

Features

- RoHS lead-free solder and lead-solder-exempted products are available
- Industry-standard 3" x 5" footprint
- Main output remote sense
- CE marked to Low Voltage Directive (Pending)
- Compliance to EN61000-4-2/-3/-4/-5/-6/-8

Description

The BLP40 Series' economical and compact construction provides single or three-output ac-dc power conversion to meet the requirements of networking and data communications systems, as well as commercial and industrial configurations.

The BLP40 is rated for convection, as well as forced-air cooling. Full output power is available with external forced-air cooling. Other features include main-output remote sense and an internal EMI filter.

Single Output Model Selection

MODEL	NOMINAL OUTPUT VOLTAGE (VDC)	MIN-MAXIMUM OUTPUT CURRENT, CONVECTION	MIN-MAXIMUM OUTPUT CURRENT ¹	PEAK OUTPUT CURRENT ²	TOTAL REGULATION % ³	RIPPLE & NOISE %p-p ⁴
BLP40-1005	5V	0 to 5A	0 to 8A	9A	±2	1
BLP40-1012	12V	0 to 2.1A	0 to 3.3A	3.7A	±2	1
BLP40-1024	24V	0 to 1.1A	0 to 1.8A	1.9A	±2	1

Triple Output Model Selection

MODEL	NOMINAL OUTPUT VOLTAGE (VDC)	MIN-MAXIMUM OUTPUT CURRENT, CONVECTION	MIN-MAXIMUM OUTPUT CURRENT ¹	PEAK OUTPUT CURRENT ²	TOTAL REGULATION % ³	RIPPLE & NOISE %p-p ⁴
BLP40-3000	+5V	0.3 to 3A	0.3 to 4A	5A	±2	1
	+12V	0.1 to 1.5A	0.1 to 2A	3A	±5	1
	-12V	0.0 to 0.5A	0.0 to 0.7A	1	±5	1
BLP40-3003*	+5V	0.3 to 3A	0.3 to 4A	5A	±2	1
	+15V	0.1 to 1.5A	0.1 to 2A	2.5A	±5	1
	-15V	0.0 to 0.5A	0.0 to 0.7A	1A	±5	1

* Advanced Product Release

Model numbers highlighted in yellow or shaded are not recommended for new designs.

NOTES: ¹ 10 CFM or 150 LFM (average measurement of six equally-distanced points through a 3.5" x 1.6" cross-sectional area) with power supply mounted on 0.25" standoffs. Recommended airflow direction is from the AC side to the DC side.

² Peak current duration for less than 30 Sec 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, and bypass capacitors of 10 µF and 0.1 µF.

Ordering Information:

OPTIONS	SUFFIXES TO ADD TO PART NUMBER
RoHS lead-solder exemption	No RoHS suffix character required.
RoHS compliant for all 6 substances	Add "G" as the last character of the part number.



Input Specifications

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Input Voltage - AC	Single-phase continuous input range.	85	100-250	264	VAC
Input Voltage - DC	Consult factory.				
Input Frequency	AC input.	47	50/60	63	Hz
Input Current	At 115 VAC input.		0.8		ARMS
Inrush Surge Current	Internally limited.			18	APK
	Internally limited.			36	APK
Input Fuse	Internally located AC input line fuse rated at F, 250 V, 3.15 A.				
Efficiency	At Max Power.		70		%

Output Specifications

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Output Power	With convection cooling.			25	Watts
	With forced-air cooling.			40	
Output DC Adjustability:	Adjustability of Vo1 (Vo2/Vo3 are not adjustable).	-5%	+10%		Of Nom
Overshoot				5	%
Load Transient	Vo1, Vo2, or Vo3 deviation due to a 50 to 100% load change at a rate of 1A/μs.			±3	%
Turn-On Time from AC ON	Time required for output voltage to reach within regulation after initial application of AC input.			1.5	Sec
Turn-On Delay	Time required for output voltage to rise from 10% to 90%.			20	ms
Hold-Up Time	At 25 W, 115 VAC		20		ms
Remote Sense	Total compensation for cable losses on Vo1. (Remote Sense is not available for Vo2 or Vo3)			500	mV

Interface Signals and Internal Protection

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Overvoltage Protection	Main output.	5 V:	5.7	6.8	V
		12 V:	13.8	16.2	
		24 V:	27.6	32.4	
Short Circuit Protection	Fully-protected against output short circuit.				

