

RoHS Compliant

Features

- RoHS compliant for all six substances
- 75 Watts with 5 CFM forced-air cooling
- Typical 80% efficiency
- 65 Watts with convection cooling
- 85-264 VAC wide-range input
- FCC & CISPR 22, Class "B" – Conducted EMI
- Power Factor Corrected (meets IEC61000-3-2)
- Typical 0.99 power factor
- Height meets 1U chassis constraints
- Two-year limited warranty
- Safety Agency pending to UL60960-1, CSA 22.2No. 60950-1-03, and TUV EN60950/IEC 60950-1
- Compliance with EN 61000-4-2 level 4 (ESD), EN 61000-4-3 (RF), EN 61000-4-4 level 3 (Fast Transient/Burst), EN 61000-4-5 class 3 (Surge)

Applications

- Telecom, datacom
- Networking
- Industrial
- Medical instrumentation
- Consumer
- Gaming

Description

The PLP75 is a cost-effective and efficient series of AC-DC power supplies suited for telecom, datacom, and many other applications. The PLP75 Series meets the international information technology safety standards with the CE-Mark for the European Low Voltage Directive (LVD). Active power-factor-correction (PFC) is a standard feature. PFC enables the user to comply with EN 61000-3-2 line harmonics requirements. In addition, PFC reduces line losses and rms input current to help achieve low-cost operation and makes the end product more environmentally friendly to the end users.

Single-Output Model Selection

Model	Nominal Output Voltage (VDC)	Min-Max Output Current (Amps), Convection	Min-Max Output Current (Amps), Forced Air [1]	Peak Output Current (Amps) [2]	Total Regulation (%) [3]	Ripple & Noise pk-pk % [4]
PLP75-1003G	3.3 [5]	0.2 - 13	0.2 - 15	17.5	±2	1
PLP75-1005G	5 [5]	0.2 - 13	0.2 - 15	16.5	±2	1
PLP75-1012G	12 [5]	0.1 - 5.4	0.1 - 6.5	7	±2	1
PLP75-1024G	24 [5]	0.1 - 2.7	0.1 - 3.1	3.5	±2	1
PLP75-1048G	48 [5]	0.1 - 1.4	0.1 - 1.6	1.8	±2	1

[1] 5 CFM or 150 LFM (average measurement of six equally-distributed points through a 3.5" x 1.6" (9 cm x 4 cm cross-sectional area) with power supply mounted on a 0.25" (6.35 mm) standoffs. Recommended airflow direction is from the AC side to the DC side.
[2] Peak current duration for less than 30 seconds with a maximum duty cycle of 10%.
[3] At 25 °C ambient including voltage set point tolerance, line and load regulation
[4] Maximum peak to peak noise expressed as a percentage of output voltage, 20 MHz bandwidth.
[5] Output is adjustable ±10 % of nominal.

Triple-Output Model Selection

Model	Nominal Output Voltage (VDC)	Min-Max Output Current (Amps), Convection	Min-Max Output Current (Amps), Forced Air [1]	Peak Output Current (Amps) [2]	Total Regulation (%) [3]	Ripple & Noise pk-pk % [4]
PLP75-3300G	+3.3 [5]	0.2 - 7.5	0.2 - 8	10	±2	1
	+5 [5]	0.3 - 3	0.3 - 4	4.6	±2	1
	+12	0.0 - 0.7	0.0 - 1	1.5	±5	1
PLP75-3301G	+3.3 [5]	0.2 - 7.5	0.2 - 8	10	±2	1
	+12	0.3 - 3	0.3 - 4	4.6	±5	1
	-12	0.0 - 0.7	0.0 - 1	1.5	±5	1
PLP75-3000G	+5 [5]	0.2 - 7.5	0.2 - 8	10	±2	1
	+12	0.3 - 3	0.3 - 4	4.6	±5	1
	-12	0.0 - 0.7	0.0 - 1	1.5	±5	1
PLP75-3003G	+5 [5]	0.2 - 7.5	0.2 - 8	10	±2	1
	+15	0.3 - 2.4	0.3 - 3.2	3.7	±5	1
	-15	0.0 - 0.7	0.0 - 1	1.5	±5	1
PLP75-3001G	+5 [5]	0.2 - 7.5	0.2 - 8	10	±2	1
	+24	0.3 - 2	0.3 - 2.6	2.6	±5	1
	-12	0.0 - 0.7	0.0 - 1	1.5	±5	1

[1] CFM or 150 LFM (average measurement of six equally-distributed points through a 3.5" x 1.6" (9 cm x 4 cm cross-sectional area) with power supply mounted on a 0.25" (6.35 mm) standoffs. Recommended airflow direction is from the AC side to the DC side.
[2] Peak current duration for less than 30 Sec with a max duty cycle of 10%.
[3] At 25 °C ambient including voltage set point tolerance, line and load regulation.
[4] Maximum peak to peak noise expressed as a percentage of output voltage, 20 MHz bandwidth.
[5] Output is adjustable ±10 % of nominal.

