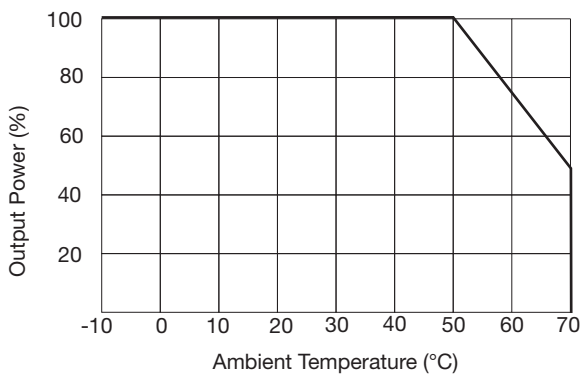
Mechanical Details



Pin	Function
1	+Vout
2	+Vout
3	-Vout
4	-Vout
5	Ground
6	Neutral
7	Line

Notes

- All dimensions shown in inches (mm).
- Weight: 1.39 lbs (630 g) approx.
- Tolerance is ± 0.05 (± 0.2) maximum.



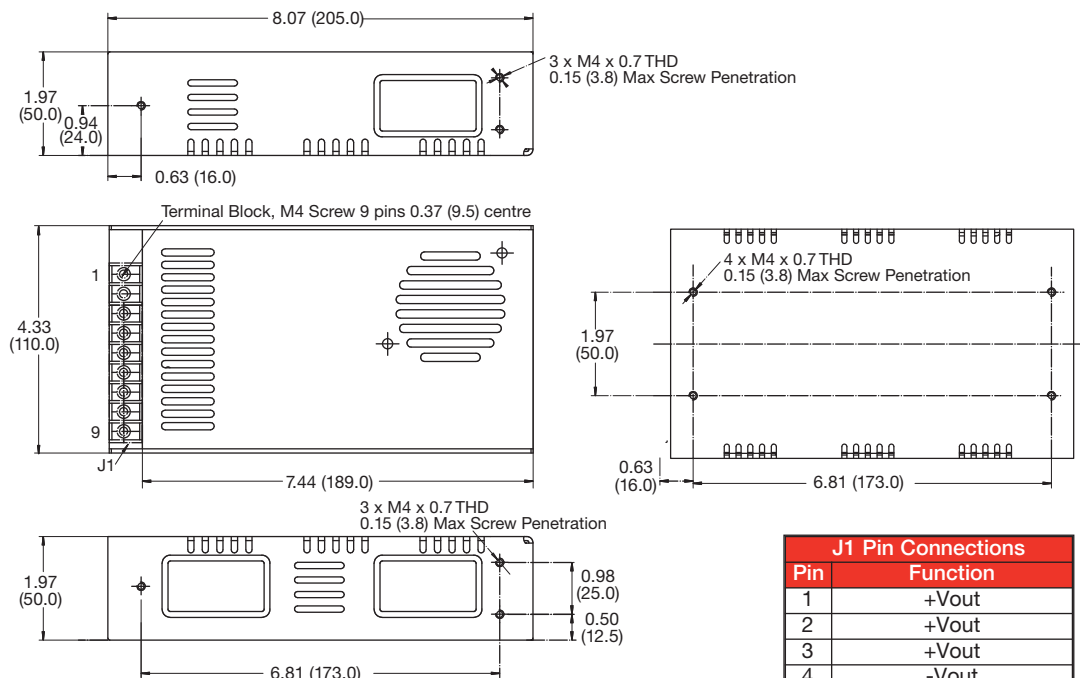
Model and Ratings

Output Power ⁽¹⁾	Output Voltage	Trim Range	Output Current	Ripple & Noise ⁽²⁾	Model Number
300 W	12.0 V	11.0-13.0 V	25.0 A	150 mV pk-pk	LCL300PS12
	13.5 V	12.5-14.5 V	22.0 A	150 mV pk-pk	LCL300PS13
	15.0 V	14.0-16.0 V	20.0 A	150 mV pk-pk	LCL300PS15
310 W	24.0 V	23.0-25.0 V	13.0 A	150 mV pk-pk	LCL300PS24
315 W	27.0 V	26.0-28.0 V	11.7 A	200 mV pk-pk	LCL300PS27
320 W	48.0 V	47.0-49.0 V	6.70 A	240 mV pk-pk	LCL300PS48

Notes

- Output power derates linearly from 100% at 90 VAC to 90% at 85 VAC.
- Measured with 20 MHz bandwidth.

Mechanical Details

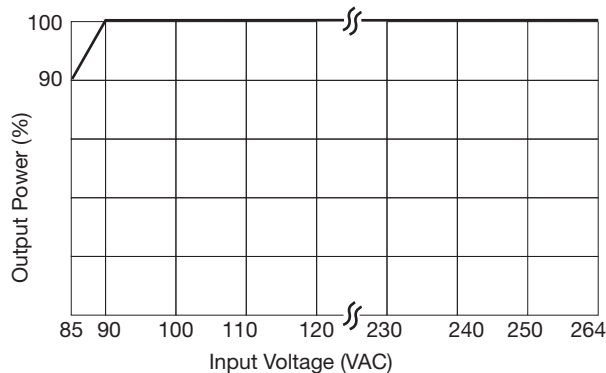
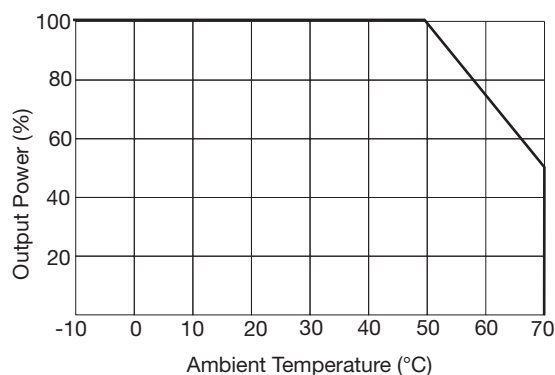