Safety, Regulatory, and EMI Specifications

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Agency Approvals	UL60950-1/CSA 22.2 No. 60950-1-03. EN 60950-1/IEC 60950-1. CB Approval. CE Mark for LVD.				BLP40-3003 Pending Approval.
Ground Continuity				40	A
Dielectric Withstand Voltage	Input-to-Ground (Basic).	1500			VAC
		2121			VDC
	Input-to-Output (Reinforced). The primary to secondary test is not performed on completed assemblies.	3000			VAC
		4242			VDC
	Output-to-Ground (Functional).	500			VDC
Electromagnetic Interference	FCC Part 15.	Conducted:	B		Class
	CISPR 22 and CISPR 11.	Conducted:	B		
ESD	Per EN61000-4-2, level 3.				
Flicker	Per EN61000-3-3.				
Radiated Susceptibility	Per EN61000-4-3, level 3.		3		V/m
EFT/Burst	Per EN61000-4-4, level 3.	1			kV
Input Transient Protection	Per EN61000-4-5, class 3.	Line-to-Line:	1		kV
		Line-to-Ground:	2		
RF Immunity	Per EN61000-4-6, level 3.		3		V/m
Magnetic Fields	Per EN61000-4-8.		1		A/m
Leakage Current	Per EN60950.	BLP40-1XXX		0.48	mA
		BLP40-3XXX	At 264 VAC: AT 264 VAC:	0.72	

