



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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175 Watts

CLC Series



- High Efficiency Resonant Topology
- Medical Safety Approvals (-M Versions)
- 12 V Fan Output
- Remote Sense
- 5V Standby Option
- Remote On/Off & Power Good Signal Options
- 3 Year Warranty

Specification

Input

Input Voltage	• 85-264 VAC (120-370 VDC), derate output power 10% <90 VAC
Input Frequency	• 47-63 Hz
Input Current	• 3.0 A typical at 115 VAC, full load 1.5 A typical at 230 VAC, full load
Inrush Current	• 40 A max at 230 VAC, cold start at 25 °C
Power Factor	• EN61000-3-2, class A
Earth Leakage Current	• 475 µA 264 VAC at 60 Hz, 230 µA maximum at 264 VAC at 60 Hz (-M)
Input Protection	• Internal T5 A 250 V fuse in line Internal T5 A 250 V fuse in line and neutral (-M)

Output

Output Voltage	• 12-48 V (see tables)
Output Voltage Trim	• ±5%
Initial Set Accuracy	• ±1% V1, ±5% V2, ±3% V3
Minimum Load	• 0.1 A required on V1 to maintain regulation of V2
Start Up Delay	• 1.5 s typical, see longform datasheet for more details
Start Up Rise Time	• 5 ms typical
Hold Up Time	• 16 ms min at 115 VAC
Drift	• ±0.2% after 20 min warm up
Line Regulation	• ±0.5% max
Load Regulation	• ±1% V1, ±5% V2 & V3 max
Over/Undershoot	• 5% typical
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change
Ripple & Noise	• 1% pk-pk V1, others 2%, 20 MHz bandwidth
Overvoltage Protection	• 115-140% Vnom, recycle input to reset
Overload Protection	• 110-150% V1 only
Short Circuit Protection	• Continuous trip and restart (hiccup mode)
Temperature Coefficient	• 0.05%/°C
Remote Sense	• Compensates for 0.5 V total voltage drop
Remote On/Off (Inhibit/Enable) (Option -A)	• Uncommitted isolated optocoupler diode, powered diode inhibits V1 & V2

General

Efficiency	• 87% typical
Isolation	• 3000 VAC Input to Output 4000 VAC Input to Output (-M) 2 x MOPP 1500 VAC Input to Ground 1 x MOPP 500 VAC Output to Ground
Switching Frequency	• 70 kHz typical
Signals (Option -A)	• Power OK - open collector, Remote On/Off, 5 V Standby
MTBF	• 390 kHrs per MIL-HDBK-217F at 25 °C, GB
Power Density	• 9.0 W/in ³

Environmental

Operating Temperature	• 0 °C to +70 °C derate linearly from +50 °C at 2.5%/°C to 50% load at +70 °C
Cooling	• Forced-cooled >10 CFM
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 3000 m
Shock	• 30 g pk, half sine, 6 axes
Vibration	• 2 g rms, 5 Hz to 500 Hz, 3 axes

EMC & Safety

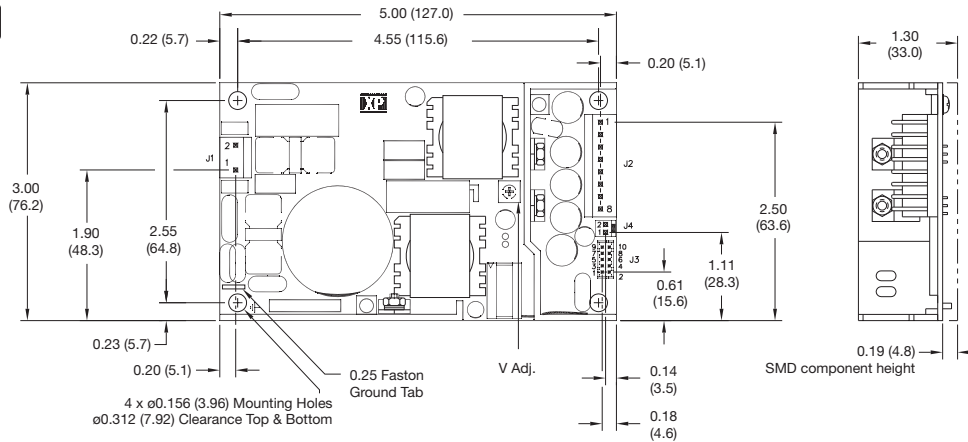
Low Voltage PSU EMC Emissions	• EN61204-3, high severity level • EN55011/22 level B conducted EN55011/22 level A radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, installation class 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B EN60601-1, 30% 500ms, 60% 100ms, 100% 10ms, 100% 5000ms (-M) Perf Criteria A, A (with 50% load), A, B
Safety Approvals	• EN60601-1, ANSI/AAMI ES60601-1, CSA22.2 No.60601-1 per cUL, Including Risk Management, EN60950-1, UL60950-1

Output Power ⁽¹⁾	Output Voltage V1	Output Current V1	Fan Output V2	Standby Supply V3 (optional)	Model Number ^(2,3)
175 W	12.0 VDC	13.90 A	12.0 V/0.5 A	5.0 V/0.5 A	CLC175US12
175 W	24.0 VDC	6.90 A	12.0 V/0.5 A	5.0 V/0.5 A	CLC175US24
175 W	28.0 VDC	6.25 A	12.0 V/0.5 A	5.0 V/0.5 A	CLC175US28
175 W	48.0 VDC	3.50 A	12.0 V/0.5 A	5.0 V/0.5 A	CLC175US48

Notes

- 10 CFM airflow.
- For medical version add, suffix '-M' to model number.
- For 5 V standby (V3), Power OK & Inhibit, add suffix '-A' to model number.
- For cover with Top Fan assembly add '-TF' to model number e.g. CLC175US12-TF, CLC175US12-ATF, CLC175US12-MTF or CLC175US12-MATF.