J1 Pin Connections	
Pin	Function
1	+Vout
2	+Vout
3	+Vout
4	-Vout
5	-Vout
6	-Vout
7	Ground
8	Neutral
9	Line

Notes

- All dimensions shown in inches (mm)
- Weight: 1.94 lbs (880 g) approx.
- Tolerance is ± 0.05 (± 0.2) maximum.
- Airflow direction is out of the unit at fan.

Derating Curves



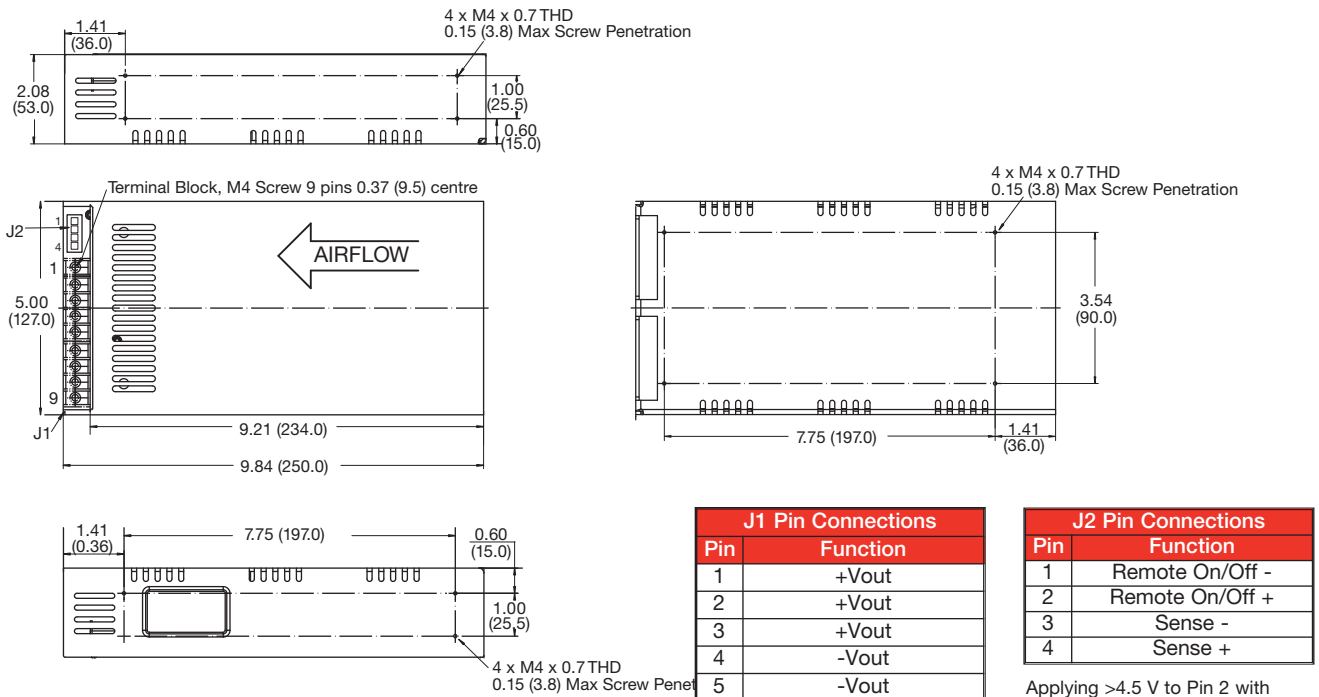
Model and Ratings

Output Power ⁽¹⁾	Output Voltage	Trim Range	Output Current	Ripple & Noise ⁽²⁾	Model Number
500 W	12.0 V	11.0-13.0 V	42.0 A	120 mV pk-pk	LCL500PS12
	13.5 V	12.5-14.5 V	37.0 A	150 mV pk-pk	LCL500PS13
	15.0 V	14.0-16.0 V	34.0 A	150 mV pk-pk	LCL500PS15
	24.0 V	23.0-25.0 V	21.0 A	150 mV pk-pk	LCL500PS24
	27.0 V	26.0-28.0 V	18.5 A	150 mV pk-pk	LCL500PS27
	48.0 V	47.0-49.0 V	10.5 A	240 mV pk-pk	LCL500PS48†

Notes

1. Output power derates linearly from 100% at 90 VAC to 90% at 85 VAC.
2. Measured with 20 MHz bandwidth.

Mechanical Details



Notes

1. Dimensions shown in inches (mm).
2. Weight: 3.2 lbs (1.45 kg) approx.
3. Tolerance is ±0.05 (±0.2) maximum.

Derating Curves