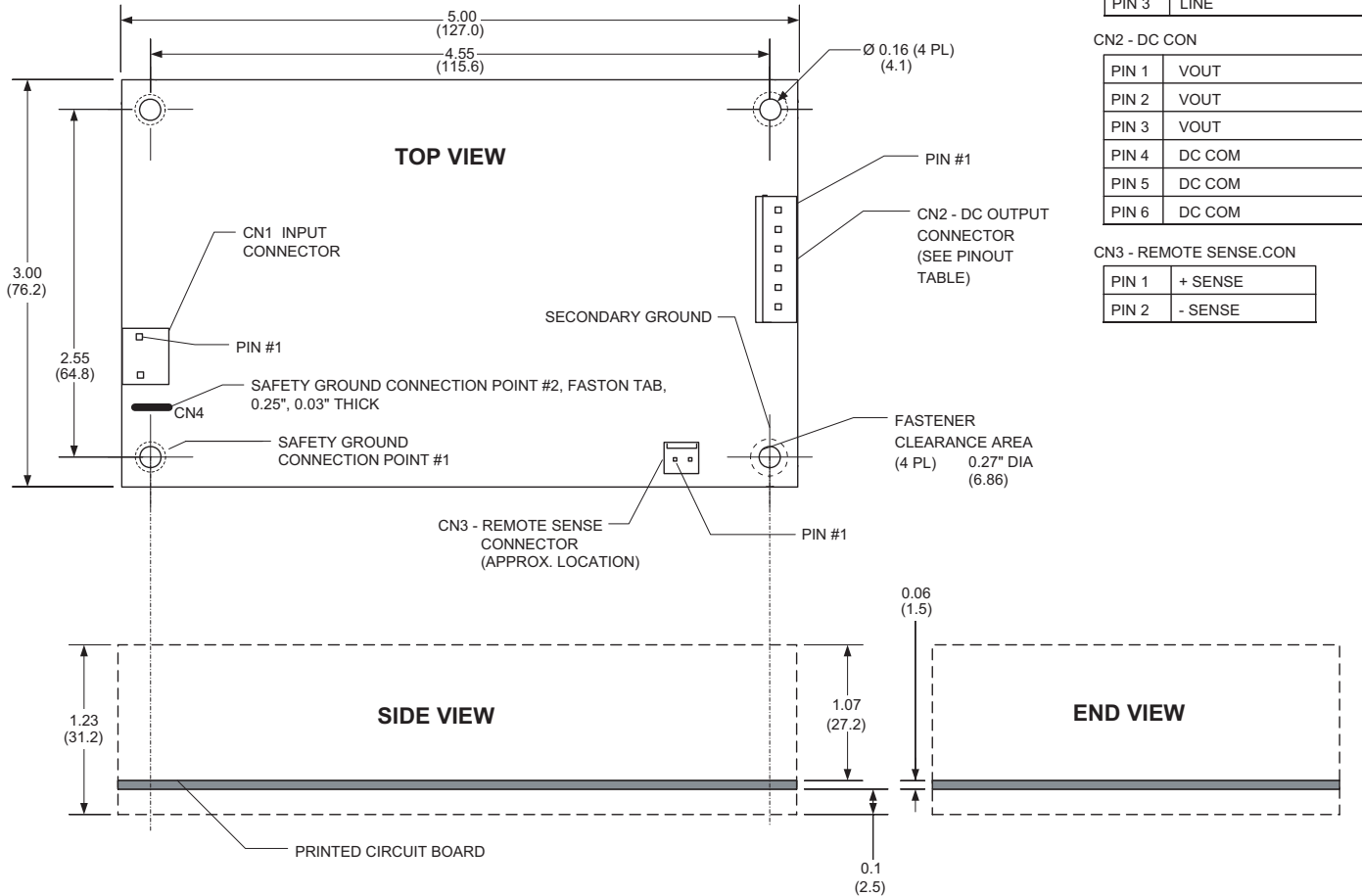
Environmental Specifications

PARAMETER	CONDITIONS/DESCRIPTION	MIN	NOM	MAX	UNITS
Altitude	Operating.			10k	ASL Ft.
	Non-Operating.			50k	ASL Ft.
Operating Temperature	0 °C to 70 °C with linear derating to 50% above 50 °C. Unit will start up at -20 °C, but will not meet all published specifications.	0	25	70	°C
Storage Temperature		-40		85	°C
Forced-Air Cooling	Forced-air cooling of 150 LFM at 10 CFM is required for full output power. (NOTE 1) (See Model Selection Table).				
Convection Cooling	When unit is mounted horizontally with free-air convection. (See Model Selection Table).			25	W
Temperature Coefficient	0 °C to 70 °C (after 15-minute warm-up).		±0.02		%/°C
Relative Humidity	Non-Condensing @ 40 °C	5		95	%RH
Shock	Operating: half-sine 11 ±3ms, 3 axis.			15	G
	Non-operating: half-sine 11±3ms, 3 axis.			40	
Vibration	Operating: Random vibration, 5-500 Hz (10 minutes each axis).			2.4	Grms
	Non-operating: Random vibration, 5-500 Hz (10 minutes each axis).			6.0	Grms

NOTES: 1) 10 CFM or 150 LFM (average measurement of six equally-distanced points through a 3.5" x 1.6" cross-sectional area) with power supply mounted on 0.25" standoffs. Recommended airflow direction is from the AC side to the DC side.

Overall Size: 3.00" x 5.00" x 1.23" (76.2mm x 127.0mm x 31.2mm) Weight: 0.51 lb (0.23 kg)

**Mechanical Drawing
(Single-Output Models)**



CN1 - AC CONN.