Mechanical Details



Input Connector J1	
Pin 1	Line
Pin 2	Neutral
0.25" Faston	Earth

J1 mates with Molex housing 09-50-1031 and Molex series 5194 crimp terminals.

Output Connector J2	
Pin 1	+V1
Pin 2	+V1
Pin 3	+V1
Pin 4	+V1
Pin 5	RTN
Pin 6	RTN
Pin 7	RTN
Pin 8	RTN

J2 mates with Molex housing 09-50-1081 and Molex series 5194 crimp terminals.

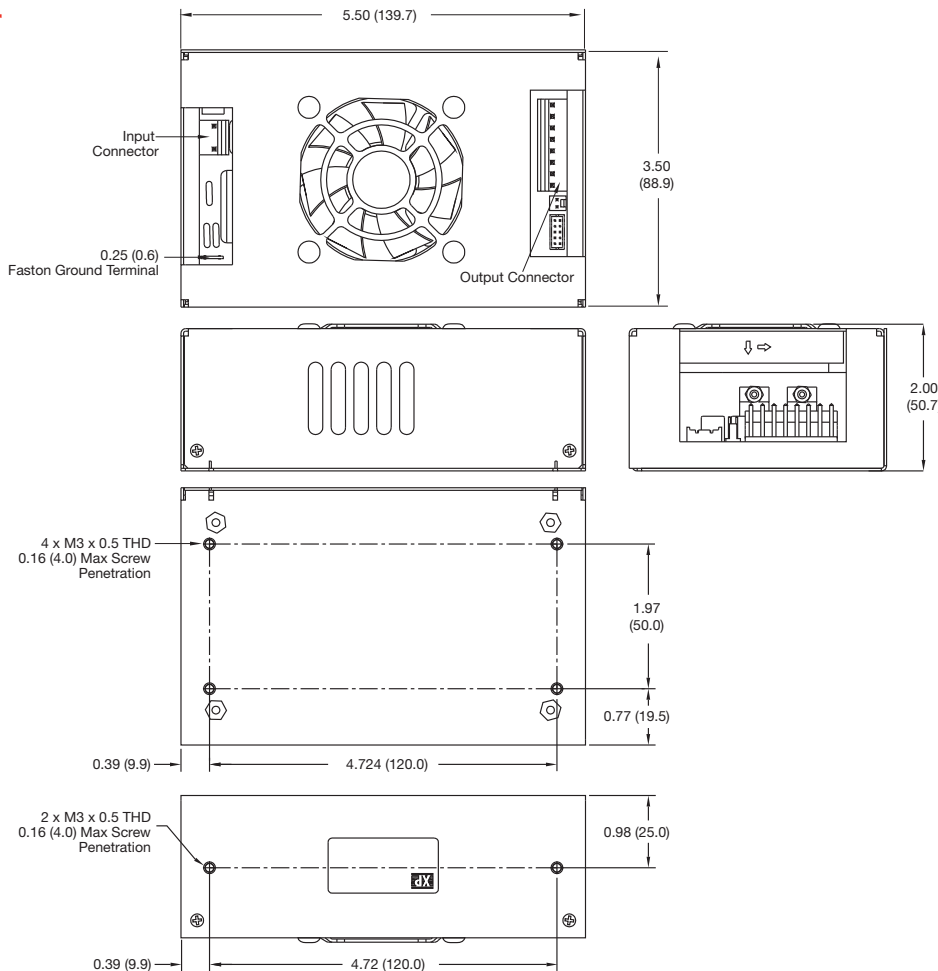
Signal Connector J3	
Pin 1	+5V Standby
Pin 2	Logic GND
Pin 3	Logic GND
Pin 4	Power OK
Pin 5	Inhibit HI
Pin 6	Inhibit LO
Pin 7	+Sense
Pin 8	-Sense
Pin 9	+Vout
Pin 10	-Vout

J3 mates with JST housing PHDR-10VS and JST SPHD-001T-P0.5 crimp terminals.

Fan Connector J4	
Pin 1	Fan +(12V)
Pin 2	Fan -

J4 mates with Molex housing 22-01-1024 and Molex series 5103 crimp terminals.

Fan Cover



Notes

- All dimensions in inches (mm).
Tolerance .xx = ±0.02 (0.50);
.xxx = ±0.01 (0.25)
- Weight: 0.7 lbs (317 g) approx.
- For thermal derating, please refer to longform datasheet.