ELECTRICAL SPECIFICATIONS

Input Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
AC Input Voltage Range	Continuous voltage range	85	100 - 250	264	VAC
DC Input Voltage Range	Continuous voltage range; For input above 250 VDC, consult factory.	120	170	250	VDC
Frequency	AC Input	47	50 - 60	63	Hz
Power Factor	Complies with EN61000-3-2 Standard for Line Current Harmonics				
Input current	85 VAC at 75 W		1.5		Amps rms
Inrush current	115 VAC, Max power, 25 °C 230 VAC, Max power, 25 °C		16 32		A pk A pk
Input fuse	Non-user serviceable internally located AC input line fuse is provided.		2.5		A
Efficiency	At maximum output power, nominal line		80		%

Output Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Output power	With convection cooling With 5 CFM forced-air cooling		[1]		Watts
Output DC voltages	Vo1 is adjustable ±10% of nominal. Vo2 is adjustable ±10% of nominal on PLP75-3300G. Vo3 is not adjustable.			[1]	VDC
Output DC current				[1]	A
Minimum load	No damage occurs to the power supply when operating at zero load.			[1]	A
Output ripple & noise				[1]	mV pk-pk
CM noise				50	mV pk-pk
Overshoot	Vo1 overshoot at turn-on			3	%
Load transient	Vo1 deviation due to a 50 to 100% load change at a rate of 1A/µs			±3	%
Turn-On & Turn-Off characteristics	Outputs turn ON monotonically.				
Turn-on time from AC ON	Time required for output within regulation after initial application of AC input.	0.2		1.5	Sec
Turn-on Delay	Tme required for output voltage to rise from 10% to 90%.	0.2		20	ms
Hold-up Time	Time Vo1 is required to stay within 95% regulation after removal of AC measure from the last peak of the AC line at 115 VAC.	20			ms
Remote Sense	Not available.				
Control loop stability	Phase margin. Gain margin.	45 10			Degrees dB

[1] See Model Selection tables.

Fault Protection

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Current Limit set point	Overload protected - power limit.			145	% of peak rating
Short-circuit protection	Provided on all outputs.				
OVP Trip	Vo1, Vo2	115	125	135	% of set point

Isolation Requirements

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Input-to-Chassis		2121			VDC
Input-to-Output		4242			VDC
Output-to-Chassis		500			VDC
Output-to-Output		[1]			

[1] All outputs share the same common.

EMC Immunity

Parameter	Conditions/Description
ESD	EN 61000-4-2 Level 4.
RF Susceptibility	EN 61000-4-3 Level 3.
Fast Transient/Burst	EN 61000-4-4 Level 3.
Surge	EN 61000-4-5 Class 3.
RF Immunity	EN 61000-4-6.
Magnetic Fields	EN 61000-4-8.
Voltage Interruptions	EN 61000-4-11.

EMC Emmisions

Parameter	Conditions/Description
FCC Part 15	Conducted Class B, Radiated Class A.
CISPR 22 and CISPR 11	Conducted Class B, Radiated Class A.

Environmental Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Cooling	Rated for convection and forced-air cooling.				
Audible Noise				0	dBA
Operating Temp	0 ºC to 70 ºC with linear derating to 50% above 50 ºC. Unit will start-up at -20 ºC, but will not meet all published specifications.	-20	50	70	ºC
Altitude	Operating. Non-Operating.			10K 50K	ASL ft ASL ft
Storage Temp		-40		85	ºC
Humidity	95% relative humidity @ 40 ºC, non-condensing				
Vibration	Operating: Random vibration; 5 to 500 Hz (10 minutes, each axis). Non-Operating: Random vibration; 5 to 500 Hz (10 minutes, each axis).			2.4 6	Grms Grms
Shock	Operating: half-sine, 11 ±3 ms, 3-axis. Non-Operating: half-sine, 11 ±3 ms, 3-axis.			15 40	G G