PIN 1	NEUTRAL
PIN 2	MISSING PIN
PIN 3	LINE

CN2 - DC CON

PIN 1	VOUT
PIN 2	VOUT
PIN 3	VOUT
PIN 4	DC COM
PIN 5	DC COM
PIN 6	DC COM

CN3 - REMOTE SENSE.CON

PIN 1	+ SENSE
PIN 2	- SENSE

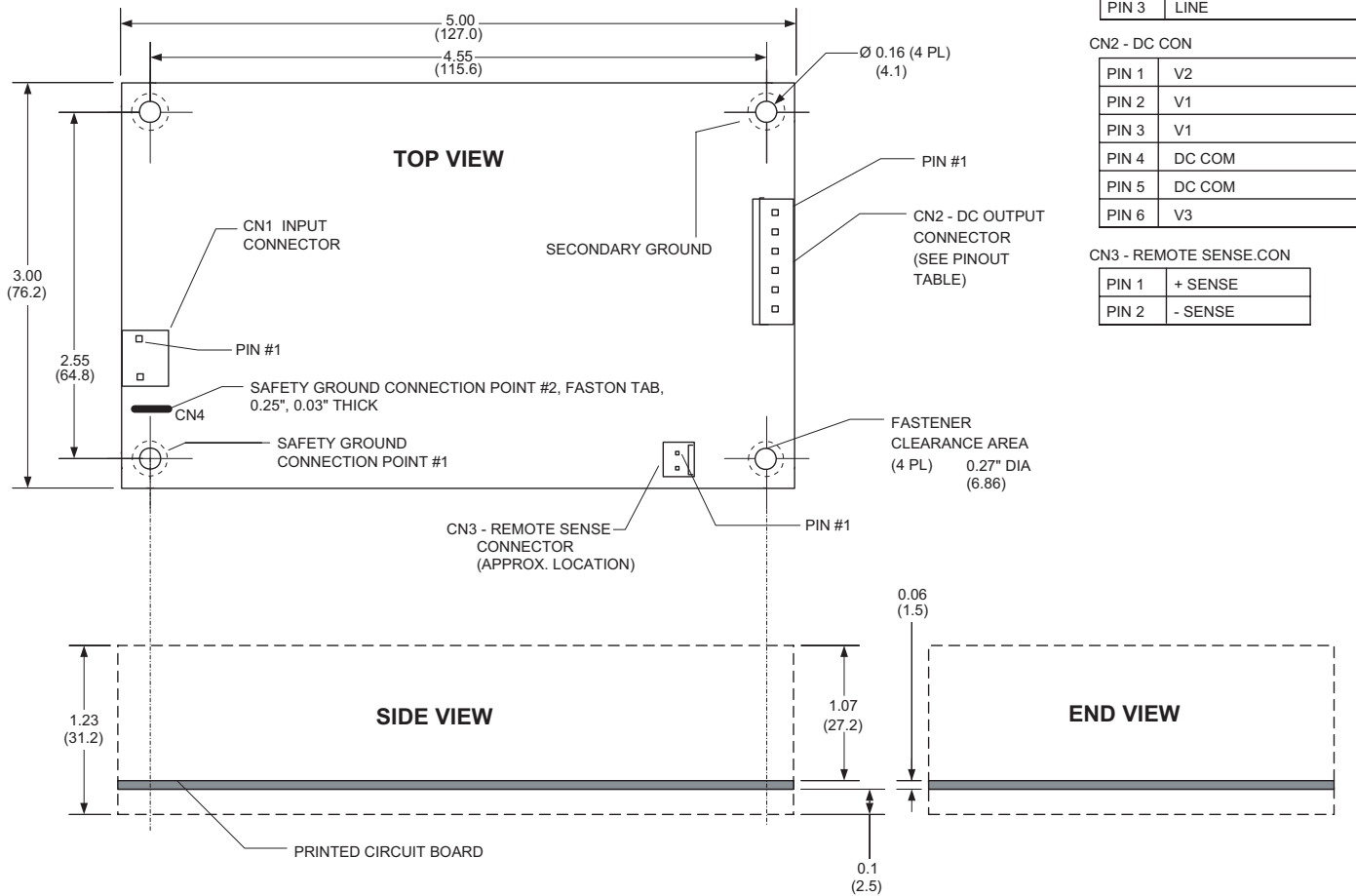
RECOMMENDED MATING CONNECTORS

	HOUSING	PIN
CN1	MOLEX 09-50-8031	08-52-0113
	LEOCO 3940S030000	3983TCB0000
CN2	MOLEX 09-50-8061	08-52-0113
	LEOCO 3940S060000	3983TCB0000
CN3	MOLEX 22-01-3027	08-52-0113
	LEOCO 2530S020000	2533TPB0000

NOTE: This is an outline drawing only. The detailed location of components is not shown.

Overall Size: 3.00" x 5.00" x 1.23" (76.2mm x 127.0mm x 31.2mm) Weight: 0.51 lb (0.23 kg)

**Mechanical Drawing
(Triple-Output Models)**



RECOMMENDED MATING CONNECTORS

	HOUSING	PIN
CN1	MOLEX 09-50-8031	08-52-0113
	LEOCO 3940S030000	3983TCB0000
CN2	MOLEX 09-50-8061	08-52-0113
	LEOCO 3940S060000	3983TCB0000
CN3	MOLEX 22-01-3027	08-52-0113
	LEOCO 2530S020000	2533TPB0000

NOTE: This is an outline drawing only. The detailed location of components is not shown.

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.