

**International
Power Sources, Inc.**

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DC/DC Converters



**LB Series: 25/30 Watt
Wide Input Range**

FEATURES

- 4:1 Input Range
- Isolated Outputs
- Efficiency to 84%
- 100 kHz Switching Frequency
- External Output Trim
- Remote Disable
- Six-sided Shield
- PCB Mountable

MODELS CHART

MODEL NUMBER	INPUT VOLTAGE RANGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF
				NO LOAD	FULL LOAD	
LB101	9-36 VDC	5 VDC	5000 mA	30 mA	2800 mA	75
LB102	9-36 VDC	12 VDC	2500 mA	30 mA	3200 mA	78
LB103	9-36 VDC	15 VDC	2000 mA	30 mA	3200 mA	78
LB104	9-36 VDC	± 12 VDC	± 1250 mA	25 mA	3050 mA	82
LB105	9-36 VDC	± 15 VDC	± 1000 mA	25 mA	3050 mA	82
LB106	9-18 VDC	+ 5/ + 12/ - 5 VDC	3000/ + 450/1000 mA	50 mA	2850 mA	74
LB107	9-18 VDC	5/ + / - 12 VDC	3000/ + / - 450 mA	50 mA	2900 mA	77
LB108	9-18 VDC	5/ + / - 15 VDC	3000/ + / - 350 mA	50 mA	2750 mA	74
LB201	18-72 VDC	5 VDC	5000 mA	20 mA	1350 mA	77
LB202	18-72 VDC	12 VDC	2500 mA	20 mA	1550 mA	80
LB203	18-72 VDC	15 VDC	2000 mA	20 mA	1550 mA	80
LB204	18-72 VDC	± 12 VDC	± 1250 mA	25 mA	1550 mA	84
LB205	18-72 VDC	± 15 VDC	± 1000 mA	25 mA	1500 mA	84
LB206	18-36 VDC	+ 5/ + 12/ - 5 VDC	3000/+450/1000 mA	40 mA	1300 mA	81
LB207	18-36 VDC	5/ + / - 12 VDC	3000/ + / - 450 mA	40 mA	1350 mA	80
LB208	18-36 VDC	5/ + / - 15 VDC	3000/ + / - 350 mA	40 mA	1300 mA	82
LB306	36-72 VDC	+ 5/ + 12/ - 5 VDC	3000/ + 450/1000 mA	30 mA	650 mA	81
LB307	36-72 VDC	5/ + / - 12 VDC	3000/ + / - 450 mA	30 mA	650 mA	82
LB308	36-72 VDC	5/ + / - 15 VDC	3000/ + / - 350 mA	30 mA	650 mA	82

NOTE: NOMINAL INPUT VOLTAGE 12, 24, or 48 VDC

ELECTRICAL SPECIFICATIONS

All specifications typical at nominal line, full load and 25°C

OUTPUT SPECIFICATIONS

Voltage Accuracy Single Output $\pm 1\%$ max.
 Dual+ Output $\pm 1\%$ max.
 -Output $\pm 3\%$ max.
 Triple 5V $\pm 2\%$ max.
 12V/15V $\pm 5\%$ max.
 -5V $\pm 2\%$ max.

Voltage Balance, Dual output at Full load ... $\pm 1\%$ max.

Transient Response:
 Single, 25% step load change $< 500\mu$ sec.
 Dual, FL-1/2L $\pm 1\%$ Error Band $< 500\mu$ sec.

External Trim Adj. Range $\pm 10\%$

Ripple & Noise, 20MHz BW 10mV RMS, max.
 75mV P-P max.

Temperature Coefficient $\pm 0.02\%/^{\circ}\text{C}$, max.

Short Circuit Protection Indefinite

Overvoltage Protection, 5V 6.8V
 12V 15V
 15V 18V

Line Regulation¹: Single/Dual output $\pm 0.5\%$ max.
 Triple output $\pm 1\%$ max.

Load Regulation²: Single/Dual output $\pm 1\%$ max.
 Triple output $\pm 5\%$ max.

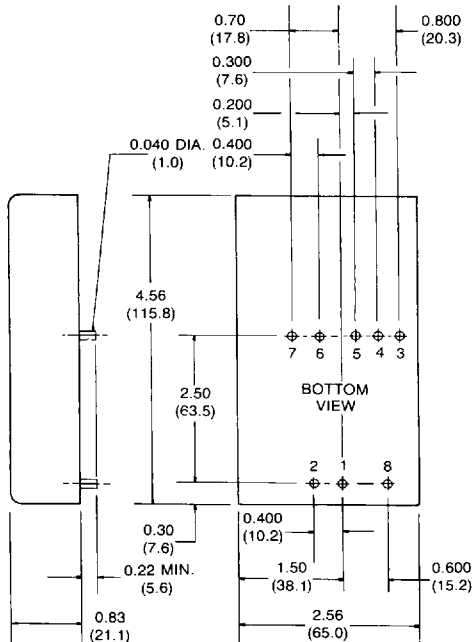
INPUT SPECIFICATIONS

Input Voltage Range See Table
 Input Filter Pi Type
 Reverse Voltage Protection³ Internal Shunt Diode
 Use External Fuse

GENERAL SPECIFICATIONS

Efficiency See Table
 Isolation Voltage 500 VDC min.
 Isolation Resistance 10^9 ohms min.
 Switching Frequency 100kHz
 Case Grounding Capacity Coupled to Input
 Operating Temperature Range -25°C to $+71^{\circ}\text{C}$
 Storage Temperature Range -55°C to $+105^{\circ}\text{C}$
 EM/RFI Six-sided Continuous Shield
 Dimensions 2.56 x 4.56 x 0.83 inches
 (65 x 115.8 x 21.1 mm)
 Case Material Black Coated Copper with
 Non-Conductive Base

DIMENSIONS AND CONNECTIONS



NOTE:

1. Measured from High Line to Low Line.
 2. Measured from Full Load to 1/4 Full Load.
 3. Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load and then adding 20 to 25% to get the desired fuse size.
- If remote sensing is not utilized, output sense pins, must be jumpered to respective output power pins, for normal operation connect Pin No. 3 to Pin No. 6 and Pin No. 5 to Pin No. 7.

Dimensions in inches (mm)
 Specifications subject to change.

Pin Connections

Pin	Single	Dual	Triple
1	+ Input	+ Input	+ Input
2	- Input	- Input	- Input
3	+SENSE	+ Output	+12V, 15V
4	Output Trim	Common	Common
5	-SENSE	- Output	-12V, 15V, 5V
6	+ Output	No Pin	+5V
7	- Output	No Pin	+5 com.
8	Remote On/Off Control		

REMOTE ON/OFF CONTROL

Logic Compatibility CMOs or Open Collector TTL
 E_c - ON, $> +5.5$ VDC or Open Circuit
 E_c - OFF, < 1.8 VDC
 Shutdown Idle Current 10 mA
 Input Resistance (E_{in} 0 VDC to 9 VDC) 100 K Ω
 Control Common Referenced to input Minus

EXTERNAL OUTPUT TRIMMING

Output may optionally be externally trimmed ($\pm 10\%$) with a fixed resistor or an external trimpot as shown.