Regulatory & Safety Approvals

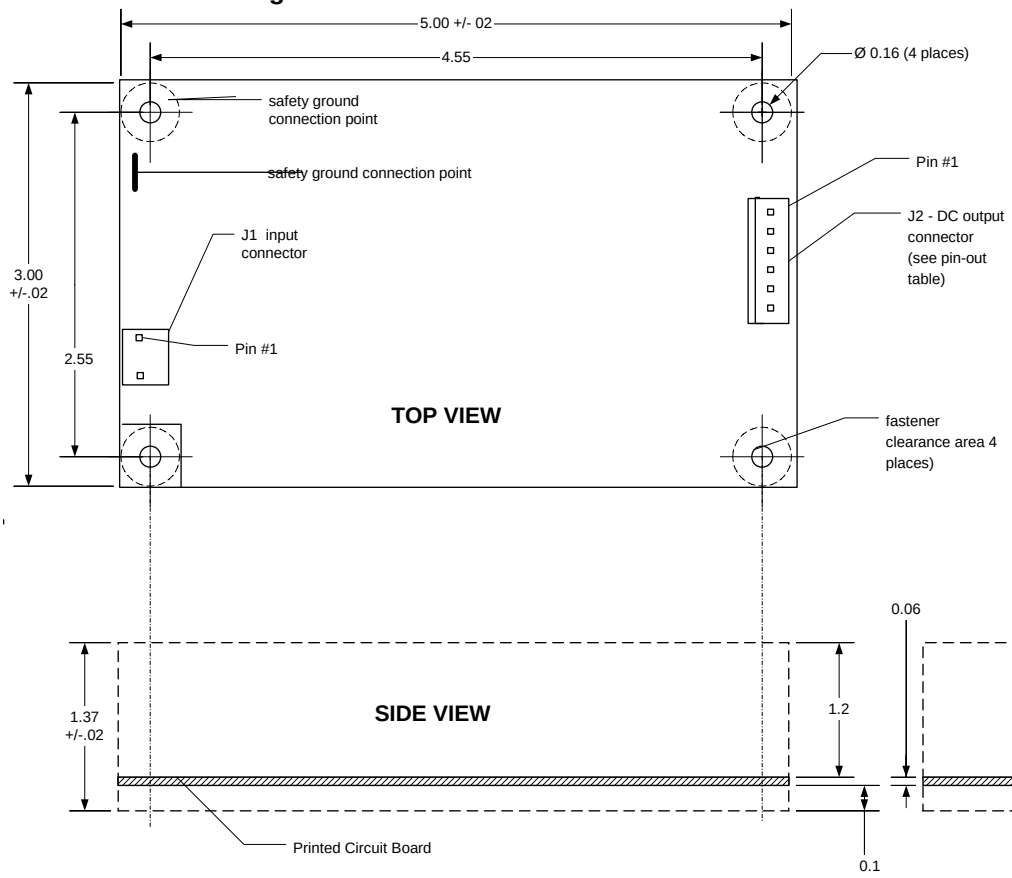
Parameter	Conditions/Description	Min.	Nom.	Max.	Units
UL60950-1	All single-output models are approved. Triple-output models are pending.				
CSA-C22.2, No. 60950-1-03	All single-output models are approved. Triple-output models are pending.				
EN 60950-1 /IEC 60950-1	All single-output models are approved. Triple-output models are pending.				
CE Mark for LVD	All single-output models are approved. Triple-output models are pending.				
CB Approval	Completed for single-output models. Pending for triple-output models.				
Ground Leakage Current	At 230 VAC.			1.4	mA

Mechanical Specifications

Parameter	Conditions/Description	Min.	Nom.	Max.	Units
Dimensions	Length			127	mm
	Width			76.2	mm
	Height, including component or component lead protrusion on the bottom of the PCB.			35	mm
Power Density	With forced-air cooling.			4	W/cu in
Mounting	(Location/Hardware); see Outline Drawing.				
Input	(Location/Connector); J1 - Molex 26-62-4030 or equivalent.				
Ground connector for plastic chassis	Provided.				
Output	(Location/Connector); J2 - Molex 26-60-4060 or equivalent.				
Outline Drawing Pins/Functions	See Mechanical Drawing.				
Weight			0.36		kg
Mounting distance	Note [1]	0.113			in
Optional Accessories	Bracket, enclosure with IEC connector and switch, and cover options are offered. Consult factory for details.				

[1] The minimum distance from the bottom of the component leads (solder side) or top of the components (component side) to the customer's metal chassis should be at least 0.113 " (2.85 mm).

Mechanical Drawing



J1 - AC CONN.

Pin 1	NEUTRAL
Pin 2	missing pin
Pin 3	LINE

J2 - DC CON (-1xxx models)

Pin 1*	Vo1
Pin 2	Vo1
Pin 3	Vo1
Pin 4	DC COM
Pin 5	DC COM
Pin 6	DC COM

J2 - DC CON (-3xxx models)

Pin 1	Vo2
Pin 2	Vo1
Pin 3	Vo1
Pin 4	DC COM
Pin 5	DC COM
Pin 6	Vo3

NUCLEAR AND MEDICAL APPLICATIONS - Power-One products are not designed, intended for use in, or authorized for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the respective divisional president of Power-One, Inc.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.